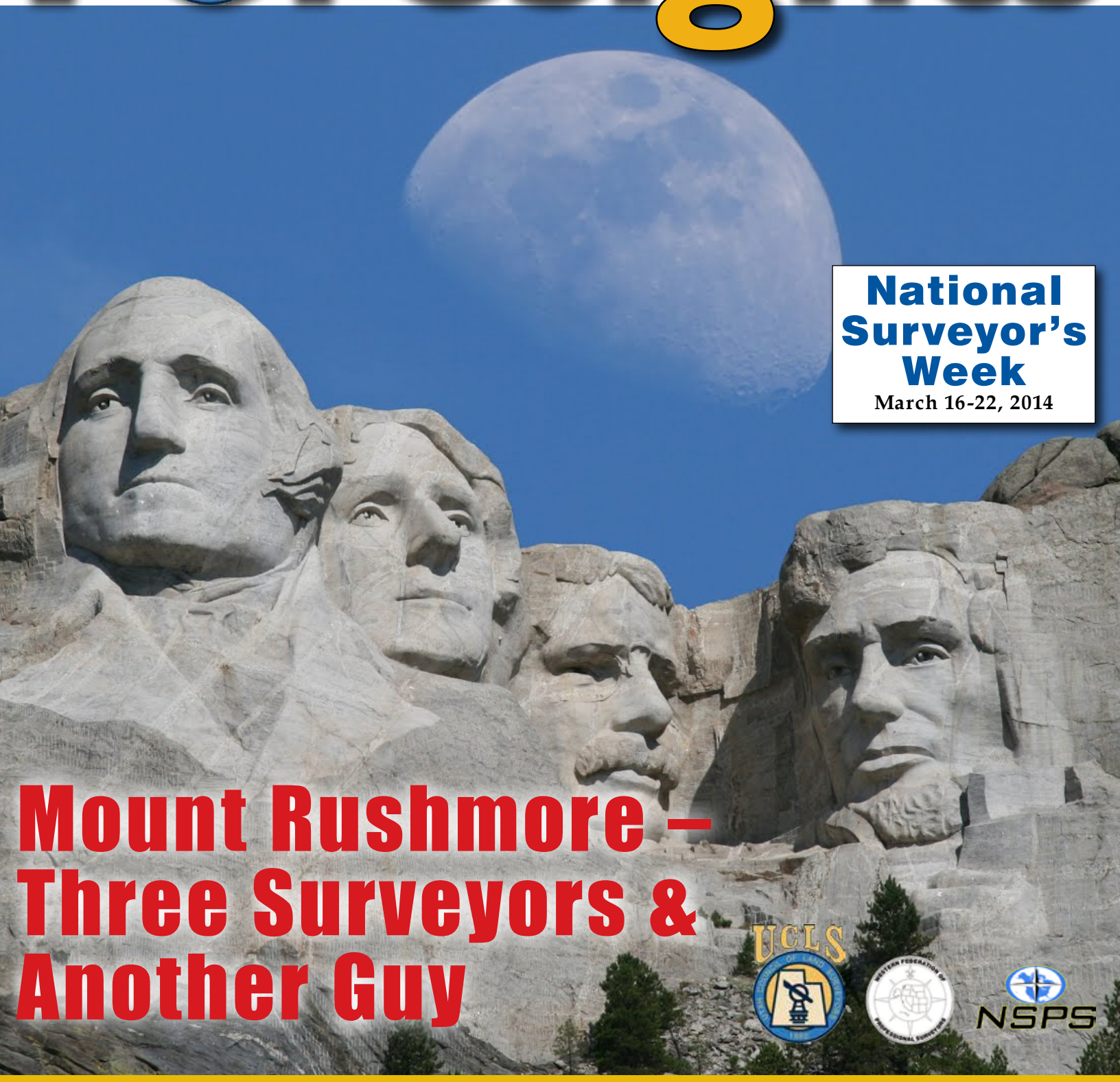
Issue 1 2014

Foresights



National Surveyor's Week

March 16-22, 2014

Mount Rushmore – Three Surveyors & Another Guy

OFFICIAL PUBLICATION OF THE UTAH COUNCIL OF LAND SURVEYORS

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From the Editor

STEVE KEISEL

The Measure of the Surveyor

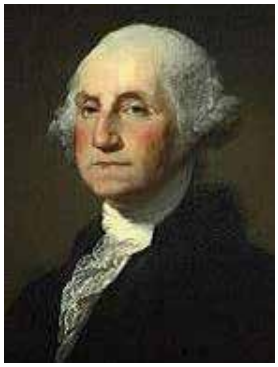
In 1984, President Ronald Regan paid tribute to the Surveying and mapping profession when he issued a proclamation designating the week beginning March 11, 1984 as National Surveyors Week. This proclamation noted the role of the surveyor in the development of our country; specifically they were among the leaders in the communities, influential citizens, and shapers of cultural standards. President Reagan invited all Americans to look back at the historic contributions of surveying and look ahead to the new technology, which are constantly modernizing this, honored, and learned profession.

In November 2009, ACSM/NSPS Executive Director Curt Sumner sent a letter to the White House Office of Public Engagement. The letter was addressed to President Barack Obama, requesting the issuance of a Presidential Proclamation establishing the third week in March as National Surveyors Week. The issuance of this proclamation satisfied the recommendations made in Senate Resolution 361, passed January 31, 2006, and House Concurrent Resolution 223, passed September 24, 2008. During the week of March 16- 22, 2014, we once again have an opportunity to reflect as we consider the contributions of the surveyor.

Surveyors are obligated to monument their work; thus providing a documented history of their actions and intentions. Mount Rushmore is indeed a monumental icon of unprecedented proportions that recognize the contributions of three notable surveyors.

The Mount Rushmore National Memorial is a sculpture carved into the granite face of Mount Rushmore near Keystone, South Dakota. It was sculpted by Danish-American Gutzon Borglum and his son, Lincoln Borglum, featuring 60-foot high sculptures of the heads of three surveyors and another guy who were United States presidents: George Washington (1732–1799), Thomas Jefferson (1743–1826), Theodore Roosevelt (1858–1919) and Abraham Lincoln (1809–1865). Borglum selected these presidents because of their role in preserving the Republic and expanding its territory. Construction on the memorial began in 1927, and the presidents' faces were completed between 1934 and 1939.

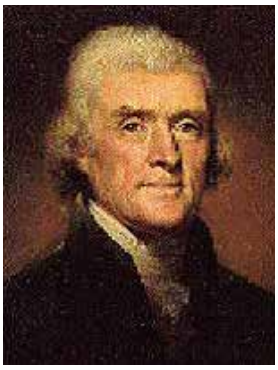
George Washington (1732 - 1799)



By 1749, the English colony of Virginia was promoting western expansion by offering speculators 1,000 acres for every family they could place. George Washington was sixteen years old when he went with Joshua Fry to survey the great Fairfax Grant in Northwest Virginia. At the age of 17, an ambitious George Washington was appointed as the Surveyor General by the college of William and Mary. The College was charged with the appointment of Surveyor General, as well as the examination and licensing of surveyors. Prior to that time, the King of England had made the appointments.

George Washington also became the first Registered County Surveyor in America, in Culpepper County, Virginia. For the next several decades, He pursued two intertwined interests, military arts, and western expansion.

Thomas Jefferson (1743 - 1826)



Another famous Surveyor General for Virginia, Thomas Jefferson followed in his father's footsteps and became a land surveyor. He was appointed County Surveyor of Albemarle County, Virginia on October 14, 1773. In May of 1784, as Secretary of State, Jefferson presented the Public Land Survey System to the Continental Congress as a way to describe the lands known as the Northwest Territory.

During his tenure as President, Jefferson's instructions and appointments of surveyors to official posts gave the young nation the foresight and direction necessary to promote the orderly settlement of the frontier.

Abraham Lincoln (1809 - 1864)

Abraham Lincoln's first home in Illinois was eight miles southwest of Springfield, where he operated a general store and served as Postmaster and Deputy County Surveyor.

Upon accepting the appointment of Deputy Surveyor in 1833, Lincoln's first task was to learn about surveying. He borrowed two textbooks, purchased some second hand equipment, and started his practice. Between 1833 and 1837, Lincoln performed many farm surveys, laid out several towns, and performed road surveys. His background in land surveying proved to be valuable during his legal career.

Recently, I had an opportunity to review two surveys (Surveyor 1 and Surveyor 2) that shared a common boundary. The two surveys were done 12 years apart and offered differing opinions on the placement of the boundaries. Surveyor 1 has a good reputation and true to my views of him, the plat showed that great attempts were made to find original evidence in the retracement of the boundary.

Surveyor 2, known to be a little sloppy, was lacking reference to the original survey and the evidence that Surveyor 1 found. It got me to thinking, how will my work be judged in 40 years? What will my fellow surveyors think of my plat 100 years from now? We are all supposed to be equal – right? After all, we all went through the same education and training process to enter this profession. The truth is – we are not all the same.

Some surveyors will spend thousands of hours over their careers reading up on the latest case law and trying to stay current with technology. Other surveyors look for shortcuts to getting their professional development credits. While one surveyor is taking a course on better communication - another is complaining about the latest increase to the price of a happy meal. While one surveyor is pondering how this latest Court of Appeal decision may influence their practice - another surveyor is making decisions based on a survey law that he remembers hearing about - some 30 years ago. One surveyor thinks of mandatory continuing education as nothing more inconvenient than a reporting issue, while others fret and steam about how they can squeeze out the most credit hours with the least amount of effort. Professionally speaking – should our efforts be equal?

I do wonder how my colleagues will judge me. Will they cringe and say "Oh no, not another Keisel survey – "I'd rather my plat have no reference to one of those crappy surveys." Will they exclaim "thank goodness – we have something good to start from because that Keisel guy sure knew how to survey" and "I hope to one day be half as good as him." Fame and fortune bestowed upon me for being the best of the best in the best profession ever! Seems fair?

What will they say about me in 100 years? Keeping this question at the forefront motivates me to do my best and strive to become better every day. I admit I have done some work that I am not proud of and hope this evidence never see the light of day.

Technology is a wonderful thing - who can argue with that?

Technology has changed the way we survey - who can argue with that?

Technology has made us better surveyors – Hmmm, I am not convinced of that

Let me explain.

Today's trained staff understands the basic theory of the high-level mathematical analysis that allows us to use satellites to determine precisely where we are on a global scale. We send our field crews out to sites with the latest and greatest in surveying equipment. They can punch buttons and save digital data at a rate that is mind-boggling. Does all this fancy and expensive equipment create better surveys – I think not.

Today's highly trained staff can use coordinate geometry to assess almost any mathematical solution in boundary retracement. We can play with the numbers to resolve and recreate almost any mathematical conundrum. Remember your excitement when Cogo software graphically determined a found rebar/cap to be .03 North and .04 East of the record value. We now had great confidence in our solution and were excited to be such a friggin' genius. Bring it on monkey face – we are AWESOME! We quickly recognized the benefit of these amazing software packages that allowed us to blow our own minds with mathematical analysis that would leave any high school math teachers in a state of awe.

For years, I walked around with a mathematical claim of greatness for I had elevated my status as a surveyor. However, time and humility has led me to a position in life where I am more apt to admit my earlier flaws. I believed that technology in the field, software in the office allowed me the pleasure of living in an enlightened, advanced state, and I became a much better surveyor. Behold, those poor unfortunate slobs who had to actually pull out their plumb bobs and run parallel offsets. But alas, I have to admit that time has altered my perception – cleared my vision.

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EDITOR *continued from page 5*

In the dark ages when we ran parallel offsets, we actually did surveys when we were in the field. Today, we collect data – which is not bad - but the blind collection of data takes away the need to think. We are no longer completing surveys in the field - we are just collecting data. To make matters worse, as time went on, and data collection became more and more the norm; we gave up doing any assessment while in the field. We now gather data that may not be the information we need or want. Sometimes we gather too much data – sometimes not enough. Often times we gathered the wrong data. As time went on, there was less and less thought on the part of the field staff about what they were doing. Questions like, "since that rebar looks to be disturbed, what other evidence do I need to pick up to ensure the corner can be properly retraced" became obsolete. The new question is, "do I have enough battery power to get through the day?" Heaven forbid we run out of batteries. Back in the dark ages, we did not take the time to "play" with the numbers to see if there was a better mathematical fit. Rather, we spent our time assessing evidence.

Did I achieve mathematical perfection by calling found survey corners out of position by mere hundreds? The survey mantra "original corners in their original locations" came crashing into my world. I have nightmares that involve me sitting on a wooden stool while the "good" surveyors prance around me chanting in an endless and off key chorus "original rebar – original location." Please, I begged, make it stop - I vow to better myself and not become the laughingstock of the profession. There are way too many surveyors now vying for this honor. Therefore, I completed an internal audit of my own surveying practices. Not only was I math-ing these projects to death, I was looking at field notes that were not "surveys." The notes showed stuff and point numbers, but they did not show any evidence of evidence assessment. They did not indicate a survey was being done - they were just a page of numbers corresponding to a bunch of data. Did I have the right data? Was I missing data? Did the field staff know that their role was to locate enough evidence to retrace the original boundary? Did I know that it was my role to retrace the original boundary? What happens when we use an RTK receiver to locate section corners, and not even think of locating that old fence line next to the property we are surveying? When did surveyors stop surveying?

Back when this country was first being settled, the position of surveyor was held in the highest esteem. Many of these great are remembered, as states, counties, and towns proudly carry their names. Three of the four faces on Mount Rushmore began their career as surveyors.

Today we complain about not having the same status as the engineers, the lawyers, or the architects. Okay – maybe not the architects. Today we have competed our way into dirt-cheap pricing and trained the general population that we are not worthy of a professional status. Instead of seeing our faces etched into the side of a mountain, the general public sees us as the person standing along the side of the highway looking through those funny camera things. We have managed to take ourselves from greatness to obscurity. Bravo!

Do we have the right to call ourselves professionals because we completed an insanely difficult articling process? Do we hold the exclusive right to offer opinions about boundary retracements? What we need is more pride in what we do. Some surveyors are already there, but amazingly, the majority of us are still clawing our way out of the dark ages. We need to elevate ourselves back up to our rightful spot on the career ladder and recognize our own greatness.

Can you imagine a world where surveyors receive remuneration that acknowledges their background and expertize? Imagine a day when the survey

EDITOR *continued on page 7*

UCLS Chair Report

KEN HAMBLIN

This is my second time as chair of our great organization and I am ready to get going!

I thought our convention was one of the best we have had recently. Not only was the conference well attended but the speakers and topics must have been good. Very few people were wandering around grumbling about how bored they were.

We are getting back on our feet financially and things are looking good so it is time to get down to business and start planning for the fall forum and 2015 convention.

We are getting back on our feet financially and things are looking good so it is time to get down to business and start planning for the fall forum and 2015 convention.

In the early 80's I was surveying a piece of property that was tied off of the 1/4 corner of a section; in fact, the ¼ corner was also one of the property corners. When we got to the place where the stone 1/4 corner was supposed to be, it became obvious that the corner would be gone. There was now a cleared strip, the width of a Dozer that went right along the section line. We looked and looked but it was plain to see that the Dozer had wiped the Stone corner out.

We had tied the northeast corner and the southeast corner, which were well marked stones. We went back to the office to consult with Gale Day, who was the office manager, and he told us to set the corner midway between the two section corners.

We went back to the site and while having lunch, I preceded to put a 1/4 mark on a Sandstone Stone, chiseled an "X" in the top, and then buried the stone where we would have placed the Rebar Corner. I must say it looked official.

A few months later, I was talking to Val Haws (RIP) and he told me he had just completed a resurvey of the same section for Washington County. He placed brass cap monuments at all of the found stone corners. However, he mentioned that one of the corners was almost exactly on line and at the split of the distances between the section corners. He was truly amazed as this was the first time that he had found an 1880 survey to be that accurate.

Years later, I let him know the secret about the location of my stone.

Finally, Thanks for the shotgun that I won at the convention. I think I will take up skeet shooting. ◀

EDITOR *continued from page 6*

assistant will not be the lowest paid employee on a construction site. Imagine a day when guidance counselors are steering their gifted students into a profitable career in surveying Geomatics. Imagine being idolized by our youth. Imagine not having to justify your career choice.

In my other life, (I have several of these) I teach several surveying classes at the Salt Lake Community College. It is an honor to instruct these young (relatively speaking) professionals while leading them on a walk of my skewed version of memory lane. Unfortunately, I am a terrible liar and therefore cannot promise these students that their hard work will pay off and the rewards will be worth the sacrifices. Instead, I encourage them to join the movement of transforming this profession for I envision the day when I will be able to stand on the top of my 75k Cadillac Escalade and yell "I am surveyor, hear me roar." I guess I need to get an escalade, a louder voice, and all of youse folks to join me in the revolution of bringing the greatness back to this profession.

I am ready to sit for however long it takes to pose for a mountainside etching. Sitting alongside me on this monumental mountain will be Max Elliott – 2013 UCLS lifetime achievement winner - who taught us persistence and dedication; Daryl Fenn – 2013 UCLS Surveyor of the year - who taught us humility and commitment; Cindy Crawford for – well I think this one is rather obvious. We need someone to draw the crowds. I will name my monumental carving The Measure of the Surveyor, and take my rightful spot in history! Please drop by and visit anytime – the cost for fellow surveyors will be waived. ◀

Another Trick or Two

By Sam Surveyor

I just went to the convention in St. George as I'm sure many of you have. I'm always excited to walk around the foyer and look at all the tables and booths set up. I like to see what they are selling and see the spiff they have out on the tables for our enjoyment. It seems over the years that the trends changes. There was the year of carabineers, or highlighters, or small pocket knives. This year I had the feeling that the economy is getting tight for there was not a whole lot of spiff - only the usual ballpoint pens. Even UCLS gave us a pen. I only noticed two tables had a bowl for your business card. Not much of drawing give away.

I have actually used a lot of the spiff. My backpack has 4 or so carabineers hanging in it. I have some of them holding the tack ball and stuff in my survey equipment. I use the weekly planner to map out my vacations, parties and important stuff. Hunting season and permit deadlines are a must to be noted. I remember the time there were a couple of those wood mind puzzles. The puzzles are still on the front counter to keep people occupied. If you looked closely this year you could find those small flashlights. Every key ring I have has one. I'm amazed how often I pull it out to look at something in the dark. I have even tied on a fly at dusk with that small light shinning.

I know it looks like a small thing here and there, but I'm glad to see those goods. We should show our appreciation by saying thank-you. And what would be so bad if we took a minute or two and listened to what the vendors have to say? We might learn something or see that they really do have something that could make our work better. It might even get us to dream a bit of the wonderful things I would like to have in my office. The vendors might think that they are making a bond with us, that maybe this is a good thing, and maybe they might bring more stuff. I would like to see a spiff war.

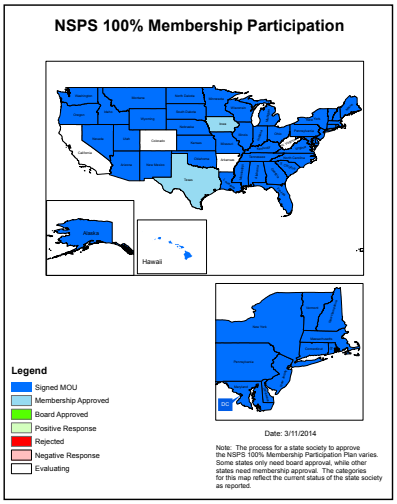
I like spiff. It's a tiny reward for attending. I collect them like kids do the McDonald's happy meal toys. I heard the other day that one of the first toys auctioned off for 10 grand. I wonder how much I can get for that small slide ruler?

I hope to see you in the trades, I mean fields. Remember I'm pulling for ya. ◀

This map ain't big enough for the two of us.

UCLS Members are now NSPS Members

By a stroke of his pen at the 2014 state conference, UCLS Chair Ernest Rowley signed a memo of understanding solidifying the relationship between the National Society of Professional Surveyors (NSPS) and the Utah Council of Land Surveyors (UCLS). Upon the approval of NSPS, the UCLS will become the 42nd state to join.



The results of this union will establish a unified national organization that will better serve the interests, objectives, and communication needs of its members. This stronger organization will also give its members a more powerful national voice in promoting and protecting its profession.

Specifically, the benefits will include but not be limited to a:

- STRONGER INFLUENCE in dealing with federal and state legislators, agencies, and administrators.
- GREATER RECOGNITION when operating among other national and international professional organizations.
- INCREASED EFFICIENCY in building on past, present, and future initiatives to strengthen the surveying profession.

This unity of purpose will also help to advance the sciences and disciplines within the surveying and mapping profession, encourage public and private sector cooperation, create an active public relations program and advance the protection of the public welfare relative to surveying and mapping issues.

Congratulations

Steve Keisel

NSPS Governor - Utah

Basic Title Knowle Important for Surv

By Knud E. Hermansen †, P.L.S., P.E., Ph.D., Esq

Surveyors, as a general rule, stay clear of providing title opinions — rightfully so. Nevertheless, reasonably competent surveying services must rely on some fundamental knowledge of title opinions. A surveyor that is ignorant about the basis for a title opinion could fail to provide relevant information necessary for an attorney to provide a competent title opinion.

One of the fundamental concepts forming the need for an informed title opinion from a competent source is the fact that the deed is merely evidence of title, not proof of title. Every surveyor has heard a client or neighbor claiming: "I've got title to that property" or "I own that property." The statement is usually made as they waive their deed about in a manner meant to forestall any further questioning of their right to claim to some boundary. However, unless the surveyor is in one of the few states permitting registered title and the surveyor is actually dealing with a registered title in that state, a deed is merely evidence of title – NOT proof of title. This is true despite the fact the deed is a warranty deed. If a deed were proof of ownership there would be no need for a title search or title insurance.

Since the deed is only evidence of title and not proof, the prudent buyer will obtain a title opinion. A title opinion is founded on two parts: 1) facts and information about the title and 2) an analysis of the facts and information culminating in an informed opinion. The facts are usually portrayed in the form of an abstract of prior records. The abstract is a compilation of information found in deeds, mortgages, releases, and other recorded documents. In the past, an abstract of title was prepared (or an existing abstract added to) for almost every property conveyed. The completed abstract was examined by a knowledgeable attorney who provided an opinion on the title.

A title opinion will opine that the title is one of the following (not always succinctly): clear, marketable, defensible,

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clouded (unmarketable), or there is merely color of title.

Clear title is title that has no defects. It is title unencumbered by liens, encroachments, or other impediments that would cut short or curtail the complete and reasonable enjoyment of the entire property. In modern practice, title that is encumbered by zoning restrictions is still considered clear unless the current use of the property is in violation of the zoning.

Marketable title is title that a reasonably prudent and intelligent person, informed of the facts and their legal ramifications, would be willing to accept in the ordinary course of business. Marketable title is generally free from serious encumbrances, material defects, reasonable doubts, and well-founded concerns about its validity. It is title that can be sold or used as security at fair market value and allows the owner quiet and peaceful enjoyment of the property. It is title that does not expose an owner to probable litigation (regardless of the probability that the litigation outcome will be in the owner's favor). Circumstances that have been found to make title unmarketable include breaks or gaps in the chain of title, encroachments that violate zoning, title founded on adverse possession (but not litigated to quiet title), less than a complete property interest, impairment of legal access, and boundary disputes or potential boundary problems.

Defensible title is title that has potential problems that will not likely cause the loss of title but would cause the prudent buyer to pay less than the market value. Defensible title looks to the probability of the outcome of litigation involving a title defect. Marketable title looks to the probable and reasonable likelihood of litigation exposure.

Clouded or unmarketable title is title that is defective in some aspect sufficient to cause reasonable concern that the buyer will not receive all the benefits they have bargained for. While the buyer may be willing to purchase the property, the price will be less than the fair market value of the property had the title to the property existed without the deficiency.

Color of title is the appearance of title. It is title that is all form without substance. The person has a deed but the deed conveyed no title.

Interjected into the title determination and acceptability of the title opinion is title insurance. Title can be insured against loss, damage, etc., from a multitude of sources, based on the standards of the insurer and the risk of loss. From a practical viewpoint, all title is insurable if the premiums are made large enough or the list of exceptions extensive enough. Consequently, the term "insurable title" has some wide possibilities.

Title insurance can, in some cases, insure the marketability of the title. This has given some people room to argue that title insurance should be able to substitute for marketable title when the title insurance company is ready and willing to provide insurance that will affirmatively cover one or more conditions that may affect the marketability. However, marketable title and insurable title are not the same as they differ by discrimination criterion. Marketable title uses a reasonably intelligent or prudent person criterion based on future prospects for the property. Furthermore, marketable title requires a person accept or reject the title as it stands at the time of conveyance. The buyer or lender cannot qualify or condition their acceptance of the title.

On the other hand, insurable title uses a reasonably prudent investor or insurer criterion. The investor or insurer analyzes the risks, costs, profit margins, and the likelihood of successfully defending the title. The insurer can change the risk and amount of their indemnity by adding exceptions to the policy or using affirmative insurance. Consequently, they have the power to set conditions or stipulations for insuring the title that the buyer or lender does not have when determining if the title is marketable.

Consider the buyer who intends to build a house and a large garage where that person can indulge in his hobby of working on old cars. The buyer chooses a lot that is just sufficient in size to build the house and large garage. The seller is an elderly widow who is motivated to sell and plans to move in with her daughter. As a result, the buyer gets a great deal, purchasing the lot and residence for $120,000. In the purchase and sales agreement, the buyer agreed to accept insurable title rather than marketable title. As a consequence an abbreviated title examination occurs and an owner's title

SURVEYORS *continued on page 12*

SURVEYORS *continued from page 11*

policy is issued. After purchasing the lot, the buyer discovers the width of the lot is five feet less than described in the deed. As a result of the deficiency in the width, the large garage cannot be built. The buyer files a claim with the title insurer. The title insurer contacts the neighbor to determine the cost and availability of purchasing a five-foot strip. The neighbor demands $3,000. Next the title insurer obtains an appraisal on the lot with five feet less in width. The appraisal values the lot at $119,000. The title insurer sends the buyer a check for $1,000. The buyer has been financially compensated for the loss sustained by the reduced width. The title insurer is obligated to financially compensate for the loss sustained, not satisfy the needs or aspirations of the buyer.

Title opinions have deficiencies. Both the abstract and opinion are only as good as the knowledge, training, and experience of the person preparing the abstract and tendering the opinion. Even a quality title opinion has dozens of caveats (usually unstated). Matters outside the record, defects arising from government regulations (e.g., zoning), encumbrances appearing in the record beyond the period encompassed in the title search, or conditions at the site, to name a few, are often not factored into a title opinion.

Without words to the contrary in a purchase and sales agreement for property, the buyer or lender has the right to expect marketable title from the seller or borrower where a warranty deed is sought and promised.

Every purchaser of land has a right to demand a title which shall put him in all reasonable security and which shall protect him from anxiety, lest annoying, if not successful suits be brought against him, and probably take from him or his representatives, land upon which money was invested. He should have a title which shall enable him not only to hold his land, but to hold it in peace; and if he wishes to sell it, to be reasonably sure that no flaw or doubt will come up to disturb its marketable value. Hebb v. Severson, 32 Wash.2d 159, 167-168, 201 P.2d 156, 159 (1948) quoting Dobbs v. Norcross, 24 N.J.Eq. 327

Consequently, surveying services involved in the conveyance of property should focus on those aspects of surveying services that could affect the marketability of the title. Discovery of disputed boundaries and encroachments are important. Even remote chances of boundary litigation will make the title unmarketable. All problems that have a potential detraction on the marketability of the property should be reported. Here is where a surveyor who presumes adverse possession or prescription has occurred and fails to report this deficiency in title does the client a disservice. Without a judgment supporting title gained by adverse possession or prescription, the title is not marketable.

Sometimes when a surveyor has discovered a problem and reported the problem, the surveyor has been pressured by a closing agent to obscure or

remove the written disclosure from the survey work products in order that the buyer may be led to believe the buyer will be receiving marketable title.

The surveyor should make every effort to provide complete and accurate information for persons to arrive at a competent decision on the status of the title to be conveyed. This caution does always require every problem that exists be discovered or emphasized in a report.

Consider a 500-acre farm that has a one-foot strip of encroachment along an 80-foot section of the farm's boundary. This title is not a "clear title" because of the possibility of adverse possession of the one-foot strip. Nevertheless, the relatively small encroachment along such a small portion of the boundary to a large property will have no effect on the marketability of the title. A reasonable buyer, informed of the encroachment would still be willing to pay the fair market value for the 500-acre farm with or without the one-foot encroachment. Yet, the same one-foot encroachment on a one-quarter acre urban lot would make the title unmarketable. The reasonable buyer would either refuse to purchase the lot or demand a reduction in the purchase price upon discovery of the one-foot encroachment along a boundary of the one-quarter acre lot.

The concepts that have been outlined in this article point to the basis for many of the requirements set forth in the ALTA/ACSM Land Title Survey. As petty as many of the ALTA/ACSM Land Title requirements may appear to the surveyor, an insurer has judged the presence or, in some cases, the absence of certain features or conditions to have an affect on the marketability of the title or pose an unacceptable risk for the title insurer.

In the day-to-day practice of the surveyor, knowledge of the concepts presented in this article can help the surveyor in deciding what needs to be reported or can be safely ignored. A title analysis when contemplating the detail involved in surveying services and reporting problems discovered comes down to the answer to two simple questions: 1) Would the reasonable buyer be concerned with the problem? 2) Will the condition or problem affect the value of the property? (Both questions are interrelated.)

With these two questions in mind, the surveyor would not likely be faulted for failing to report that the neighbor's driveway cuts across the corner of the client's property (by 0.8 feet). On the other hand, the failure of the surveyor to report the neighbor's well head is five feet within the client's property would likely have adverse consequences on the marketability of the client's title and could result in liability to the surveyor. (Although the surface area of both encroachments is approximately the same.)

Hopefully, the concepts explained in this article will help surveyors understand title concerns and how surveying services relate to and may impact on the title. ◀

† Knud is a professor in the college of engineering at the University of Maine. He provides consulting services in the area of alternate dispute resolution, boundary disputes, easements, and land development.

Past Chair Message

ERNEST ROWLEY

Title and the Surveyor

One of the goals that I have had this past year is to bring an awareness of title to the surveying profession through the presentations at the 2014 convention. As the Weber County Recorder/Surveyor, I hope that I can share with you a unique perspective relating to record title and physical title. This article was actually prompted several years ago by an article that was published in the October 2007 P.O.B. magazine titled, "A question of law and fact@" by Jeffery N. Lucas. The article can be found on the publication website and would be good to read prior to reading this article.

It should also be understood that this article will focus more on Utah law and that other jurisdictions may differ in how title is viewed. Much of this article is my own opinion and is derived from my experience in the profession. Opposing views and critiques are welcome.

Surveyor's and Title

It seems that there is a division in the profession that "facts" are the exclusive jurisdiction of the courts and surveyors have no authority to make judgments related to them. Yet, others will advocate that there are many "facts" that a surveyor decides or he cannot do a proper survey. My belief coincides with the latter. It is my hope that the reader may gain something new from the following and be able to apply it to some aspect of your professional work.

Authority of the Land Surveyor:

This forum does not give me enough time to deal with the subject in great detail, however, I would like to pose the following as food for thought.

From the Declaration of Independence and the eventual ratification of the Constitution of the United States of America property and the right to own such was one of the first things that the Founding Fathers desired to ensure and protect for us as citizens. One of the rights that the States retained from the Federal Government was that of the right to regulate property within their borders. It is under this authority that surveyors are licensed for the purpose of protecting the health, welfare, and safety of society.

The Fifth Amendment of the U.S. Constitution is actually a prohibition against the Federal Government that prevents it from "taking" property without a justified public purpose and if it does, the citizen has to be justly compensated for the loss. The States also have Eminent Domain laws that place restrictions on the State from doing the same. The States further regulate property and property rights with legislation ranging from Subdivision requirements, Zoning restrictions, Adverse Possession requirements, legal requirements regarding forms used in property transactions, to types of property rights that may be acquired either by the public or private citizen and no two States are precisely the same. Every State has also enacted legislation relating to who can legally establish property boundaries by Acts which authorize surveyors to practice in their State. Most, if not all States, have language similar to the statutes of Utah that defines the practice of surveying as the authority to determine, establish, and locate on the ground boundaries.

The idea that surveyors have authority to determine the boundaries of land is also discussed by the Utah Supreme Court with a quote from American Jurisprudence. "

> "The test is said to be whether a surveyor ... with the deed before him and with or without the aid of extrinsic evidence can locate the land and establish the boundaries. 23 Am. Jur. 2d Deeds '' 54 (1983)" (emphasis added)
>
> Quoted from, Ault v. Holden, 444 Utah Adv. Rep. 3 (Supreme Court of Utah. March 2002)

From this statement, I do not believe it to be an inconsistency to say that for the court to be able to decide the location of a boundary question that the courts must decide questions of fact and that the land surveyor must also make decisions related to questions of fact to be able to "establish" a boundary. The next logical step in evaluating the meaning of the statement (which has been written about by many) is that if surveyors are to "establish the boundaries" of land and boundaries are matters of facts, how do we accomplish that task without making judgments and decisions of facts relating to the boundary? If we were not able to do so then every survey must go before a tribunal for ratification, or modification of their survey for it to have validity.

It is the surveyors responsibility to perform a survey of physical features, record information, deeds, monuments, testimony, and other relevant matters, relate them to the laws governing the identification of boundaries in accordance with legislation and court decisions relevant to the State in which the property resides and to give an opinion that the courts will ultimately agree with. To do this the surveyor must make decisions relating to "facts" in the same manner that the court would.

Utah's Land Surveyor Licensing Act states that a surveyor must posses and apply special knowledge respecting the "law" related to boundaries. Authority of a surveyor seems to be a frequent disagreement in the profession and it need not be. If we looked at the question from a position of liability, ignoring what has been discussed herein, would it not be prudent and wise to produce a survey that identifies a boundary in a manner that, should the matter be taken to court, the court will agree with your decision? The answer seems elementary and to do otherwise may expose the surveyor to unnecessary liabilities.

I would like to spend the remainder of this article in discussing an area of surveying that I believe receives little or no attention. By this, I do not mean that the subject of Title is not written about, discussed, and argued over. Simply that there seems to be a lack of understanding of Title and the rights associated therewith and how Title affects the location of the boundary which we are required to establish in the execution of the survey.

With that in mind, I would like to discuss another player to the question of Ownership, that being the title industry and how title companies and surveyors could and should interact. It is not my intent to define all the responsibilities and functions of the title industry, only to express my opinion of how the title company and the surveyor can and should work together.

Title companies deal with questions of Ownership, Marketability, and Risk. The title company may also deal with many types of ownership Rights which may stem from public records (thus the standard survey exclusion) or possession (one of the reasons for the ALTA policy survey) in the process of issuing a title policy. Unfortunately, surveyors and title officers seem to enjoy arguing with one another. The arguments and disagreements, I believe come from a common misunderstanding of the role we each have as it relates to our clients and their land.

Hopefully, the information contained herein will help to bridge some of the gap that exists between surveyors and title officers - that is my intent. To do this I would like to explore the principles of title and the function we each have.

Torrens Title (a form of title registration) v. Public Recordation (constructive notice):

Not all States have laws that enact a Torrens Title system and others have active systems on the books and others, like Utah, have had the system in it's early history but it does not show up in our current code book even though, to my knowledge it has not been repealed.

Torrens titles, in practice, are a form of registration of both title and ownership and carries with it a guarantee issued by the State thru special Courts (in essence a State insurance policy), which courts direct their decisions to be Publicly Recorded. We see the Public Recordation system in its most prevalent form by the recording of a deed or other document affecting real estate in the public deed record by individual landowners, corporations, courts, financing companies, title companies and others.

When this recordation takes place with respect to a deed to property, evidence of the Title has been established in a place of public notice. This system of recordation provides constructive notice to the world of the claims of individuals respecting certain property[s]. The act of recording does not guaranty title or ownership with the exception of judgments and title registration. The public record is simply a secure location where documents can be filed by the public for later use by the world. (See Salt Lake County v. Metro West Ready Mix, Inc., 2004 UT 23 Supreme Court)

The Torrens system of title registration is not an evidence of title system, rather it is similar to a quiet title action. The number of States in which the Torrens system of title registration works effectively and is available by State Statute is relatively small compared to the prevalent use of Public Recordation. Yet, an infamous example of the Torrens system is in Chicago, Illinois where, after the Chicago fire destroyed the land records the Torrens Title System was put into place so that an individual could petition the Court of the State for a certificate of title registration. Special courts were established to deal with applicants for title registration and once the court decided the matter a judgment was issued in the form of a certificate of title.

Once the statutory process was completed and the court had issued a certificate of title the certificate was then publicly recorded to document the judicial decision. Once issued the title becomes perfected and subsequent purchasers may be able to obtain a perfected title assuming that something had not transpired after the decree to cloud the title. In States that do not have Torrens Title laws, use of Quiet Title Actions may provide a similar effect as a registered title.

All Courts make legal determinations of ownership (title) with respect to the facts as presented to the court. Along this same line, the title companies insure title (ownership) based on the evidence of title as contained in the public record or other reliable sources available to them or used by them. The court and title company each come to conclusions of

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ownership and title, but have a very different effect respecting authority of and purpose of their opinions.

While it is true that in some jurisdictions the surveyor is not prevented from issuing an opinion related to title, I do not believe that it is the primary function or role of a surveyor. Having said that it would be advantageous for the surveyor to understand that in the process of survey questions of Ownership and Marketability may be answered by the evidence gathered or documented by him or her in the process of survey. When surveyor's are working with a title company these issues may be of primary concern to the issuance of a title policy and may be the reason a survey is requested in the first place. The survey may also prove to be the only way that these issues can be resolved or answered.

Marketable Title v. Insurable Title:

Marketability of Title is a question that surveyors should give more than just a passing thought about in the process of a survey. Facts associated with marketability of title may be present on the ground as well as in the record and the surveyor should be concerned with and disclose both. In fact, ground conditions that affect marketability may only be able to be identified by a competent survey of the property.

It may or may not be easy to identify whether property is marketable or not with respect to the record especially if there is something in the chain of title that would cause doubt in the minds of parties involved in a pending transaction as to whether the grantor has a clean record title, free of encumbrances, liens, or defects. These issues are generally researched by the title company but a surveyor may be wise to examine the same issues because they may have an effect on the location of a boundary or the validity of a particular document purporting to identify the boundary.

Defects of title can manifest themselves in many forms ranging from a break in the chain of title to a cloud caused by a document in the record which purports to give title but does not. Marketability and insurability can be affected by something as simple as a document in the chain which was not properly signed and acknowledged, a deed recorded after the grantor's death even though the document may show it had been signed prior to the death, a document executed by an invalid power of attorney, or one executed by individuals claiming to be trustee's of a trust or the president of a corporation but having no authority, life estates that may not have fully ripened or having been improperly conveyed, or even disagreements respecting the boundaries by competing surveys.

I have recently dealt with an example of a situation where a title was believed to have been conveyed to a strip of ground but the deed of conveyance was improperly executed by someone that had no authority to execute the deed. This transaction called into question not just the ownership of the parcel but how this document may have affected a boundary line agreement between two owner that thought they were adjoining owners but because the deed to the strip was invalid at the time the boundary agreement was made, the owners were not actually adjoining owners. This issue has a serious effect on the location of the boundary because it called into question the validity of the boundary agreement itself in that, in Utah one of the requirements of a boundary agreement is that the parties to the agreement must have adjoining property.

Yes, competing surveys can and do cloud the title. In the case of competing surveys - a cloud on one's title may result along with the associated liability of damaging the title of that property. This is probably the most ignored result of surveys by surveyors. One way the cloud may manifests its self is that the title company has knowledge of the disagreement between surveys and refuses to insure. The question of marketability or even the desire to insure by a title company can be affected by zoning violations which can and should be disclosed during the process of survey or title research.

The surveyor needs to understand that even though a clean record title may exist the property may still be unmarketable. Insurable title and marketable title are not necessarily the same thing though the two may coincide. McManus v. Rosewood Realty Trust, 143 N.H. 78, 80 (1998) informs us that the mere presence of a contamination on property does not affect the marketability of title, stating that "there is a difference between economic lack of marketability, which relates to physical conditions affecting the use of property, [and] title marketability, which relates to defects affecting legally recognized rights and incidents of ownership. One can hold perfect title to land that is valueless; one can have marketable title to land while the land itself is unmarketable".

For instance, a title company may be willing to issue a policy on a parcel of land that you are interested in purchasing because it has a clean title chain in the public record but after investigating the conditions of the land itself you find that it had at one time been used as a gas station which was shut down for leaking underground fuel tanks. This contamination has the potential of causing the property to be unmarketable, simply because the buyer may be unwilling to assume the liability of the physical condition of the land, even though the title is deemed marketable or free from record defects by an insurance company. This problem may extend to adjoining properties should there be questions of the contamination having made its way out of the boundaries of the gas station property and have the same effect on the title and marketability of adjoiners.

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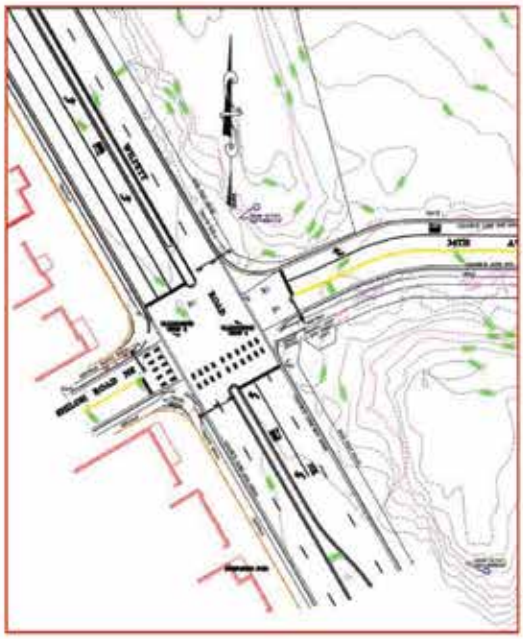

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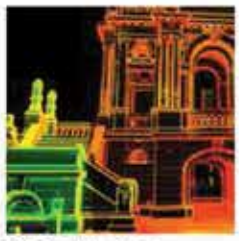

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This type of physical condition may be visually recognizable in a physical inspection or survey of the property. Documenting the location of remnants of the filling station by the surveyor is something that should not be overlooked.

Easements or reservations of many kinds may render an entire parcel unbuildable and thus unmarketable yet it may have a perfectly clean chain of record title. Documenting the condition of the property is a means of providing all involved with notice of these circumstances and helps to limit the liability of non-disclo-sure onthe surveyor=s part especially when most title policies will accept any conditions that a competent survey would discover.

On the other hand, you may have property that is physically marketable but unable to be insured and thus deemed unmarketable. The inability to insure the property would be determined by the title insurance company working on the project and may or may not be limited to matters of record along with the specific policy details the liabilities that the company is willing to assume. The completeness of a survey may have a great effect on the marketability of property depending on the conditions found in the progress of the survey work.

Most often when the term marketability is mentioned is brings to mind the condition of the title and whether an insurance company is willing to issue a policy, again, a policy does not guarantee marketability. Another way to define marketability has to do with the potential buyer. The question to ask would be related to the ability of the potential buyer to cancel a purchase contract on grounds that the property is in some way undesirable, therefore, unmarketable. Or perhaps the buyer is willing to accept a defect that a title company is unwilling to insure. In this case, a title company may be willing to insure with affidavits from the buyer that they will accept the property as is.

Marketable title is generally not a matter which title companies determine in their business practices although they are not prevented from issuing marketability statements. Generally, marketability is a matter which may ultimately be decided by the courts. This is

another circumstance where the court will function as a check on the work of another licensed professional. Whether a title is insured or not is the decision of the title company and may be based on the potential risk that the company may feel they are exposed to in the policy.

Title (ownership):

In relation to Title, possession is a very familiar concept to a surveyor and from the perspective of some surveyors Title may only be viewed in terms of possession (enter the term fence line surveyors). This narrow view of the process or purpose of a survey may get the practitioner in as much trouble as that of the deed staking surveyor. From my experience, the word "Title" can be separated into two different terms or phrases. Record Title and Possession Title, the surveyor should be concerned with both. Invariably, both will present themselves in each survey project.

Record Title:

Record Title is the unbroken chain of documents originating with the sovereign being passed down through time to the present day which will vest in a claimant (land owner) the authority to occupy, use, dispose of and/or encumber a specific tract of land, simply stated; Ownership. When the court considers the question of who "owns" a parcel of property it may limit its examination to matters of Record Title simply because only the question of who owns a parcel of land is brought before the court. This does not preclude the court from considering evidence of title which is not part of the record, however, the legitimacy of documents outside of the record are more difficult to prove and require more effort to verify by all involved. (See again, Salt Lake County v. Metro West Ready Mix, Inc.)

The question of ownership can be resolved without a survey. The chain of title used by the court is commonly known as the "abstract" or "abstract of title" which is generally produced by an abstract or title company, although some attorneys can and will produce them for their cases.

Similarly, when a title company considers issuing a policy, one of the questions dealt with is who owns a parcel of property. While declaring Ownership is the exclusive jurisdiction of the Court in establishing who the legal owner is of particular land with respect to the facts presented, a title policy is an insured statement (or guaranty) answering the same question as to the owner of particular land according to the record. The surveyor has no authority to do either. Yet, the title company may also limit its liability to what is contained in the public record. The court, on the other hand, may look to other sources than just the public record to resolve the question of ownership, wild deeds come to mind (wild being the term that the Utah Supreme Court has attached to deeds not in the public record but which may affect the title).

For the title company the record stands on its own and speaks for its self and gives light to the subject of who owns the property and who has specific rights of use on, under, or over that property. Additionally, the record can have a damning effect on the insurability of the property and may require quiet title action to cure the defect.

A title policy may also exclude, as a matter of business practice, anything that a competent survey would discover or disclose as it may relate to the boundaries of the property or encumbrances relating to the use of the property. In making this statement it is recognized that there are types of policies that the title company will use to remove the survey exclusion, but even in those circumstances the surveyor must understand that they are still liable for their survey conclusion because, in general, the exclusion is removed as a result of a certified survey in which the surveyor willingly accepts the liability of the information and decisions expressed in the work.

Even disclaimers, which are becoming more popular, on survey plats may not eliminate or limit liabilities that are expected as part of the contract of survey. There is an expectation by the public of what a survey will do for them and a surveyor may be held to that expectation and incur liability should he or she fail to meet that standard in spite of a lengthy and detailed disclaimer.

Record title (the abstract or chain of title) in its self does not identify nor establish the limits or boundaries that a landowner may be legally entitled to control. Again, from the Utah Supreme Court we learn that;

> "...a deed absolute on its face is only one link in the chain of evidence by which the holder must establish his title."
>
> Ashton-Jenkins Co. v. Bramel, 192 P. 375, Utah 1920

> And from T.S. Madson, "...be aware at all times that a deed normally is not proof of title, but only evidence of title."
>
> Fading Footsteps (or, Retracement and the Land Surveyor), by T.S. Madson, & Louis N.A. Seemann

To me this means that a deed description has a different function than the remainder of the document. The title company may be able to issue a policy

giving an opinion as to the owner of the property without ever discussion the boundaries of the property, in fact, this is what is being done in every policy that contains the standard survey exclusion. However, the title company may make an additional evaluation using the description to determine if they are willing to insure that there are no record conflicts in the deed description. It is this circumstance that I believe most if not all arguments occur between the title industry and surveyors.

When a title company plots the deed descriptions and determines that there are "boundary" conflicts, in my opinion, what they are stating is that there are conflicts in the written record. Since the purpose of their policy is to provide the customer with an assurance or guarantee that the record is clean and free of defects this record discrepancy may cause them to be unwilling to issue a policy.

Often the surveyor interprets this process as a practice of surveying. Further, when the survey has resolved these "record" defects using all means to identify the "intent" of the conveyance using the deed description as "evidence" of the legal boundary and that survey opinion differs from what the title company is willing to insure, the argument begins. This is not necessary and can be avoided if the surveyor would simply ask what the title company needs in the way of documents or descriptions that will resolve the Record Title with the Possession Title (legal boundary).

In considering the statements of the court regarding deeds being only evidence of title, the difference between Torrens Title and the recording of deeds for constructive notice is important. These statements by the courts do not pertain to Registered Title (Torrens Title) because the case did not involve that type of title, however, respecting the records of constructive notice this concept must be understood, and the remainder of this discussion will focus on constructive notice deeds.

Just as the deed is one link in the chain of evidence to establish title or ownership in the hands of the title company or court, they are also one link in the chain of evidence to establish the legal boundaries in the hands of the surveyor or court. "Title" to me is the uniting of the concepts of Record Title and Possession Title because the deed is used as evidence to identify both.

Possession Title:

When I use the term Possession Title I am referring to the physical legal limits that an owner may use. This is what the surveyor must ultimately be concerned with, the legal limits. The legal limits may or may not coincide with the fence, stone wall, back of sidewalk, ditch, line of bushes, hedgerow, side of the building, or any of the many barriers that are and can be used to identify property lines. So when I use the term Possession Title do not confuse that with the phrase "fence line surveyor".

In Mr. Lucas' article he discussed this subject very well as have others associated with the surveying profession. This has been written about, talked about, argued over and over, and over - debated, and joked about. Yet, it seems that far too many do not understand the seriousness of this one phrase or its importance in the process of surveying. So here we go again.

To understand Possession Title, the legal boundary of property, one must simply understand the role and function of the surveyor. Again, I turn to the courts to define the responsibility of the surveyor.

Although this case specifically addresses whether a deed is void because the description has a closing error, the fact remains that the court recognizes the legal role of the surveyor to "establish the boundaries" of property. And in making this statement, the court is using a legal publication that is recognized nationally and used by the courts in all States. This same idea of surveyors establishing boundaries is discussed in the California case of Williams v. Barnett, 287 P.2d 789 California 1955.

While it should be recognized that at times, surveyors act in behalf of land owners in creating or establishing new boundaries in the subdivision process, the use of the term "establish" in these cases is made in connection with deeds and existing boundaries expressed in them, already created and existing in some manner. It does not mean new or lines that have never existed before. So, in my opinion, since descriptions in deeds are making reference to lines already created the courts use of the phrase "establish the boundaries" is akin to a surveyor using the phrase "retrace the boundaries".

A deed can be divided into two main parts or functions, that of evidence of Record Title (ownership) and that of evidence of Possession Title (the legal boundaries). The function of the deed with respect to both types of title, that being evidence should be clearly understood. It is this fact that if not properly understood and applied, can and will cause surveys to be in error thus erroneously identifying the Possession Title. Even in Court decisions, descriptions may only be admitted in evidence for the purpose of identifying the specific parcel

"The test is said to be whether a surveyor ... with the deed before him and with or without the aid of extrinsic evidence can locate the land and establish the boundaries. 23 Am. Jur. 2d Deeds '' 54 (1983)" (emphasis added)

Quoted from, Ault v. Holden, 444 Utah Adv. Rep. 3 (Supreme Court of Utah. March 2002)

which the court's ruling will affect, not necessarily the boundaries of that parcel. The ruling may deal only with questions of ownership and not boundaries. A surveyor must be careful in the reading of judgments to properly ascertain what the court really decided and how that decision affects the intended boundary.

The idea of Possession Title gets to the matter of the survey. Establishing and/or retracing boundaries are the primary duty of the surveyor. The authority to determine "where the boundaries are" is strictly regulated in all States and is the exclusive jurisdiction of the land surveyor. This places the surveyor in a position of responsibility to not only know the law but to properly act in accordance with such.

To the surveyor the deed description should be viewed as "one link in the chain of evidence" necessary to be used by the surveyor in arriving at a decision that will establish the legal boundaries of property. I can already hear the moans and groans from some who have a different opinion, but this is a fact that cannot be over emphasized, over looked, or ignored, because the courts expect the surveyor to comply with the laws that govern our profession.

The purpose of a deed and the descriptions contained therein is again identified in Ruckner v. Steelman, 73 Ind. 396, and is quoted in Snegfelder v. Hill, 58 P. 250, which states;

> "It is not the office of a description to identify the premises, but to furnish the means by which they can be identified. ... In the case of a deed to real property, it has always been competent to prove the facts and circumstances surrounding the transaction in order to ascertain the premises intended to be conveyed."
>
> (Emphasis added.)

So, "it is not the office of a description to identify the premises", if that is true, and the court said it is, then what is the purpose? It is "to furnish the means by which they can be identified". This simple statement should make it perfectly clear to any surveyor that deed staking is a very risky business because the deed description is subject to patent and latent ambiguities and may be determined irrelevant based on unwritten title rights that have ripened under the law. The deed may also be determined invalid based on an improper execution of the deed by the grantor.

Surveyors should not look at the deed description as an absolute, they are evidence in the surveyor's hand. The Court and title industry also use them as appropriate to their needs and requirements which can and do at times differ from that of the surveyor.

> "80 A.L.R. at page 158: 'When a person goes into possession of land under a deed, he regards himself as the owner of specific land, of the particular ground which he sees with his eyes and furrows with his plow. His ownership, in his own mind, is not of an abstract parcel described by metes and bounds, or of a certain number of acres, but of particular land.'"
>
> Craig v. Paulk, 176 P.2d 529, 162 Kan. 280, No. 36672, Supreme Court of Kansas, (Jan. 25, 1947)

This is an eloquent and on point statement regarding Possession Title. While it speaks to the written title, in my opinion, it also speaks more strongly to the unwritten title (the intent of the grant) and the action of taking possession of the property and the effect that has on Ownership and Boundaries.

Included in the act of taking possession of land is some type of survey, made on the ground, delineating the limits an owner may posses, or fulfilling the terms of an agreement, contract, or transfer of title. This physical action between the grantor and grantee, whether performed by a surveyor or not, becomes in essence part of a contract. The written evidence of the physical actions of the grantor and grantee are subsequently documented in a deed and hopefully recorded. All of these actions and others may affect the limits of the possession and the right to use particular land and may immediately or eventually fix and establish the "Possession Title" or legal boundary in a location that differs from where the bearings and distances (or perhaps even bounds calls) of a description may place the lines. The intent of the parties being paramount.

A significant responsibility of the surveyor is Awhere is the boundary? The answer in short is "Follow The Footsteps of the Prior Surveyor" (original surveyor, first surveyor, or whatever else you may choose to call them, the point is still to identify where the line was established on the ground when it originated regardless of who was responsible in establishing it) and you will find the legal boundary. In this regard the land surveyor is to identify the Possession Title, being the legal boundary, and in doing so the recorded writings, written documents executed by the owner, and the unwritten actions of the parties to the transactions must be taken into equal consideration for they are the Title of the property, thus, giving full effect to the intent of the parties.

Since the actions of land owners can alter the written boundaries of property, thereby overriding the recorded written description and the fact that this happens as frequently as it does in the court opinions, should be a flashing beacon to the surveyor that deed staking can and will bring the surveyor liability should it

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be found that the deed description has been made impotent by the court or the coterminous land owners or flaw in title documents.

When the possession title is properly identified, there is no conflict in the actual title, because the action, having met the requirement of law, affects all adjoining parties. However, the record may still not properly reflect the legal boundary. Why this concept is so difficult to understand I'am not sure, but the courts are very consistent in the use and application of unwritten title rights and how they affect the legal boundary. If the record is not corrected properly with written and recorded documents the two, Record Title and Possession Title, may remain in apparent disagreement though the boundaries may be settled and fixed under the law. This disagreement in the record does not serve the surveyor, the title industry, or the public as well, in fact, this disagreement may be the cause of un-necessary litigation now or in the future.

Consider the following statements from the Utah Court of Appeals in a case that the Masseys were trying to enforce a tax deed that they received from a Weber County tax sale. Even though this case did not involve a disagreement over surveys, the case does bring to light the fact that in many circumstances the record descriptions do not cover the legal title.

AThe Masseys also argue there is a material dispute about whether the property occupied by Defendants, up to the "very old fence" line, precisely matches the legal descriptions of the property in the tax notices paid by Defendants. The court below determined that if a slight discrepancy existed, it was not material because the equitable doctrine of boundary by acquiescence would apply. See Mason v. Loveless, 2001 UT App 145, & 17, 24 P.3d 997. We Agree. Even if a small portion of the land was not described in the tax notices, it became a part of the Defendants' parcels. Moreover, the Masseys still have not produced any evidence that Defendants were delinquent in paying property taxes assessed on this portion or that they had an opportunity to rectify any delinquency. See Royan St. Land Co. V. Reed, 739 P.2d 1104, 1107 (Utah 1987) (holding that taxpayer is only required to pay taxes levied and accessed on property even though assessment may not cover all uses of property or entire area of property)." (Massey v. Griffiths, 2005 UT App 410)

The important part of this discussion has to do with the circumstance that the property descriptions of the defendants did not cover all the property that each defendant was occupying. Yet, what we learn from this case is that even a tax deed may be invalidated by principles of unwritten title doctrines. This is because the equitable doctrines of unwritten title had ripened and vested actual title in the defendants in spite of the fact that the written record had no knowledge of this "conveyance of title".

The quote from the case is that "[e]ven if a small portion of land was not described" by the deed of the defendants it was immaterial. The reality is that in this case, the "small portion of land" was a parcel that had 110 feet of street frontage by about 350 feet deep and the court still applied the principle of acquiescence and invalidated a tax sale. This demonstrates another aspect of title which a surveyor must consider when identifying boundaries.

Combining the efforts of the title industry to identify Marketable or Insurable Record Title and the efforts of the surveying profession to identify Possession Title being the legal boundaries of property and disclosing conditions of the property visible or found during a survey, both can work together to successfully resolve record discrepancies. Doing so the public is benefitted by the knowledge that, they own what they occupy and know the limits which they may legally use. ◀

The UTAH COUNCIL OF LAND SURVEYORS

Welcomes the following new members:

• Gregory Wilson	UVU Student	• Shawn Vernon	Stantec
• Kevin Dawson	Sunrise Engineering	• Christopher Hilsman	ESI Engineering
• Christopher Caldwell	SLCC Student	• Damien Blevins	Granger Hunter
• Jason Felt	Great Basin Engineering	• Kent Setterberg	Salt Lake County
• Terry Kessel	US Forest Service	• Brian Mitchell	SLCC Student
• David Hanrion	US Forest Service	• Ryan Versteeg	Towill, Inc
• Daniel Milligan	Weber County	• Scott Crookston	Cache Landmark
• Kevin Thompson	Thompson Engineering		

Western Federation of Professional Surveyors Report

BY MICHAEL NADEAU, PLS/CFeds

The Western Federation of Professional Surveyors (WFPS) held their last Board of Directors meeting on January 11, 2014 at the Embassy Suites in Portland, OR. Here is a summary of that meeting.

Chairman Richard Heieren (Alaska) reported securing matching funds from NCEES for the Teaching with Spatial Technology (TwiST) program. TwiST brings teachers from the 13 western states together to learn about spatial technology and how to implement this information in the classroom. This provides students with information on a career in land surveying and serves as a public awareness program. Each of the 13 western states will nominate and sponsor teachers (with matching funds from NCEES) to attend TwiST which will be held June 23-27, 2014. In addition to the state association, NCEES, and WFPS; TwiST is also sponsored by OIT and Clark College. If you would like to see more information about the TwiST program, check out http://www.wfps.org/files/TWIST.html.

It was reported that NSPS has taken action to stop publishing the SaLIS Journal which serves as the only peer-reviewed land surveying journal. The WFPS Board of Directors discussed the importance of having a peer-reviewed journal for the profession and academia and will continue to monitor the situation.

WFPS will hold a strategic planning session in May where they will discuss potential programs and opportunities for WFPS to assist the western state land surveying associations.

The WFPS Board of Directors adopted the following resolution in support of a mandatory continuing education requirement.

WHEREAS, the Western Federation of Professional Surveyors (WFPS) is a regional Association representing Land Surveyors in the 13 western states, and

WHEREAS, the vast majority of WFPS states have a mandatory continuing education requirement for license renewal, and

WFPS will hold a strategic planning session in May where they will discuss potential programs and opportunities for WFPS to assist the western state land surveying associations.

WHEREAS, WFPS is committed to the protection of the public, which is accomplished by Land Surveyors maintaining an up-to-date knowledge and understanding of current laws, rules, and regulations related to the practice of land surveying, and

WHEREAS, WFPS is committed to keeping Land Surveyors up-to-date, expanding their outlook and ensuring that they are provided the professional resources, outlets and educational advantages needed to succeed; respond rapidly to the ever-evolving professional requirements and,

WHEREAS, continuing education is a proven method of enhancing skills and resources, providing information concerning new technology, developments and issues relating to land surveying; and,

WHEREAS, continuing education is a method of ensuring that the Land Surveyor has formal opportunities to upgrade and update professional knowledge and skills; encouraging the Land Surveyor to learn from other professionals; and assisting the professional to expand his/her professional resource network; NOW, THEREFORE BE IT

RESOLVED, that WFPS supports a requirement of mandatory continuing education for Land Surveyors.

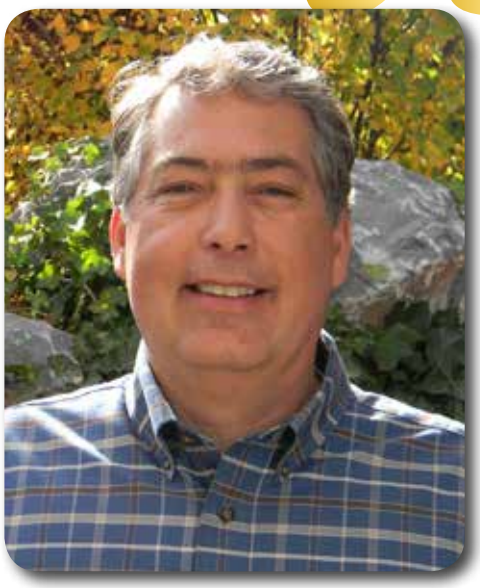
The next WFPS Board of Directors meeting will be held May 3rd in Albuquerque, New Mexico. As your representative, I represent you. If you would like anything survey related discussed on a regional level at these upcoming meetings, don't hesitate to contact me at MikeNadeau.UCLS@gmail.com.

WFPS REPORT *continued on page 24*

UCLS 2013

Surveyor of the Year

Darryl Fenn



Tonight's recipient holds a special place in my heart. While I learned many aspects of surveying in my early career under the direction of another surveyor, tonight's recipient took me under his wing and immediately started showing me the business side of surveying… after all, there are many successful businessmen out there, just as there are many successful surveyors…but how many successful surveyors truly understand the business side of the profession. Darryl Fenn has managed to be one of those successful in business surveyors and I continue to learn from him every day.

Darryl started his career in surveying right out of high school in 1979. He married his high school sweetheart, Wendy in 1981 and had three wonderful kids (Robyn, Randall, and Regan). He was (emphasis on WAS) one of the youngest surveyors in Utah to be licensed in 1987. He also received licenses in Idaho, Arizona, and New Mexico. In 1993, he chaired the Utah Council of Land Surveyors and has been the chairman of multiple UCLS Committees since that time. He was an adjunct instructor and sat on the Program Advisory Committee for the Geomatics program at the Salt Lake Community College.

In 1997, Darryl and two other partners started Meridian Engineering, where he is currently the president. Staff have come and gone, and so have Trimble GPS base stations (via the Salt Lake City Bomb Squad).

In 2013, Darryl was asked to chair the testing committee of the UCLS. Darryl is one of those guys who, if he accepts a task, he follows through and sees that task to completion. There is no in between…he is either all in, or all out. Needless to say, after accepting the chairmanship of the testing committee, he was all in. He led the committee with enthusiasm and confidence. He assembled a sample of surveyors from across the state to review the state exam pool of questions. These surveyors included surveyors in both public and private practice, as well as the federal government, and even a handful of CFedS. He also made meticulous notes for the test reviewers in the future to know what the goals of the committee was, and what their mindset was during the review. The final reviewed pool of test questions now consists of 140 questions in 3 divisions separated into 13 categories with a minimum 100% redundancy for random question selection.

So with that, the 2013 Surveyor of the year is…Darryl Fenn. ◀

WFPS REPORT *continued from page 23*

As a closing thought, during a recent luncheon, I presented to the Golden Spike Chapter about the history, achievements, and objectives of WFPS. If you would like to have this presentation in your chapter, please contact your chapter officers to see if they can fit this discussion into one of their luncheons. I would be happy to educate more surveyors on what WFPS does for them. I was surprised to hear how many surveyors did not know what the Western Federation of Professional Surveyors does to promote surveying and surveying education on a regional level. ◀

"Knowledge speaks, but wisdom listens." – Jimi Hendrix

Michael Nadeau, PLS/CFedS

The Western Federation of Professional Surveyors (WFPS) was formed in 1979. The Board of Directors includes two Delegates from each of the 13 western states. WFPS serves as a regional voice for land surveyors and meets quarterly to discuss practice issues affecting western state surveyors. For more information about WFPS and the state associations, visit WFPS.org

UCLS 2013

Lifetime Achievement

Max Elliott

Max Elliott was born on July 28th (won't say what year) in Farmington Utah.

He had 3 brothers and a sister. His father kept them in line through running a dairy and farming.

He excelled in basketball and baseball at Davis High School and went on to play with a Triple-A ball club in Florida for a summer.

Max speaks Navajo. He spent about 2 ½ years on the Navajo Indian reservation serving as a missionary for the Church of Jesus Christ of Latter-day Saints. He loves the desert and really hot temperatures. His office is kept several degrees warmer than the rest of the building and he usually keeps his coat on.

In 1959 he married his sweetheart, Margaret Ann Webb, whom he met thru a mutual friend – on a blind date. He will tell you it was "love at first sight." They had 4 sons and 4 daughters. He has 9 grandchildren.

He has traveled all over the United States and always enjoyed stopping at different places of interest. He loves reading, especially true stories and stories that have historical interests. Max went on several cruises with his sweetheart. He lost Margaret to cancer in 2008.

After a short stint in the military where Max hoped each plane he worked on stayed in the air…Max attended Weber State College and then began working at Davis County in the Surveyor's office where he found a career that was quite fulfilling. He became a licensed surveyor and did private surveys in his spare time. He has always done well with math problems and surveying was the perfect fit for a long and rewarding career.

When the County Surveyor retired, Max ran for County Surveyor

and that is where he is today. Max has worked in the Davis County Surveyor's office for over 50 years (that's because he began working there before there were child labor laws in Utah and some people believe he helped survey the county for Brigham Young).

Max ran 14 St. George Marathons in his spare time with all of them, except one, under 3 hours. He figured it wasn't worth running them if it took him over 3 hours to complete, so he retired from the long runs and grueling hours of training. He still walks in the early morning hours (4am) as often as he can.

Max is kind, patient, thorough and accurate in his role as Davis County Surveyor. Many are grateful for his knowledge and expertise that keeps the County running smoothly. ◀

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
440 West 200 South, Suite 500
Salt Lake City, UT 84101
http://www.blm.gov/ut/st/en.html

IN REPLY REFER TO:
9630(UT-925)P
January 14, 2014

Mr. Ernest Rowley
Chair, Utah Council of Land Surveyors
Attention: Mr. Steve Keisel, UCLS Publication Committee Chair

This letter is to inform you of official cadastral surveys in Utah that have been accepted in 2013, and are available from the Public Room, Bureau of Land Management (BLM), Utah State Office, 440 W 200 S, Suite 500, Salt Lake City, Utah, 84101. These records are also made available at the BLM internet web site: http://www.blm.gov/ut/st/en/prog/more/cadastral.html

	Group No.	T. & R.	Meridian	Surveyor	Approved	Plat No.
1	1175	T42S R15W	SLM	DAVIS	1/7/2013	1789-F
2	1176	T35S R15W	SLM	DAVIS	1/10/2013	1593-B
3	1086A	T22S R1W	SLM	DAVIS	1/17/2013	1197-J
4	1086B	T22S R2W	SLM	DAVIS	1/17/2013	1198-C
5	703A	T12NR13W	SLM	THOMPSON	1/18/2013	88-B
6	1177A	T39S R6W	SLM	DAVIS	2/8/2013	1703-F
7	1177B	T39S R5W	SLM	DAVIS	2/8/2013	1704-D
8	S310*	T3S R22E	SLM	SUPPLE-MENTAL	2/15/2013	492-G
9	1217	T25SR17.5E	SLM	BURKHARDT	2/21/2013	2526-A
10	1182	T17S R16E	SLM	BURKHARDT	2/21/2013	1028-B
11	1180	T43S R19E	SLM	BURKHARDT	3/5/2013	2518
12	1181	T26S R10W	SLM	KURCHINSKI	3/5/2013	1343-B
13	1184	T10S R8W	SLM	BATTY	3/18/2013	760-E
14	1185	T30S R11W	SLM	DAVIS	3/18/2013	1468-A
15	1193	T33S R7E	SLM	BURKHARDT	3/29/2013	2016-A
16	1142	T43S R6W	SLM	BURKHARDT	4/12/2013	1804-E
17	1163	T41S R21E	SLM	BURKHARDT	4/15/2013	2000-A
18	949A*	T36S R5W	SLM	DAVIS	5/7/2013	1628-F
19	1189A	T29S R9W	SLM	DAVIS	5/7/2013	1418-D
20	1189B	T30S R9W	SLM	DAVIS	5/7/2013	1466-C
21	592A*	T40S R21E	SLM	BURKHARDT	5/10/2013	1720-E
22	1172	T19S R2W	SLM	DAVIS	5/14/2013	1081-D
23	1191	T30S R12W	SLM	DAVIS	5/30/2013	1469-B
24	1199	T3S R9W	SLM	BAUGH-MAY	6/24/2013	462-B
25	1192	T27S R10W	SLM	DAVIS	6/26/2013	1354-C
26	1089C	T18S R2W	SLM	WORKMAN	7/16/2013	1050-D
27	836A,D	T7N R2W	SLM	PROFAIZER	8/7/2013	220-B,C,D
28	836A,D	T7N R3W	SLM	PROFAIZER	8/7/2013	221-A,B,C
29	836A,D	T8N R2W	SLM	PROFAIZER	8/7/2013	201-Q,R,S
30	1187	T43S R26E	SLM	BURKHARDT	8/29/2013	1814-C,D
31	1186	T43S R14E	SLM	BURKHARDT	9/5/2013	2256-B
32	1203	T42S R25E	SLM	BOEKMAN	11/14/2013	1770-A
33	1151	T5S R4W	SLM	BATTY	11/21/2013	537-L,M,N
34	1196	T25S R10W	SLM	BURKHARDT	11/29/2013	1288-C
35	1194	T39S R11W	SLM	BATTY	12/18/2013	1698-F

Note: The use of an asterisk [*] denotes "Plat Only" townships. There will not be a set of field notes for these townships.

Why a Four-Year Degree in Geomatics?

UVU Geomatics Program Coordinator

BY DANIAL L. PERRY, MBA, PLS

Over the past several years since becoming a professor and developing the Geomatics Program at Utah Valley University (UVU) I have been asked this question many, many times. In most cases this question has come from one of us "older", experienced surveyors who acquired their skills and training from many years of experience in the field and office. Apprenticeships continue to be critical to the success of our profession in most states, which most often includes four years of work experience verified by one or more licensed professional surveyors. Some surveyors wonder, as they did several years ago when the State of Utah required a two-year degree in Surveying, why do we need formal education in surveying? When I started surveying with my dad at fifteen he would often tell me, "The best way to learn surveying is behind an instrument". So I, like many of you, spent many hours behind an instrument, or more often, holding the rod and pulling a chain. Some forty odd years later, and several hard earned college degrees over the course of two decades, I have come to understand a few more things about knowledge, education, and experience that seemed to escape me before I became "educated". So it is through this non-academic lens of experience and formal education that I approach this very academic question of "Why a four-year degree in Geomatics?

The idea of a four-year degree in Geomatics seems premature without first explaining the various types of college degrees available, which incidentally, I have found all too often to be misunderstood. The next step is to discuss some ideas as to the benefits of a four year degree generally. Then, we will address the issue of why a four-year degree in Geomatics specifically from Utah Valley University (UVU).

Brief Definition of College Degrees

All college degrees in the United States consist of some level of General Education (GE) and some level of discipline-specific coursework. The following table depicts the differences and similarities between these degrees. This table does not show degrees of art but only degrees of science as is applicable to Geomatics.

College Degree	GE	Discipline Specific	Total
Associate of Applied Science (AAS)	16-20	50-55	60-70
Associate of Science (AS)	30-40	30-40	60-70
Bachelor of Science (BS)	30-40	85-95	120-135

All numbers indicate semester credit hours

The purpose of the AAS degree is to provide very specific skills and training of a technical nature with less theory and more focus on the practical, hence most of the credit hours are discipline-specific. Whereas the purpose of the AS degree is primarily to provide a pathway directly to the BS degree. These distinctions are important to make because each degree has its own purpose and they do not necessarily all fit well together and in fact are often at cross-purposes to each other. The AAS degree is a terminal degree meaning it is the end of education in that particular area. While the AS degree focuses on the next step of obtaining a BS degree. These differences cause issues with transfer of credits from one type of degree to another, not to mention transferring from one system or institution of higher learning to another. Many in academia purport that an AAS degree, because of its focus on skills and technical training, is not applicable to a BS degree and therefore should not be transferable to a BS degree. Most colleges and universities around the country embrace this philosophy and as a result will only accept the AAS degree credits as college credits but not applicable to a particular BS degree program.

One of the big points of contention between the AAS and the BS degree is the issue of general education abbreviated as GenEd or GE. Because Salt Lake Community College (SLCC) only offers an AAS in Surveying and Geomatics it seems necessary to explain a little more about GE in Utah. The Utah System of Higher Education (USHE) requires that each student receive a minimum of 36 credit hours of General Education as a part of the AS and BS degrees. The content of which consists of English (writing and literature), Biological and Physical Sciences, Humanities, Arts, Mathematics, Ethics and Values, Personal Health and Fitness, and History. While the subject of Biology does not seem to have particular relevance to Surveying and Geomatics, this topic along with others taught as a part of GE help to provide the learner with some knowledge outside of their own discipline. This "non-related" knowledge allows the individual to communicate and work with others outside their discipline in a more intelligent manner.

We admire the person who is "well read" and "well rounded" because they seem to know about and can interact

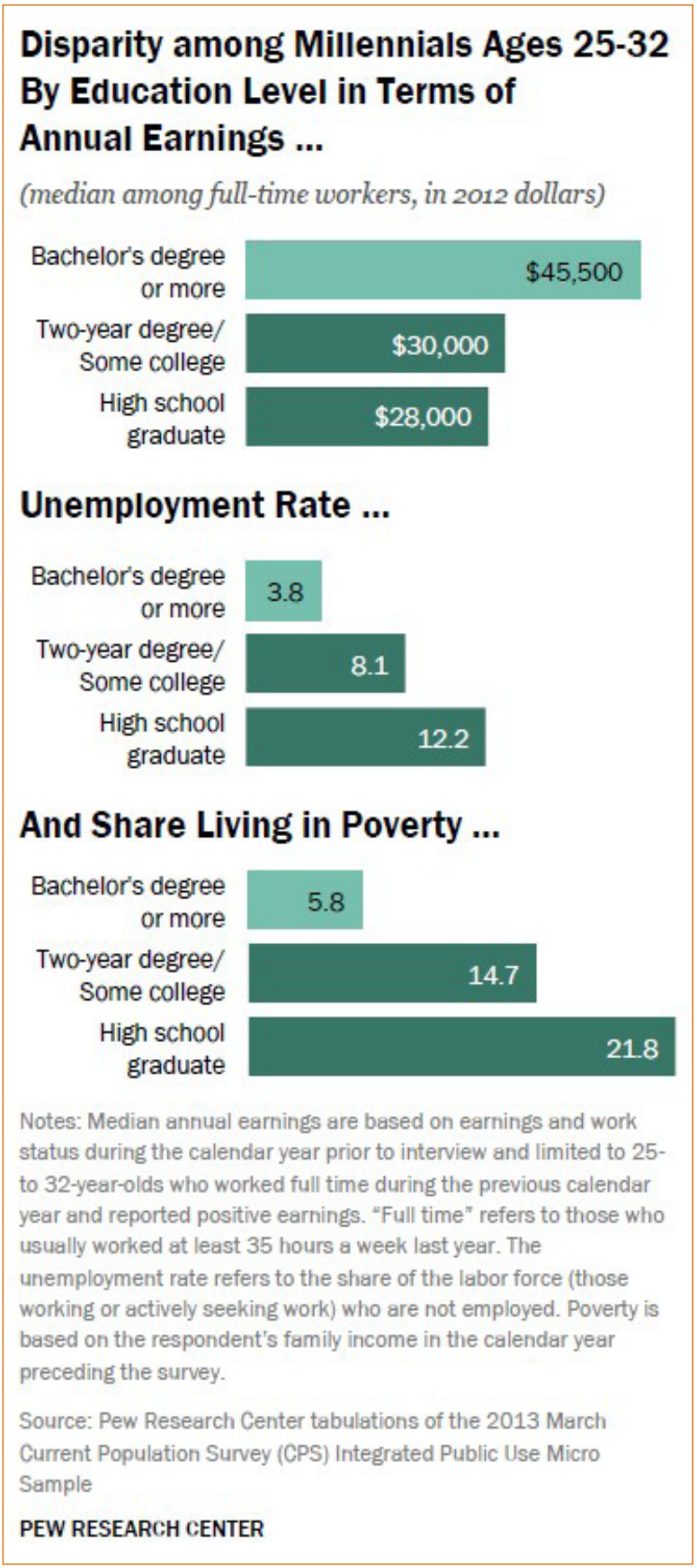
GEOMATICS *continued on page 28*

with people from all walks of life. In fact, there is an entire argument to be made for the fact that ALL things DO relate to each other in some pertinent and significant ways. A general education also provides the individual with life-long learning opportunities on a variety of topics often providing guidance and assistance in solving surveying problems. Whether they be in the business of surveying, communicating with others in and out of the profession of surveying or even directly related to surveying.

A student also has the opportunity to select from a reasonably wide variety of topics. For example, a course in Physical Science is required as a part of GE. A person could select Physics to fulfill this GE requirement and at the same time gain a much better understanding of how and why the electronic distance meter works. Biology, which seems to be entirely unrelated, can be fulfilled by taking Field Botany which is a study of the flora (plants) of a particular area. This course at UVU studies the local plants of Utah making this particularly useful when it comes to intelligently and accurately defining a particular tree or shrub in a surveying narrative, on an ALTA/ACSM survey or other communication with the general public. I could go on and on citing many such instances wherein the learner can apply and make use of the General Educational requirements to enhance their professionalism as a surveyor. As debatable as these subjects may be with regard to what should or should not be included in general education these subjects, common in most colleges and universities in the United States, are one of the significant differences between the AAS in Surveying Technology and the BS in Geomatics.

Why a Four-Year Degree?

There has always been an important debate as to the validity and relevance of a four-year degree especially when economies are restricted, money is tight, and tax bases are reducing. Then of course we hear about the college graduates who can't find a job or they are only able to find a job in an unrelated field. There is certainly increasing pressure on academia to provide answers to this question. There are many articles written on the subject most of them by academia itself which sounds biased at first blush. But then who better to explain the benefits of education than those who have obtained the same and benefited from doing so. Just as a licensed surveyor is the correct person to explain the benefits of being licensed to someone who is not licensed, if you haven't earned the license you can't know the real benefits or even what it means to be licensed. So it is with this bias that I provide some information and studies as to the benefits of earning a higher education which encompasses a four-year degree.



(Pew Research Center, 2014)

1. **Higher Employability** According to a 2010 report on Trends in College by the College Board, Advocacy and Policy Center "Individuals with higher levels of education… are more likely than others to be employed.… For young adults between the ages of 20 and 24, the unemployment rate in the fourth quarter of 2009 for high school graduates was 2.6 times as high as that for college graduates. (College Board, Advocacy and Policy Center, 2010)
2. **Higher Wages Earned Over Time** "Median earnings of bachelor's degree recipients working full-time, year-round in 2008 were $55,700, $21,900 more than median earnings of high school graduates. Individuals with some college but no degree earned 17% more than high school graduates working full-time year-round. Their median after-tax earnings were 16% higher." (College Board, Advocacy and Policy Center, 2010)

"For those who question the value of college in this era of soaring student debt and high unemployment, the attitudes and experiences of today's young adults—members of the so-called Millennial generation—provide a compelling answer. On virtually every measure of economic well-being and career attainment—from personal earnings to job satisfaction to the share employed full time—young college graduates are outperforming their peers with less education. And when today's young adults are compared with previous generations, the disparity in economic outcomes between college graduates and those with a high school diploma or less formal schooling has never been greater in the modern era."

(Pew Research Center, 2014)

(Pew Research Center, 2014)

There are many other benefits not often associated with those with higher education particularly bachelor degrees. These are indicted in bullet form with their associated resources for you to investigate further on your own.

3. **More Taxes and Less Government Spending on Support Programs** (Trostel, 2009) (College Board, Advocacy and Policy Center, 2010).
4. **Increased Health and Wellness** (College Board, Advocacy and Policy Center, 2013) & (Mirowsky, 2003)
5. **Higher and Better Cognitive Ability** (Cutler, 2010)
6. **Enhanced Ability to Learn** (College Board, Advocacy and Policy Center, 2013)
7. **Improved Citizenship and Civic Participation** (College Board, Advocacy and Policy Center, 2013)
8. **Increased Earnings for College Graduates Increases Earnings for Others** (Moretti, 2004)

As you can see there are many benefits of a four-year degree or even any college degree which includes not only higher wages in the long-run but also other benefits to the individual college graduate and society as a whole. Some of the concluding remarks in the College Boards 2013 report seem to clearly state the evidence in favor of the value of a four-year degree.

"Individuals and society benefit from higher education in a variety of ways. In addition to the well-known association with higher earnings, higher levels of education are also associated with more fringe benefits and better health-related behaviors and outcomes. In addition, people who do not have college degrees benefit from the higher education levels of others. They earn more and face less strained local, state, and federal bud-

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GEOMATICS *continued from page 29*

gets. Moreover, they live in a society in which more people are well-informed and actively engaged in the community. Earnings and employment are important outcomes of higher education, but they don't tell the whole story. The non-pecuniary benefits for individuals as well as the broad social benefits improve the quality of life across our society….Higher education benefits individuals and society as a whole in many ways that are not reflected in earnings and employment. Education is about much more than getting a well-paying job, even though that is a very important goal. It is about living a full and satisfying life, about contributing to society, and about understanding oneself, one's history, and one's environment…. The fact is that although there are exceptions, over time, higher education pays off very well in financial terms, and in social and personal terms as well…. It includes training for specific occupations as well as broad, deep education designed to transform the way people think and the way they perceive themselves and the world around them….the vital role post-secondary education plays in the future of our nation and our economy." (College Board, Advocacy and Policy Center, 2013)

Why a Four-Year Degree in Geomatics from UVU?

An accurate discussion of other university Geomatics program would be presumptuous and inaccurate at worst and inappropriate at best. Therefore, the remainder of this article will attempt to answer the question "Why a four-year degree in Geomatics from UVU?"

Firstly, a question; Why the name Geomatics as opposed to Surveying? The answer to this question is beyond the scope of the treatise. Except to note that while there are many definitions of Geomatics, suffice it to say that it is a part of the Geospatial Sciences and encompasses much more than traditional Land Surveying. Using Geomatics provides many opportunities to explain its meaning which often leads to interest and commitment to learning more about Geomatics.

As previously addressed the AAS degree is not focused on GE but on specific technical knowledge associated with performing the tasks, duties, and responsibilities of the land surveyor. While the BS degree also includes courses to develop skills and enhance task performance in surveying, the four-year degree also offers 40 plus credit hours' worth of additional Surveying and Geomatics courses. These courses provide the learner with a more advanced (both broader and deeper), knowledge and understanding of the various subjects pertinent to Geomatics. These courses, primarily upper division (advanced), are:

- Land and Survey History
- Geodesy
- Business Law
- Advanced Control Surveys
- Remote Sensing
- Construction and Route Surveys
- Measurement Analysis and Adjustments
- Geomatics Lecture Series
- Global Professional Ethics and Liabilities
- Surveying Legal Principles
- The Surveying Practice
- Geomatics Capstone

A more detailed description and explanation of these courses is beyond the scope of this article but a visit to www.uvu.edu/geomatics (navigate to the Degrees and Program tab) will provide the reader with this information.

Our profession faces many challenging, complex, and difficult issues today, which require our best efforts. The surveyor of the future is what we need to be focused on. Albert Einstein once said, "We can't solve problems by using the same kind of thinking we used when we created them." The mind is limited to the knowledge and understanding of the world around us. So if that world is expanded with many different ideas it will enhance our ability as professionals to understand a variety of possibilities, concepts, and solutions. This is one of the objectives of the BS degree in Geomatics. We must be able to see, learn, and understand a bigger broader world view and not be limited by the urgent tasks of today but more concerned with what profession are we building for tomorrow.

Knowledge from Experience and Education

The old adage "experience is the best teacher" is usually what gets quoted to me as a teacher. This statement, while true in some circumstances, certainly does not apply in all cases. The problem with experience is two-fold.

One, experience is often merely the same experience over and over again. If a person goes to work every day and completes virtually the same tasks and duties, and they do this for 10 years, this person really has only several months of actual experience because everything else is redundant. Typically, a survey manager will assign a crew chief the field portion of a particular project and often enough this is a task well known to the chief and crew. They have done it repeatedly year after year. Seriously, pounding hubs is pounding hubs, there is just a lot of muscle and pain required. Move the hub in two tenths and then down a tenth; mile after mile of five across every 50 feet. How much experience of this kind does anyone really need? Thankfully, we have machine control in some places.

Two, experience is all too often directly dependent on the amount of time (which quickly converts to money in the profession of surveying) available to get the job done. The idea of stopping the work-flow to teach an employee about surveying principles and theories, and the "why's" of things when there is a job to be finished is simply not done. Realistically, in my 20-plus years of running my own engineering and surveying business, I have never taken the time to sit down and explain trigonometry to an employee, or explain how a least squares adjustment really works, or what IS an error ellipse? Teaching an employee surveying methodology in the field and other important surveying elements such as how to determine an occupation line or other similar tasks certainly make "experience the best teacher". Unfortunately, primarily because of time constraints, the person with experience ONLY, has often NOT related their experience to a deeper and

broader understanding of the theories, principles, and philosophies needed for greater depth and broader understanding of Surveying and Geomatics. This understanding is best left to the college classroom.

Conclusion

When a graduate from the four-year degree Geomatics Program at UVU is employed you should not (there will always be exceptions) need to explain these principles and theories but you should take the opportunity to use there "book learning" and combine it with your experience to reach a higher level of performance. They must apply their knowledge to the workplace. A student combining advanced knowledge and education gained from the four-year degree in Geomatics and eventually with several years of experience will bring any surveying business tremendous value. Far more value than you would achieve by any other means. We need to look at building a long-term employee who will be able to make those sound wise judgments. It is to an individual of this caliber of expertise, in-depth knowledge, and broad understanding of basic and advanced principles and theories of Geomatics that we can entrust the future of our profession.

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Utah Council of Land Surveyors
PO Box 1032
Salt Lake City, UT 84110

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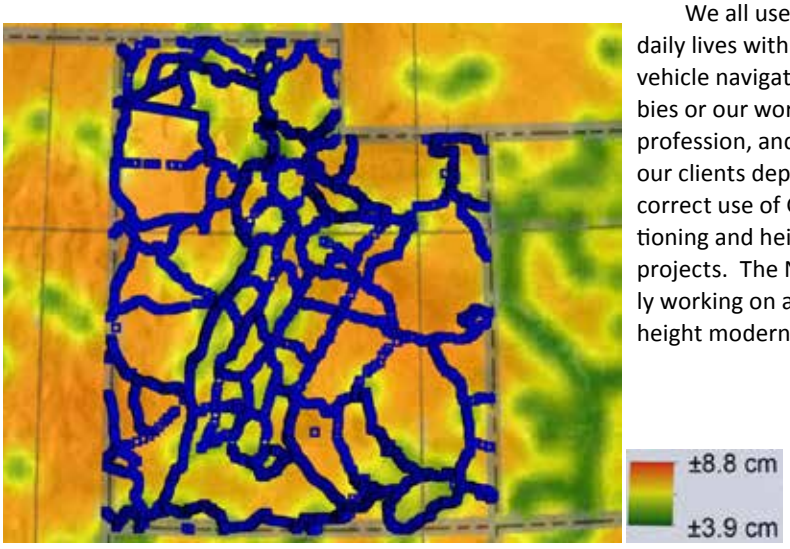
Press Release from the National Society of Professional Surveyors

National Surveyor's Week

March 16-22, 2014

This year National Surveyors Week will be celebrated from the 16th to the 22nd of March. Events are being planned by the National Society of Professional Surveyors as well as by state societies, local surveying chapters and individual surveyors. Some of the celebrations under discussion include publicity events, educational events and support of the National Geodetic Survey's (NGS) Height Modernization Program.

Each of us has an opportunity to participate in National Surveyor's Week to whatever level we are able. Surveyors who live in or nearby capital cities or county seats are discussing setting GPS marks, perhaps with the state society logo embossed on the mark, and occupying these marks so that the public and politicians can meet us and learn about what surveyors do. Other surveyors I know have contacted the press, local schools and scout groups to use National Surveyors Week as an educational opportunity to inform the public about what we do and why it is important. They will set up in school yards or other predetermined locations with GPS receivers, total stations, and levels to share their love of our profession. Finally, but no less important is the occupation of NAVD88 bench marks to assist the NGS improve the vertical component of the National Spatial Reference System.



We all use GPS in our daily lives with cell phones, vehicle navigation, our hobbies or our work. We as a profession, and the public as our clients depend upon our correct use of GPS for positioning and heights on their projects. The NGS is currently working on a nationwide height modernization program. This program includes many facets including airborne gravity surveys and new geoid models. But what is needed most for the development of a new height model is actual GPS measurements on NAVD88 bench marks.

Data submitted to the NGS through the On Line Positioning Service (OPUS) shared solutions option (http://www.ngs.noaa.gov/OPUS/about.jsp#sharing) will be available for inclusion in the next geoid model (possibly in 2015 or 2016). It will contribute to the accuracy of a new transformation tool that NGS will develop which will relate NAVD 88 to the new vertical datum scheduled for release in 2022.

The NGS like most government agencies has been gutted by recent budget cuts and attrition. They have few field surveyors and through cooperative programs with the various states only 14 State Advisors, 9 State Coordinators and 1 Regional Advisor to cover the fifty states and all of the territories. Your participation is vital to this program and will be much appreciated in the future. ◀

For more information on how to help or how to perform OPUS observations contact your Regional Geodetic Advisor:

William Stone C/O Bureau of Land Management 301 Dinosaur Trail Santa Fe, New Mexico, 87508
Telephone (505) 954-2114 Fax (505) 954-2114 Cell: (240) 988-5919 Email william.stone@noaa.gov