

SURVEYOR

California

Spring 2010

Issue #161

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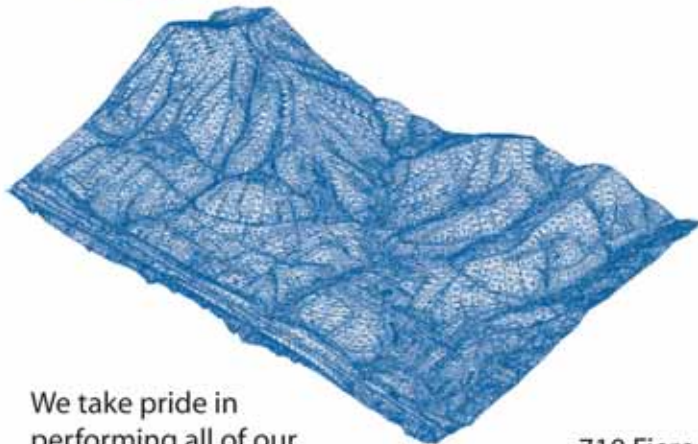


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The quarterly publication of the California Land Surveyors Association, Inc. and is published as a service to the land surveying profession of California. It is mailed to all Licensed Land Surveyors in the State of California as well as to all members of the California Land Surveyors Association, Inc. The California Surveyor is an open forum for all Surveyors, with an editorial policy predicated on the preamble to the Articles of Incorporation of the California Land Surveyors Association, Inc. and its stated aims and objectives, which read:

“Recognizing that the true merit of a profession is determined by the value of its services to society, the California Land Surveyors Association does hereby dedicate itself to the promotion and protection of the profession of land surveying as a social and economic influence vital to the welfare of society, community, and state.”

“The purpose of this organization is to promote the common good and welfare of its members in their activities in the profession of land surveying, to promote and maintain the highest possible standards of professional ethics and practices, to promote professional uniformity, to promote public faith and dependence in Land Surveyors and their work.”

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On The Cover:

Portion of Coit Tower mural entitled: "Animal Force and Machine Force." painted by Ray Boynton, 1934
Photo by John Wilusz

John Wilusz, PLS, PE, works in the Delta Levees Program at the California Department of Water Resources in Sacramento, CA.



From the Editor

THE COIT TOWER MURALS IN SAN FRANCISCO

Have you seen the Coit Tower murals? I saw them recently and I really enjoyed them. I took a few pictures because I thought you might like them too. The Coit Tower murals are a graphic account of life in Depression-era California. They are on the interior walls of the lower level of Coit Tower, which is on Telegraph Hill in San Francisco. Literature published by Friends of Recreation & Parks lists 19 separate murals. Some of their titles are: Industries of California, City Life, Railroad and Shipping, Banking and Law, The Farmer, Power, and San Francisco Bay. They were completed and opened to the public in 1934. Although painted by numerous artists, there is an overall unity in style and content that suggests a conscious effort to work together. The paintings were done using the fresco technique, a method of painting on wet plaster. When done well, as they are here, frescoes come alive and the colors glow like stained glass.

The artists were paid by the U.S. Government through the Public Works of Art Project (PWAP). The PWAP was part of Franklin D. Roosevelt's New Deal, and it was intended to fund meaningful work for unemployed artists. It was a difficult time in America. Unemployment was high. The economy was in the tank. Not everybody felt that spending federal money on artists was a great idea. Be that as it may, the policy injected money into the local economy and left a legacy that is still benefiting the community.

Those familiar with the work of Diego Rivera will see his influence, both in style and social commentary. Some of the paintings were controversial. In one mural a man is reaching for a copy of *Das Kapital* by Karl Marx. During hard times people look for answers wherever they can find them. My favorite images are those that capture the essence of California. There is a wharf scene that reminds me of Fisherman's Wharf in Monterey. An agricultural scene shows farm workers harvesting oranges. Another mural sums up California's water heritage: gold-panning miners are working downstream of a hydropower dam. And then there are the surveyors.

There are two separate paintings of surveyors in the murals. One was painted by Clifford Wight, and it is titled (not surprisingly) "Surveyor." The other was painted by Ray Boynton, and it is part of a mural titled "Animal Force and Machine Force." Our profession must have been held in high esteem in those days to merit such generous representation. I would like to thank my friend Phil Danskin, a past editor of the magazine, for telling me about the surveyors in the Coit Tower murals. The murals are available for public viewing, for free, on the ground floor of Coit Tower in San Francisco. ■



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Welcome Paul Brown, PLS and Jill Van Houten, PLS —Assistant Editors

In this issue of the California Surveyor we welcome Paul Brown and Jill Van Houten as our new Assistant Editors. Both have already been pitching in at the magazine and I sure appreciate the help. Paul founded Adobe Associates, Inc. in Santa Rosa in 1982 and has been an officer and principal land surveyor for the firm ever since. Among several other degrees, Paul has a Bachelors degree in English Literature. That degree will come in handy around here. He was licensed as a Professional Land Surveyor in California in 1982.

Jill is Project Surveyor in the Stockton office of Caltrans, Central Region Surveys. She has over twenty-seven years of experience in the surveying industry, in both public and private practice in New York and California. She has been licensed in California since 1996. In this issue you will find her excellent report on Ric Moore's recent seminar "Preparing PLS Application and Reference Forms." If you are applying for the Professional Land Surveyor examination, or if you expect to provide a reference for an applicant, read her article carefully. You will be glad you did and so will the Board for Professional Engineers and Land Surveyors. ■



President's Message

Greetings and thank you for the opportunity to lead this great organization as your elected President for 2010. It will be an honor to work with this year's officers - Bill Hofferber, President-Elect; Frank Lehmann, Secretary; Tom Taylor, Treasurer; Dorothy Calegari, Executive Director; and Matt Vernon, Immediate Past President. I would like to take this opportunity to say thanks to our 2009 President, Matt Vernon, for a job well done. Matt's efforts, both at the state level and at the national level as NSPS Governor, have proved worthy to CLSA. For that, I say, Thank You!

CLSA will continue to work extremely hard, and with an able and willing Board of Directors, Officers, Executive Committee, and certainly our Central Office, we will be up to the task and challenge of making 2010 a successful year. However, this journey cannot be traveled alone. Our profession has not been immune to the economic downturn and we will need the assistance of our membership, now, more than ever. We are committed to listening and acting as the state CLSA membership desires. Therefore, stay involved and make your voice heard. Stay active in your local chapter and make sure your chapter representative understands and convey to the Board of Directors, the issues you are concerned about.

Last year I had the privilege to travel throughout the state and parts of the country on behalf of CLSA and represent our organization, including meeting with each of our 22 chapters (now 23, with the addition of Santiago Canyon College student chapter). During those visits, I noticed that each chapter had its own identity and unique way of operating their chapter meetings and events. I also noticed that most chapters have a core group of individuals that are relied upon either for guidance, committee work, or other significant functions that keep the chapter moving forward. This is something I commonly refer to as recycling, which isn't necessarily a bad thing, it just means that the same people tend to carry the load year-in and year-out, and unfortunately, no one is getting any younger. I also understand that each of our members possess their own unique way of contributing to the organization. One-size fits all, doesn't work. I would like us to identify ways to tap into each of those qualities, and find areas for everyone to contribute for the continued success of CLSA. It is important for us to hear the issues that are of interest or concern at the local level, and one way for this to occur is through the travels of our President-Elect. This year Bill Hofferber will be visiting the chapters. Be sure to attend that meeting so Bill can share his thoughts and passion with you, as well as listen to yours.

This year I would like to see involvement within our profession increase, which can come in a variety of ways. We can look directly at the chapters and the internal roles and functions of CLSA and see how improvements can be made, or we can look at the external involvement and see where we can be effective with our presence and voice within our communities. Take a moment and look at your chapter, see how things are organized, what would you like to get out of your chapter or CLSA in general, and then decide what role you can play in that process. You will find that if you want to, you can make a difference. You just need to see where your desires and skills fit with your chapter, committee, or other role within CLSA. I encourage each of you, regardless of your prior involvement with the chapter or at the state level, to step outside the box and put your fears and trepidation aside, and see what affects you can have this year. Most of us, myself included, are most fearful of failure, especially in the presence of our peers, hence the reason we become reluctant to participate. If you choose to take that step, you may surprise yourself and have a gratifying experience in the process. You will also see that most Land Surveyors treat our profession as family, so failure is not an option.

If you are not suited for a role within an organized committee, then find one that works for you. If you would rather work independently then take the time to find a way to contribute in your own way. Providing a demonstration to a local school or career fair on land surveying, assisting with the TrigStar program, meeting with a local realtor group and communicating to them how we can work together are all ways that you can make a difference. Each one of us has the ability to contribute to our profession, which can only have positive affects on us as a whole. That is what I ultimately ask you to consider - contributing. In general, our collective goal to progress our profession is something each of us would like to see. I firmly believe that we can continue to do great things, but only if we are in harmony with our vision. The efforts of one, no matter how large they are, can't achieve what the efforts of many who work together, can accomplish.

Together, we can do great things, but it requires a unified direction and collective effort, so I look forward to the many opportunities we will have this year. Thank you, in advance, for your support. ■



Kids Korner

Do you have a picture of a "junior surveyor" in your family that you would like to share? Send it in and we will put it in the Kids Korner.



Alex Niccum and his grandfather Mericio C. Ortega, CLSA Associate, hard at work on Father and Son Day at the City of Burbank Water and Power Yard.



John and Molly Butcher, children of John and Cece Butcher, testing the S6 total station donated by Trimble to Cuyamaca College.

Letters to the Editor



Continuing the Continuing Education Debate

Submitted by: Francis "Frank" D. Romano, Jr., PLS

I am writing in response to the Continuing Education Debate in Issue #160 of the California Surveyor magazine. My career began over 30 years ago by completing an AAS degree in Land Surveying. I have taught surveying at the elementary, high school and community college levels. As an educator, life long learner, and one in love with my profession, I heartily endorse a person continuing to better himself and learn new things concerning his profession. However, Ian Wilson brings up what I believe is the most significant and relevant point. In fact, the whole continuing education debate hinges on the answer to the question; "Has anyone seen a statistically significant reduction in adverse actions against licensees in any of the 45 states that require it?" If not, I for one do not want another "feel good, sounds good" requirement that has the tendency to force me to "go through the motions."

As has been acknowledged by those on both sides of the debate, an education can be achieved by learning both inside and outside the classroom. However, I haven't heard anyone suggest on-the-job continuing education that would involve learning new tasks and performing methods new to the surveyor. Many of us have done so through implementing what we have read in professional periodicals, bulletin boards, blogs or discussions with our peers. There are times when we learn new things seemingly unrelated to surveying that we are able to apply to it, things that improve our performance. How would you log or keep track of this type of continuing education? Or, do we just ignore it?

I am of the opinion that a true professional will never stop learning. He will continually find new ways to better his performance and enhance his abilities. On the other hand, there are some who desire the title but have little or no inclination or ability to live up to it. The latter should be weeded out through the exam process and code enforcement. I am all for promoting continuing education in all its various forms, not mandating a bureaucratic form of it. ■

*Frank Romano, Jr., PLS is Relinquishment Coordinator, Right-of-Way Engineering, District 12, California Department of Transportation, a former Adjunct Professor, Survey Program, Santiago Canyon College, Orange, CA., and is currently a member of the college's Technical Advisory Committee. Over the years he has taught surveying classes to 4th through 12th grade students, is an active volunteer in Trig*Star and participates annually in various Career Day events throughout Orange County.*



Preparing PLS Application and Reference Forms

Jill Van Houten is a Project Surveyor in the Stockton office of Caltrans Central Region Surveys. She has 27+ years experience in the surveying industry, in both public and private practice in New York and California, and has been licensed in California since 1996.

On Saturday, December 12, 2009 Ric Moore, Senior Registrar Land Surveyor for the Board of Professional Engineers and Land Surveyors (BPELS) hosted a four-hour, free seminar through the Sacramento Chapter of CLSA. His topic: How to fill out the Application and Reference forms for the Professional Land Surveying Licensing Examination. Had you attended (and not many did) you would have learned some excellent tips on how to minimize delays in the application process. With 400 applications to review annually, and 50% needing follow-up, Ric has a big incentive to help applicants understand the process better. And with seminars like this, he is making progress. After having done this seminar last year in Sacramento, Riverside and Ventura, Ric says the applications he reviewed subsequently were noticeably more complete. That is not surprising. In four hours he shared valuable insights into what BPELS is looking for, what the common mistakes are, how to avoid them, and what to do and not do.

Getting Started

The application forms are available at <http://www.pels.ca.gov/applicants/lsappintro.shtml>. One application serves both the state-specific exam and the NCEES exam; but, since the state-specific is only given once a year and NCEES charges BPELS for each time their exam is given, fees need to be paid for each sitting. So if you're planning on taking the national exam in October and then waiting and taking the state exam the following April, you only have to file one application, but you'll be paying twice. The good news is that if you apply, sit for the exam, but don't pass, you don't need to file the whole application again, unless you wait more than two years between exam sittings. Generally, after two years of inactivity, the application packages are shredded.

Completing the Application

First, as the instructions state, DO NOT hand-write the application. You may have great handwriting, but your application will be rejected if that's the way you fill it out. While the application can be completed on-line, it cannot be saved. As the instructions suggest, print yourself a copy of the blank form. Put your information into a document file, then fill out the form on-line by copying and pasting in your information. Download the take-home exam at the same time as the application and send along the last page when you submit your application. Don't contact BPELS and ask about your application in the first few weeks just after the final filing date. Understand that with all the applications arriving at about the same time for all the different disciplines overseen by BPELS, the office is swamped. Analysts will open the envelopes for all the dis-

ciplines and check them to make sure that all the parts are included, forms are signed, and that the check is attached. Then they will sort them by discipline, and send them to the appropriate Senior Registrar. The process can take considerable time, and if there's a problem, you'll probably hear about it within a month after the application final filing date. So including your email address can be very helpful. In the near future, this timeline will probably be tightened up to accommodate the NCEES schedule, and if your application isn't complete at the time of submittal you won't be seated for the next exam.*

The Application Process, Step-by-Step

LSIT / EIT: Include your certificate number. If you don't have a copy and don't know your number, you can call BPELS and ask them to look it up for you. If you have an out-of-state LS or LSIT, you may include the Council Record available from NCEES as verification.

Education: If you are claiming education credit toward your 72 months of experience, you must include a certified copy of your transcripts. It's in your favor to include the information even if your course work is not in surveying or has not yet garnered you a degree. Some math, computer science, economics classes may count, no matter your major.

Criminal conviction: The primary purpose for this is to protect the public. Be honest and include the court documents. Pretty much everyone was young and stupid at some point, the board understands that and they will review the circumstances and make a decision. However, hiding the fact, and having the board learn of something later looks bad, very bad.

Email address: Include your email address! If BPELS has questions or problems, contacting you by email can take care of things a whole lot quicker than snail mail, especially if information has to pass back and forth more than once. Remember, time flies and the exam date will be here before you know it, and if all questions are not answered, you'll be waiting for the next exam cycle to go around.

Engagement Summary: Keep the engagement record in chronological order, either backwards (present to past) or forward (past to present), but in order. And remember that you need to show at least 72 months of experience in surveying. It should cover the same time period as the Engagement / Reference forms you are including with your application. Remember that you may

* Changes in the coming year, due to the collaboration between the NCEES and BPELS, will tighten the timeline for the review of applications. Please watch future issues of the California Surveyor for updates about this process.

Continued on next page



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have multiple engagements for the same employer, without a change in your job title. If your duties and tasks changed, count it as a new engagement. For example, if you worked in the office, and then in the field, you may count these as two separate engagements. These can be shown on the Summary as either separate numbers: 1, 2, 3... or as sub-sets within a single number: 1A, 1B, 1C... Make sure they are logical and sequential, even if they overlap: 1A: Office experience from July 2002 to December 2005, including 30 months of responsible charge training in the office; 1B: Field Experience from November 2003 to December 2005, with 12 months of responsible charge training in the field. Make sure the number of months of qualifying experience doesn't add up to more time than the total time (July 2002 to December 2005 = 42 months) and explain the overlap and / or difference in the Remarks section.

Remarks: This is the place to explain to BPELS anything that isn't self-explanatory in the previous parts of the Application. Don't assume anything. If there's a way to misunderstand some of the information you're providing, explain it here. If your employment was part-time, or you worked for more than one firm concurrently, this is the place to explain. Include an additional sheet if necessary, just make sure it has your name on it in case it becomes detached, and it follows the same format as the form. Do not send a resume.

Engagement / Reference Forms

These forms account for the majority of problems with the applications. The applicant's portions of the form, Part A, and the Applicant's Name at the top of Part B, again, must not be hand-written. But the rest of Part B, the portion the reference fills in, may be. Part A of the Reference Form should be filled out with information about the APPLICANT. Make sure that the Engagement number shown in Part A corresponds to the Engagement Number shown on Section 11, the Engagement Summary, of the Application. In the "Total Time Worked" box, use the beginning and ending dates of the ENGAGEMENT, so if you've listed more than one engagement for the same employer, use the beginning and ending dates of the corresponding engagement shown on the summary. If you've worked part-time, show the beginning and ending dates, but then add up the actual time you worked and calculate your total months as if you had been working 40 hour weeks for the "Total Months". If you list any engagements based on less than full time employment, explain this in the Remarks section on the Summary portion of the application.

Describing Your Engagements

Use the job title that you, the applicant, had during the time of this engagement. This is not necessarily the same as your job classification. For instance a State Transportation Surveyor may be an Instrumentman on a field crew, or a Project Surveyor in the office.

Continued on next page

If the engagement is your current position, do not use “present” or “current” in the “To” box. If you do, BPELS will use the date that the form was signed as the ending date. You may use the final filing date of the application if it is within 30 days of the date the reference signed the form. If you need that additional month to meet the qualifying experience and you don’t specify, you may fall short. Similarly, specify the number of months of each type of Responsible Training that you’re claiming for the engagement. If you’re claiming time for both field and office for the same engagement and don’t specify how many months of each, BPELS may have no other option but to split the time evenly, which may cause you to fall short of the total you need for one type. And the number of months of Responsible Training does not have to add up to the total months of the engagement, but they cannot exceed them.

If your current employer is not one of your references, BPELS is going to want to know why; make sure to include an explanation in the Remarks section. Also, if you don’t have a reference for an employer for which you’re claiming time, include a letter from an officer or owner, or the HR department of the firm or agency verifying that you worked for them for that period. This information will assist BPELS in reviewing and verifying your claim. If someone you’d like to use as a reference is retiring or in poor health, you may want to ask them to fill out a Reference form at the time you (or they) leave that engagement, instead of waiting until you’re ready to file your application to try to track them down. (BPELS has proposed rulemaking revisions to implement an optional “Log Book” to help with this situation).

Summarize Your Experience Carefully

When describing your experience use language similar to the text of Board Rule 425 (page 20 of <http://www.pels.ca.gov/licensees/board-rules.pdf>) and Section 8726 of the Business and Professions Code (<http://www.leginfo.ca.gov>) or (<http://www.pels.ca.gov/licensees/laws.shtml>). For office experience, simply drafting or filling in information given to you doesn’t necessarily count as responsible training; describe how much time you researched, compiled, reviewed, made recommendations. Similarly for the field, what percentage of the time were you making the decisions (Under the review of someone licensed to practice, of course)? Make sure that you’re as detailed as possible in the summary of your experience. Tell BPELS what you did, being as specific as possible. (Don’t write that you were given a particular duty because you were the only one available; but that you were the best-qualified). If you have to cut down on characters to make it fit, syntax is less important than detail, as long as the result is still comprehensible. The “Projects” section of Part A is intended more as an aide-memoire for your reference, than information for the board, although you may want to provide your reference with a separate list of projects you’ve worked on together to jog their memory.

Choosing Your References

BPELS advises taking the time to sit down beforehand with the person you are asking to sign and talk about the responsibilities you had while working for or with them: projects worked on and your level of involvement with them, and experience gained and decisions you participated in. At this time you can remind them that they need to sign and stamp the reference form, as well as the envelope. Ric says he’s seen reference forms come in with the reminders on the form highlighted, and he thinks that’s helpful. Also, make sure that the contact information for the reference is current, in case BPELS needs to contact them for clarification of some point on your form. If BPELS can’t reach your reference

based on the information you’ve supplied, you’ll be the one tracking them down. BPELS will contact you if any of your references were not positive and you need additional references.

You can also have more than one reference for the same engagement. If you had a co-worker who is licensed and is familiar with your work, this person can sign for you in addition to your supervisor. It won’t count as additional time, but it can be an additional reference. This person can be in another part of the company or agency for which you work, or in another firm with which you work, or with an agency that reviews your work.

Remember, each reference sees only the form given to them. BPELS will see the big picture once everything is submitted and reviewed together.

Answer the Questions!

Question 6 of Part B is one of the most important questions on the form, and it isn’t asked by the other disciplines. The question is: “In your opinion is the applicant competent to be licensed as a Professional Land Surveyor and to commence independent Professional Land Surveyor work?” At least 1/3 of the references don’t answer this question and BPELS needs to contact them to get the answer. You’ll need four people to answer yes to this question, and relatives don’t count. An answer of “Don’t Know” doesn’t necessarily reflect poorly on your claimed experience, but won’t count toward your four required references.

Question 7 is in regard to your reference’s personal knowledge of your professional integrity and technical competence, among other things. BPELS will check to see if the rating you’ve received correlates to the detailed summary for the applicant. For example: BPELS won’t expect a reference for an office position to necessarily have personal knowledge of your field construction surveying ability.

Make sure the envelope is sealed, signed and stamped. You can send more than four references, if you choose. But be advised that a reference done by a relative can only account for time and will not count as one of your four required references from someone licensed to practice.

Special Situations

Comity: if you’re applying for comity, you need to document the last six years of work, whether or not it was in California, and then also include references from four people licensed to practice land surveying whether in California or another state(s) the **applicant** is currently licensed to practice in. The references don’t have to be from each of your engagements, if the engagement wasn’t within California, although you will need some proof that you worked for the company.

Concurrent employment: If, during poor economic times like we have now, you worked part-time for more than one employer, your engagements may overlap. Calculate how many days or weeks you’ve worked for each one and use those calculations to tally your months of qualifying experience. For instance, if you worked as a Party Chief for Employer A two days each week from May 2008 through December 2009, that would count as 8 months of responsible field training; while at the same time you worked for Employer B doing research and boundary analysis three days a week from December 2008 through November 2009, that counts as 7 months of responsible office work. Make sure you explain this in the Remarks section. The new log book should cover this once it is implemented.

Continued on next page

LSIT Waiver: If you meet the requirements of Board Rule 438(b) and do not have an LSIT certificate, you can request a waiver which generally goes before the Board with BPELS staff recommendation for approval.

Federal Employment: A reference from a supervisor for your time worked in a Federal agency will count for your experience, but will not count as one of your four references unless the person is licensed to practice in California.

You need more references: If you don't have four references from work, there are alternatives. Go to your local CLSA chapter meeting and ask one of the licensed surveyors if they would be willing to review your work and write a reference for you. Or contact one of the map checkers at the county and ask them. If you've established a working relationship so they're familiar with your work, they can sign for you. Or check among the professional land surveyors who are the instructors from your educational experience.

So if this seminar is given in your area, even if you're not planning on filing (or being a reference) in the immediate future, go anyway. Listen to Ric speak. ASK QUESTIONS.

Can you really think of a better way to advance your career than to spend a Saturday afternoon finding out what the person who will be reviewing your application is looking for? ■

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By: Dave Woolley, PLS

The More Things Change...

David E. Woolley, PLS, is the CLSA Orange County Chapter Legislative Chairman, Chapter Representative, State PPC Member, and owner of D. Woolley & Associates, Tustin, CA

Quotes from the near and distant past that prove the point: The more things change, the more they remain the same.

The following quote was taken from "Boundaries and Landmarks: A Practical Manual", by Alfred Cornell Mulford, 1912 (from Chapter 15 "Responsibilities of a Surveyor").

"Curiously enough the Surveyor is isolated in his calling, and therein lie his responsibility and his temptations. The lawyer comes nearest to understanding the work, yet of the actual details of a survey most lawyers are woefully ignorant. The businessman who can judge to a hair the fulfillment of a contract has no eye for the shortened line or the shifted landmark. To the skilled accountant of the bank, the traverse sheet is a closed book. Dishonesty in ordinary business life cannot long be hid, and errors in accounts quickly come to light, but the false or faulty survey may pass unchallenged through the years, for few but the Surveyor himself are qualified to judge it. I maintain that in the hands of the Surveyor, to an exceptional degree, lie the honor of the generations past and the welfare of the generations to come; in his keeping is the Doomsday Book of his community, and who shall know if he is false to his trust? Therefore I believe that to every Surveyor who values his honor and has a full sense of his duty, the fear of error is a perpetual shadow that darkens the sunlight.

Yet it seems to me that to a man of active mind and high ideals the profession is singularly suited; for to the reasonable certainty of a modest income must be added the intellectual satisfaction of problems solved, a sense of knowledge and power increasing with the years, the respect of the community, the consciousness of responsibility met and work well done. It is a profession for men who believe that a man is measured by his work, not by his purse, and to such I commend it."

Commentary by David E. Woolley, PLS:

These words rang true in 1912 and are very much applicable to today's surveyor. Mr. Mulford references the relationship of the attorney to the surveyor; we must be ever conscious of our role, which in the simplest form, is to gather and document evidence. Once gathered, the surveyor presents the evidence as a matter of material fact. This process cannot be complete unless it is done with an understanding of the basic elements of property law. As your survey crew gathers up their high tech equipment and sets out to complete a day's work, ask yourself this: What is their understanding of their responsibilities for that day? ■



The Description Writer's Toolbox

Russ Forsberg retired from Caltrans in 1985 after thirty years of service. During that time he led squads that prepared right-of-way maps and legal descriptions. In 1987 Caltrans called him back, via Dave Goodman, to prepare materials for, and teach, the Caltrans training course "Surveying for Rights of Way".

Virtually everyone has a toolbox full of many different kinds of tools. Unfortunately, too many of us actually only use the screwdriver and the pliers. There are times when those two tools are the right ones to use, but their use in other situations would make a true craftsman shudder. The same concept applies to writing legal descriptions. We are all acquainted with various types of descriptions, such as metes and bounds, rectangular surveys system, map reference, and strip descriptions. There are other, less well-known tools in the toolbox, however, that are designed to meet specific needs. Writers should be acquainted with them and understand clearly when and where they should be used.

Surveyors write descriptions to be interpreted by fellow professionals such as title experts, lawyers, judges, other surveyors, etc. The client is interested in the description as well, of course, but rarely understands it. The intent is to describe the parcel in such a way that each of these professionals will agree as to its exact location. If the description is credible, as judged by these fellow professionals, it will rarely end up in court. If, however, others disagree as to what the description actually conveys, the issue may have to be decided in court. It is much easier, less expensive, and certainly less embarrassing to write it in such a way that leaves no doubt as to its intent. In order to do that, the writer must do the following:

- Understand boundary determination principles. If you can't recognize potential problems, you can't deal with them.
- Understand accepted description writing techniques. Your fellow professionals must understand what you are saying and find it credible.
- Understand the correct, legal meaning of words used. In order to do that you need to use the same dictionary the judge uses.

A good writer will have mastered both the science and the art of surveying. The art of surveying helps us to design innovative ways of writing credible descriptions in problem situations.

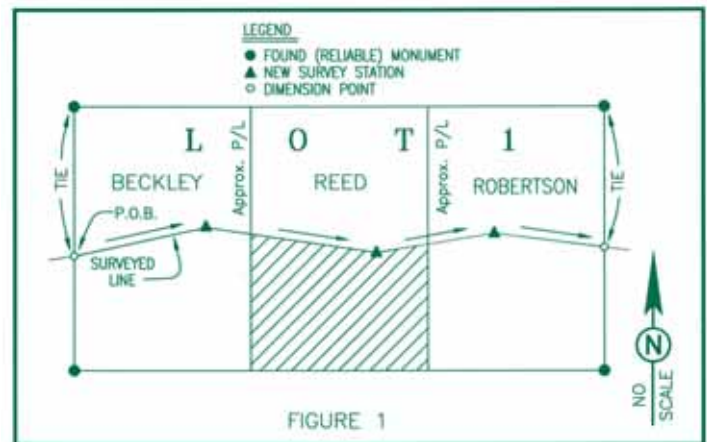
Sadly, there are many who cling tenaciously to the one or two "tools" they are familiar with. They have a tendency to start at any handy corner on the subject parcel and write a metes and bounds description clockwise around it. That's an ideal way to do it if the parcel is well-monumented and the monuments have good pedigrees, that is, they can be traced back to their source(s), and there is little or no chance of their

positions being successfully challenged. If the property lines are uncertain, however, it follows that the basis of bearings in the description and thus, any new line(s) will also be vague. *Line Descriptions* are a way to deal with this.

Line Descriptions

Assume in Figure 1 that all of the corner and line locations for the Reed parcel are uncertain, but the west line of Lot 1 is known. The shaded portion of the Reed property can be described using a line description beginning at the secure line on the west, then running across the problem area and tying into another secure line on the east. A line description would read:

That portion of the land described in deed to Reed recorded... lying southerly of the following described line:



Then would follow a description of the new line, beginning at a point on the secure west line of the lot and terminating at a similar point on the east line of the lot. Any portion of the Reed property lying southerly of that line would be conveyed no matter where the east and west property lines happen to be. Angle points in the new line could be monumented with confidence because the line is based on solid evidence. Monuments could not be placed at the intersections of the new line and the uncertain property lines, however, until or unless the true locations of those lines are determined.

Note: If a deed to Reed is cited in the description, make sure it does not include other property that could be interpreted as being southerly of the new line. For instance, the Reed deed may include another parcel a block south of the one in question. In that case, the line description might convey the second parcel as well!

Continued on next page



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Continued from previous page

Advantages of Line Descriptions:

1. Great economy if one is writing descriptions for all of the parcels. Once the line is designed and surveyed from one secure line to another, and a traverse calculated to check it for mathematical accuracy, the same line can be used for all of the parcels. Only the preambles of each description would have to be changed.

2. The new line can be located and monumented with confidence, no matter where the property lines happen to be.

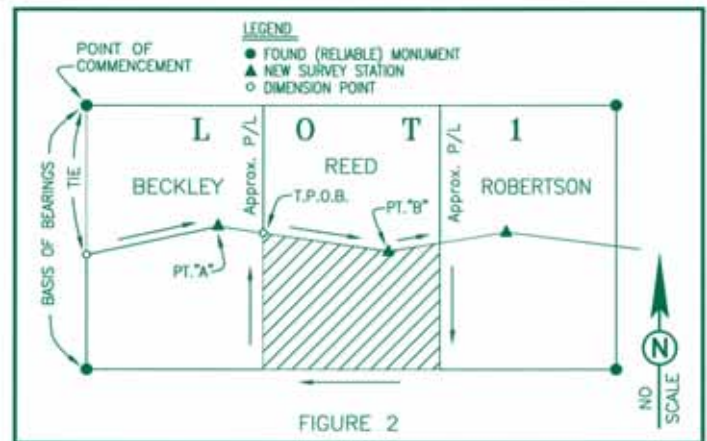
Disadvantages of Line Descriptions:

1. It does not give a clear word picture of the size and shape of the parcel.

2. In borderline situations where the new "take" line is close to an uncertain property line, it's possible it will convey nothing.

Flexible Metes and Bounds Descriptions

There are times when others insist on a metes and bounds description even though the writer prefers a different type because of uncertain property lines. The answer may be *Flexible Metes and Bounds Descriptions*, which provide the desired word picture of the area conveyed, yet are still flexible enough so that the new lines can be surveyed. As before, assume in Figure 2 that the corner and line locations for the



Reed parcel are uncertain, but the west line of Lot 1 is known. A typical metes and bounds description of the shaded area would create new lines that would be no more certain as to location than the others. However, a conventional metes and bounds description of that area can, just as well, be based on a secure line like the west line of Lot 1, thus:

The line would commence at the monumented northwest corner of Lot 1 and proceed southerly along the west line of

Continued on next page

The Description Writer's Toolbox

the lot, thus establishing a good basis of bearings. It would then run easterly to the intersection with the west line of the Reed property to the True Point of Beginning (TPOB). That is where the actual conveyance would begin. From there, a conventional metes and bounds description would be written running clockwise around the parcel and closing on the TPOB. If the northerly portion of the Reed property were to be described, the description would be the same up to the intersection with the east line of the Reed property. From there the description would proceed counter-clockwise around the parcel and close on the TPOB. Described in this way, the new line would not be dependent on the location of the existing boundaries.

There is another problem to deal with, however. The TPOB is located on the property line, wherever that is. It follows that the angle point in the new line easterly of the TPOB will "float" with the TPOB unless special language is used to prevent that. One way to prevent that is to use the following language, which begins by describing the new line as it crosses the Beckley parcel:

...to a point hereinafter called Point "A"; thence S 85° E, a distance of 25 feet, more or less, to the west line of said Reed property and the True Point of Beginning; thence, continuing S 85° E a distance of 75 feet to a point hereinafter called Point "B", said Point "B" bearing S 85° E a distance of 100 feet from said Point "A" ; thence continuing from said Point "B"...

This technique will set Point "B" at the intended distance from Point "A", yet would allow the TPOB to be placed properly at the intersection with the property line.

Advantages of Flexible Metes and Bounds

Descriptions:

1. The client, and others, get a clear word picture of the size and shape of the portion conveyed.
2. The new lines are surveyable, although the points where they intersect the property lines cannot be monumented.

Disadvantages of Flexible Metes and Bounds

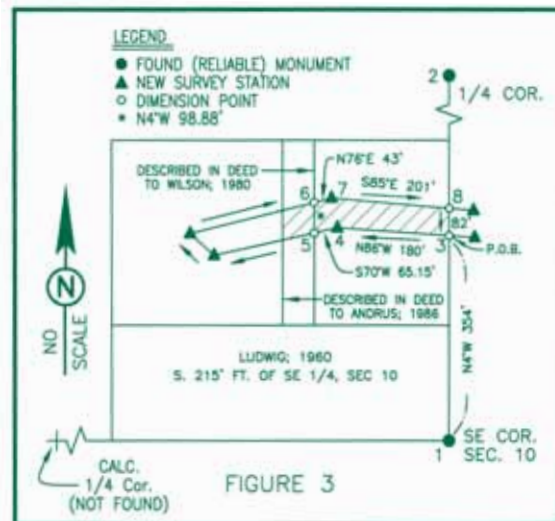
Descriptions:

1. It is difficult to do an adequate mathematical check on the courses, and there may be a number of them, between the Point of Commencement and the True Point of Beginning.

Using "Described" versus "Conveyed"

One of the more complex problems confronting surveyors who write descriptions is the question of whether to use "described" or "conveyed" when calling to an existing property line. The resulting locations are sometimes quite different. To illustrate the point, we'll look at a description of the corridor that crosses the Andrus parcel in Figure 3. Looking solely at the vesting deeds would lead one to think that the Wilson parcel has senior rights. In that case both words,

described *and* conveyed, would describe the true east line of Wilson. A look at the chain of title, however, shows that the Andrus parcel is senior. With that in mind, note the effect of the use of the word "conveyed" in the following description:



That portion of the southeast quarter of Section 10 described as follows:

Chain of Title
 Ludwig Parcel
 Acquired - 1960
 Andrus Parcel
 Acquired by Ludwig - 1960
 Ludwig to Spillane - 1970
 Spillane to Andrus - 1986
 Wilson Parcel
 Acquired by Ludwig - 1960
 Ludwig to Wilson - 1980

Beginning at a point on the east line of said southeast quarter that bears N 4° W a distance of 354 feet from the southeast corner of said Section 10; thence N 86° W a distance of 180 feet; thence S 70° W a distance of 65.15 feet to the east line of the land conveyed to Wilson by deed recorded -- 1980; thence along last said east line, N 4° W a distance of 98.88 feet; thence N 76° E a distance of 43 feet; thence S 85° E a distance of 201 feet to said east line of said southeast quarter; thence along last said east line, S 4° E a distance of 82 feet to the Point of Beginning.

The sample description places the POB and the basis of bearings on a line that appears secure, provided that the monuments at Points 1 and 2 have good pedigrees.

The description establishes the location of Points 3 and 4 in a manner that should satisfy everyone, but the rest of the description has problems, and would surely arouse the interest of our fellow professionals. We might imagine the following conversation:

Surveyor: I'm glad the writer put bearings and distances in there so I'll know where to put Points 5 and 6.

Title Expert: I'm glad the writer used calls "to" and "along" that property line just in case the line is really in a different location.

Continued on page 18



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The Description Writer's Toolbox

The Judge: That's an interesting thought. The surveyor who wrote it may well be able to tell us what was "described", but I'll decide what was "conveyed". I wonder if the writer really understands the difference.

Surveyor: Now you've got me worried! If there's a question about the true location of Points 5 and 6, we probably can't monument Points 7 and 8 either.

Title Expert & The Judge: That's right. In effect there is a new basis of bearings at 5 - 6.

Surveyor: Great! But, given the nature of the parcel, how could the writer have done it any better?

Good question! It's clear that the Wilson deed "conveyed" to a different line than the one "described." It's also clear that the former is the line to which our sample description would convey, assuming there are no other legal problems. What does this do to the rest of the description? Some may argue that the original basis of bearings would carry through the entire description, and thus, Points 7 and 8 would be placed where intended. However, there is still the question of exactly what portion of the area between the "described" and "conveyed" lines would be conveyed by the sample description. If the description had been written "to and along the described line," the courses that followed would be placed where the writer intended, but it would be unclear exactly what portion of the gap would be conveyed. The description, as written, is capable of more than one interpretation and that is a conclusion that a good writer finds intolerable.

The corridor shown in Figure 3 crosses one or more uncertain property lines on each of the three parcels. Here are some "tools" that will produce corridor boundaries that are surveyable, even though the property lines remain uncertain:

Description of the Andrus Parcel by the Inclusive Method

The preamble would read:

That portion of the southeast quarter of Section 10 --, conveyed to Andrus by deed - 1986, included within the following described parcel:

Then would follow a description of the portion designated in Figure 3 by the clockwise arrows, using the southeast corner of Section 10 as the point of the commencement (POC) and the POB as shown in the figure. The description would thereby be based on the secure east line of the section.

Description of the Andrus Parcel by the Exception Method

This is similar to the inclusive method, but worded a little differently. The preamble would say:

That portion of the southeast quarter of Section 10 - described as follows:

As above, then would follow a description of the portion designated in Figure 3 by the clockwise arrows, using the same POC and POB. After that:

EXCEPTING therefrom, that portion conveyed to Wilson by deed—1980.

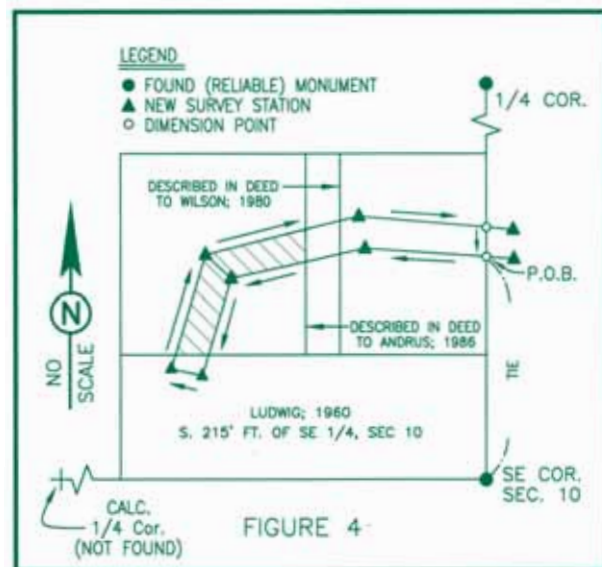
Both techniques used the word "conveyed" because the intent is to acquire all of the corridor that falls within the Andrus ownership, even though a court may have to decide where the property line is. Note that in the case of the deed to Andrus the "described" and the "conveyed" lines are the same. That is not true of the Wilson parcel.

Description of the Wilson Parcel by the Inclusive Method

Since the south line of the Wilson parcel is, in effect, the north line of the south 215 feet of the southeast quarter, it is dependent on the true location of the south quarter corner of the section, which was not found. The south line of all three parcels would be affected if a later survey discovered the true location of the quarter corner. The writer cannot afford to base new boundaries on lines like that, yet he or she must write descriptions that will convey to them. Remember that calling along the south line of the Wilson parcel would establish a second basis of bearings and affect the location of the courses that follow. There are, however, tools that can be used to safely describe the corridor requirements from this parcel.

Use a preamble that says:

That portion of the southeast quarter of Section 10 - conveyed to Wilson by deed—1980, included within the following described parcel:



Then would follow a description of that portion of the corridor designated by clockwise arrows in Figure 4. Again, by using the southeast corner of Section 10 as the POC, and the POB as shown in the figure, the description would be based on the secure east line of the section. This would convey the shaded area in Figure 4.

Continued on next page

Description of the Wilson Parcel by the Exception Method

This is similar to the inclusive method, but worded a little differently. The preamble would read:

That portion of the southeast quarter of Section 10 – described as follows:

Then would follow a description of the portion designated by clockwise arrows, based as before, on the east line of the section. After that:

EXCEPTING therefrom, that portion conveyed to Andrus by deed—1986.

ALSO EXCEPTING therefrom that portion lying within the south 215 feet of said southeast quarter.

This too would convey the shaded area.

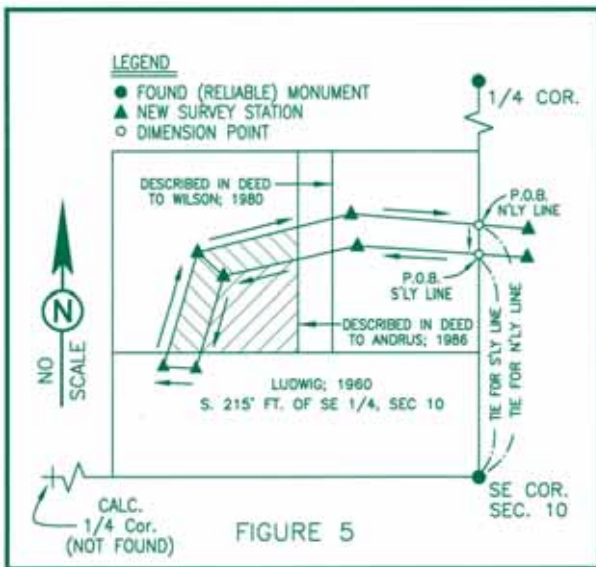
Double Line Description of the Wilson Parcel

The preamble would read:

That portion of the southeast quarter of Section 10 – conveyed to Wilson lying southerly of the following described line:

Then would follow a description of the northerly line of the corridor shown in Figure 5, based as before, on the east line of the section. After that:

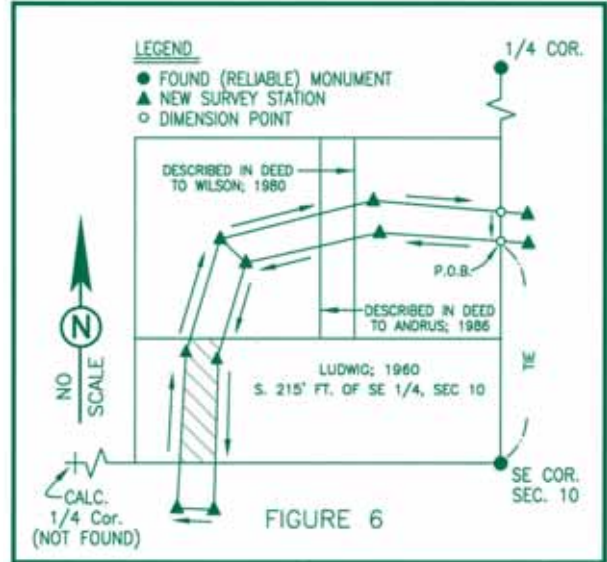
EXCEPTING therefrom, that portion lying southerly of the following described line:



Then would follow a description of the southerly line of the corridor shown in Figure 5, based as before, on the east line of the section. The first portion of the description would include the shaded portion inside the corridor. The exception would eliminate the shaded area in the southeast corner of the Wilson parcel.

Description of the Ludwig Parcel by the Inclusive Method

Both the north and south lines of this parcel are in doubt, so again it is necessary to go outside the parcel to get a good basis of bearings. An ideal tool to use here is the inclusive



method. It might read like this:

That portion of the south 215 feet of the southeast quarter of Section 10 -- included within the following described parcel:

Then would follow a description of the portion designated by clockwise arrows in Figure 6, based as before on the east line of the section. This would convey the shaded area.

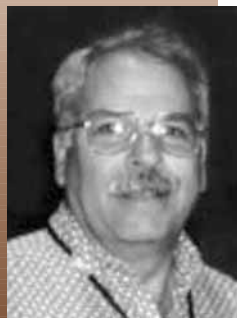
Characteristics of a Good Property Description

There are a great many descriptions on record that are virtually impossible to interpret. The challenge for the description writer is to recognize potential problems and then find a technique that will do the job no matter what a new survey may show. If we are successful, years later, surveyors, title experts, and members of the legal profession looking at one of our descriptions will scratch their heads and say, "Whoever wrote this one was a real pro!"

Let's pause for a moment and review some basic concepts. A good land description must be:

- Capable of only one interpretation
- Short, but clear
- Surveyable
- Credible or insurable
- Legal

Phil Danskin, PLS 4794, is the proprietor of a land surveying firm in Sonoma California. He is Past President of the Marin Chapter CLSA and is a past editor of the California Surveyor. His primary practice is boundary & topographic surveys. He loves surveying, (just not the business-end of it) . . . and is a staunch proponent of metrication.



Being Professional is Good Business

The story you are about to read is true . . . the names have been changed to protect the innocent.

Many years ago my employer Chris was a Big Brother to the friend of his son, Joseph. Joe's buddy was Drew and both were crewed during the summers of their high school years. Both became very proficient instrument-men and both were smarter than the rest of us - they became successful contractors with full bellies and no bill-collector woes.

Fast forward twenty-plus years . . . after catch-up gossip 'n what'er-ya-doings . . .

My old acquaintance, Drew, says "I need a topo for septic design. My mother is gettin' long in the tooth and I'd like to build a granny-unit for her up here at the lake, but the septic engineer said the system requires upgrading. Tahoe's not too far for you, is it?"

"Naw. How 'bout I come up and see where the engineer wants the topo?" I said.

"That'd be great Phil, there's a great Mexican restaurant down the street - I'll buy you lunch".

"Do they have Negra Modelo?" I asked.

"Of course!"

"With afterburners, I can be there in fourteen minutes, forty-five seconds!"

I thought to myself, 'did I sound a little too hungry'?...

After the handshakes 'n hugs (I married into an Italian family) . . .

Drew then shows me a recently mowed field that was going to be a thirty-minute topo . . . in the middle of his five-acres! Piece of cake! They don't get any easier than this! Drew quickly accepted my offer for him to run the rod and we banged out the featureless three-percent slope piece of dirt in about forty-five minutes.



Off to lunch for a further visit and Negra Modelos. I explain, that although he's an old acquaintance, Business and Professions Code requires me to have a written contract. He was most agreeable, fully understood and executed the agreement. "Besides, Drew, my insurance carrier isn't too fond of contracts on an alcohol-soiled napkin, executed in a dimly-lit restaurant behind a Hoff's brothel". (Not to be confused with Hoffbrau.)

Drew introduced me to his prettier-half, Daisy Mae. "I was named after the Daisy in the Dukes of Hazzard!" she proudly giggled.

I asked Drew for a copy of their title policy and/or preliminary report. Daisy smiled with all her remaining teeth and proudly exclaimed, "Oh Drew, I know where that is! I'll get it for you, Philly!" Off she traipsed in her three-inch stilettos simultaneously thinning the gophers as she wobbled back to the house for the title papers and to further arm herself with another forty-ouncer of Colt Forty-Five!

"Ain't she a site to behold, Phil"?

"To die for!"



The next day the topo was completed. I called to tell Drew I should have it finished in a week after I rearrange a few other non-existent clients. Drew was mailed a few copies of the topo, and a For-Friends statement . . . about a thousand dollars. He was as happy as a contractor with a new Skill saw blade!

Drew called to say Daisy mailed the check today and she sent some "homemade" brownies. (I just hope the bloodhound, Five-Oh, at the post office is at the vets that day.)

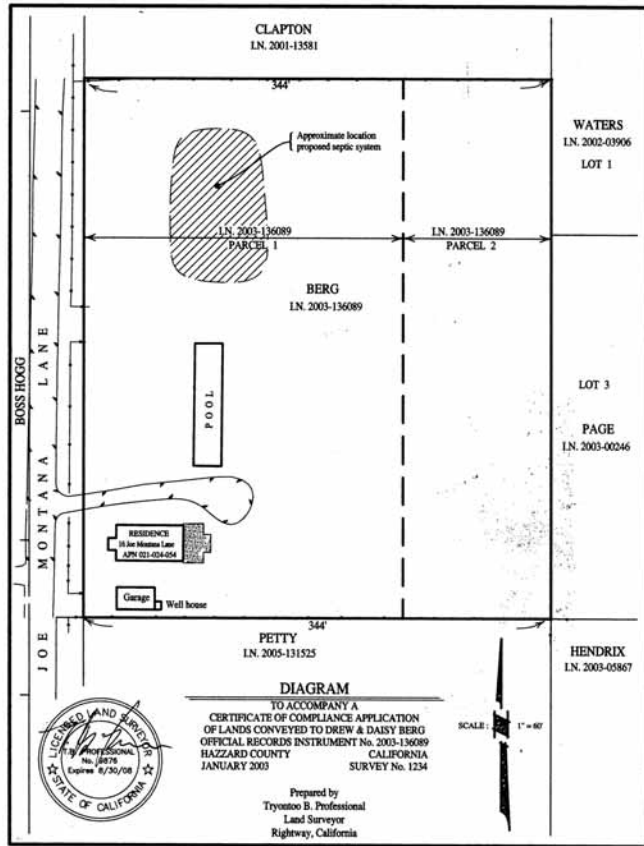
"You know Drew . . . when I read your deed it describes two parcels and the assessor drew a dashed line on the assessment

Continued on next page

map. This could mean that you have two parcels. To determine such we'd have to run a chain of title, because you are not a part of a recorded map. This requires additional expenses, but if it looks like the parcels were created legally, the County may have to acknowledge them as separate parcels and issue Certificates of Compliance. (Thank goodness you're not in Napa County where that practice has been banned.)"

"That would really help me, Phil. I would love to be able to finance my mother's granny-unit separately. This would sure help my situation. The damned fees at the County are like feedin' a slot at Hoff's place! And they're makin' me jump through hoops for this fancy dandy engineered septic system. And I, and all my neighbors, know the existing septic systems have never failed . . . perks great! And the algaed-up lake ain't but fifty feet from my front door!"

Drew thanked me profusely and hopes the chain of title finding is favorable.



Months later . . .

"Drew I have good news. The chain of title indicates you may have two parcels. But the only way to know for sure is to apply for Certificates of Compliance," I shared.

"What do we have to lose, Phil?"

"Money and exposure, Drew. The County charges about

\$1,000 per Certificate. So there is a \$2,000 risk above the \$1,500 chain-of-title you had done. Plus my fees to provide the county with a diagram to accompany the chain-of-title, and copies of all the supporting instruments. That's the money part. Second, is exposure. If a potential buyer sees what I see, (two Certificates of Compliance), they are going to have to contain drooling all over the purchase agreement. If we apply for the Certificates of Compliance and they are denied, the buyer's due diligence will have discovered this and the sale may be unfavorably negotiated. Should the COCs be granted, I would recommend you apply for a Lot Line Adjustment that would better enhance the improvements. The County might like this, as the parcels would be both 'balanced' area-wise. Again, this requires more money, Drew," I explained.

"Ah heck, Phil . . . I'm gonna die here. Let's go for the Certificates of Compliance. If we get 'em - then we'll go for a Lot Line Adjustment", Drew replied.

"Alright, Drew. I'll send you applications to sign. Sign 'em and return them to me with the filing fees and we'll submit," I said.

A concise COC application package for the County was assembled . . . as though I were the one going over the application . . . to make it as least onerous as possible for the person reviewing the application . . . chronological order of the supporting instruments, color-tabs for the creating deeds, chain of title with the creating deeds in bold text, highlighted diagram and assessor's map, executed application forms, etc., all in a bound booklet.

Two duplicates were made. One for myself and one for the client. Upon submitting the COC's, all receipts, application receipts and COC file numbers were copied. The receipts and client's application check were inserted into the booklets and a copy sent to client.

Now the wait.

Four months later - the Certificates of Compliance are granted.

"Phil, I received this letter from the County. Looks like they approved 'em. You're a genius", Drew happily responded.

"Genius - not. Just lucky to have caught this for you 'n Daisy," I replied.

"Let's go for the Lot Line adjustment, Phil"!

Drew advised me on how he'd like to configure the adjusted boundary line . . . we made a few minor revisions to coincide with setback requirements and off to the races we went.

Nine months later . . . the Lot Line adjustment was approved!

"Sounds like more good news, Phil! The lot line adjustment was approved!" Drew exclaimed, happier than his "high functioning" nephew gettin' a Beretta pistol on his thirteenth birthday. "Now what do we do?" he asked.

By: Ben Lund, PLS, PE

Ben R. Lund, PLS, PE holds a BS and MS from Brigham Young University. He is active in educating and mentoring individuals on the path to getting their PLS, and is also a Varsity Scout Coach for the Boy Scouts of America. He is employed by the engineering and surveying firm of O'Day Consultants in Carlsbad, California.



COVENANT OF EASEMENT

THE EASEMENT QUANDARY

I started researching covenants of easements when I had a situation where I needed to create an easement for access purposes over one parcel in favor of another, but both parcels were owned by the same entity. I understood that, "you can't grant an easement to yourself" but never read the California code that explicitly said that. I first went to the CLSA forum and received help from many individuals, and then I dug a little deeper. This article

"You cannot grant an easement to yourself"

explains the covenant of easement instrument that allows an owner of two parcels to create an easement over one in favor of another.

EASEMENT TERMINOLOGY

In order to understand the California code a few terms should be described. Blacks Law Dictionary defines easement as "A right in the owner of one parcel of land, by reason of such ownership, to use the land of another for a special purpose not inconsistent with a general property in the owner."¹ The land benefited by an easement is known as the dominant tenement, while the land burdened by the easement is known as the servient tenement.^{3,4} A servitude is the term used in the civil law to express the idea conveyed by the word easement in the common law.²

An easement is either appurtenant or in gross. An appurtenant easement "runs with the land" and benefits the dominant tenement or benefits the land owned by the easement possessor. An example of an appurtenant easement is a private utility easement over one parcel of land in favor of another. An easement in gross does not have a dominant tenement but instead benefits an individual or entity. A good example of an easement in gross is a utility easement in favor of a utility company.

An easement can be created by one of eight ways³: agreement or covenant, express grant, reservation or exception, implication, estoppel, prescription, dedication, and eminent domain. This article does not attempt to dis-

cuss all the different types of easements, but instead will focus on the creation of an easement by agreement or covenant.

THE PREDICAMENT

The old adage, "you cannot grant an easement to yourself" is codified in California Civil Code Section 805: "A servitude thereon cannot be held by the owner of the servient tenement." Section 811 goes on to say: "A servitude is extinguished: 1. By the vesting of the right to the servitude and the right to the servient tenement in the same person." In other words, not only can you not grant an easement to yourself, but if someone owned both the dominant and servient tenement the easement is extinguished. In a recent court case, the appellate court affirmed this concept.⁵

Given: A developer wishes to subdivide Parcel A into Lots 1 and 2, (see Figure 1.) Lots 1 and 2 will use a shared driveway and need to grant each other private easements for access. There will be no Home Owners Association or Covenants, Conditions, and Restrictions. The governing agency requires these easements be in place before it approves the parcel map. The developer is unable to comply because the legal description would describe the land encumbered as a portion of Lot 1 in favor of Lot 2 and visa versa, and these lots do not exist. Even if the lots did exist, the subdivider owns all of the lots and cannot grant himself an easement.

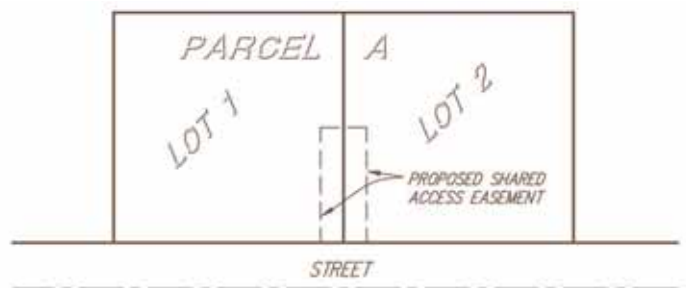


Figure 1

Continued on page 24

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COVENANT OF EASEMENT SOLUTION

California Government Code Section 65870-65875 was adopted in 1985 and explains the Covenant of Easement mechanism. In summary, an easement may be created by recording a covenant of easement when all of the following apply:

- An ordinance has been adopted by the city or county that implements the covenant of easement article. The requirement for an ordinance might differ between agencies.
- The covenant of easement is made between an owner of real property and the city or county.
- All the real property benefited or burdened by the covenant of easement is in common ownership.
- The covenant of easement describes the real property to be subject to the easement and the real property to be benefited thereby.
- The covenant of easement identifies the approval, permit, or designation granted which relied upon or required the covenant.
- The covenant of easement is recorded in the county where all or a portion of the restricted property is located.
- The covenant of easement is executed by the owner of the real property.

EASEMENT USES THAT QUALIFY FOR A COVENANT OF EASEMENT

Section 65871 (a) states, specifically: "An easement created pursuant to this article may be for parking, ingress, egress, emergency access, light and air access, landscaping, or open-space purposes." However, one of the cities I have projects in has expanded the use of the covenant of easement for all types of uses such as, cross lot drainage, private utilities, and encroachments.

THE SECOND PREDICAMENT: EXTINGUISHING A COVENANT OF EASEMENT

The situation might occur when you would like to remove a covenant of easement. Because the covenant of easement is an agreement between the property owner and the agency, a specific procedure for extinguishing a covenant of easement is outlined in the Government Code Section 65874. A covenant of easement may be extinguished when all of the following apply:


- An ordinance has been adopted by the city or county that describes the procedure for the release of the covenant.
- A public hearing is held and a determination made that the restriction of the property is no longer necessary to achieve the land use goals of the city or county.
- A release of the covenant of easement is recorded by the city or county in the county where the restricted property is located.

CONCLUSION

Section 65870-65875 of the California Government Code was written to provide a mechanism for agencies to insure that newly created parcels will have all of the rights needed for the enjoyment by the future property owners. Without this article in the code, private road ingress and egress, private utility, encroachment, and cross lot drainage easements could not be created while the subdivision was owned by one entity without creating an owners association. ■

REFERENCES:

- 1 Black's Law Dictionary, Revised Fourth Edition, West Publishing Co. 1968.
- 2 Definitions of Surveying and Associated Terms, Revised 2005, American Congress on Surveying 1978.
- 3 Easements and Reversions, Donald A. Wilson, Paul Cuomo Press Incorporated, 1991.
- 4 Maine Real Estate Law, Chapter 6.5 Zanelli v. McGrath, 166 Cal.App.4th 615 (2008).
- 5 Zanelli v. McGrath, 166 Cal.App.4th 615 (2008).



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“Deed descriptions need to be written, and we need to get the County Surveyor to approve ‘em; the Deed(s) of Trust needs to be modified to coincide with the new parcels, and if you want the new boundary established - a cadastral survey will have to be performed and a Record of Survey filed with the County Surveyor’s Office.”

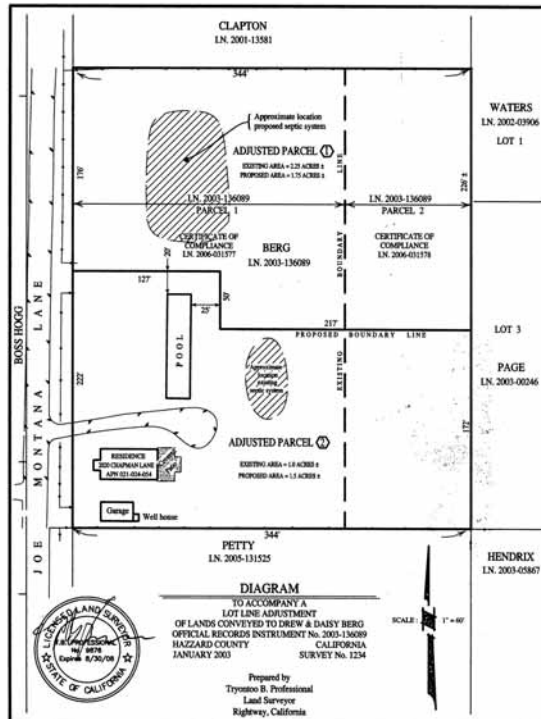
“How much will that cost, Phil?” he inquired.

“I’m guessing about ten-thousand dollars for the survey costs; plus County checking fees, lenders fees, title fees . . . maybe another five thousand in addition to the survey costs”, I said.

“Phil that’s nothing, compared to a \$500,000 resurrected parcel I now have! Do it!” he said.

Done.

What started out as a eight-hundred dollar contour map, turned into a



eighteen-thousand dollar survey . . . all because, as a professional, we don’t just do what we’re asked. We guide. In this case, everything worked out. The client resurrected historical parcels; the County received processing fees; and the ribs-showing-Wyle-Coyote-lookin’ surveyor was fed another meal. Drew appreciated the guidance and believes his surveyor can walk on water . . . which he can - if it’s frozen.

Just doing my job - professionally.

What might an engineering-first/surveying-second firm . . . or surveyor who isn’t abreast of the intricacies of COCs do? Or miss? Would they guide ol’ Drew to “subdivide” an already subdivided parcel . . . which may require copious engineering drawings and improvements? And if so, would that be incompetence, negligence, or smarmy business practices?

Now go wash your hands. ■

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This is the keynote address of the CLSA – NALS Conference 2010 in Reno, Nevada. It was presented by Bob Abbey, Director of the BLM, on February 28, 2010. Thanks to Frank Lehmann, PLS, RPF, for coordinating with Mr. Abbey so we could publish this article in the California Surveyor. -Editor

The Impact of Land Surveying on our Nation's History — 224 Years of the Public Land Survey System

This year marks the 224th year of the Public Land Survey System. I have worked in the western United States for a long time, and I know firsthand where the development and conservation of natural resources have competing demands. The Department of the Interior (DOI) manages 500 million acres of surface lands, one-fifth of the land in the United States, as well as a 700 million-acre sub-surface mineral estate. The Department's ability to accurately identify and establish – sometimes re-establish – monuments that document the legal boundaries between public and private lands is critical to our nation's economy and to the integrity of real estate transactions.

As the Director of the Bureau of Land Management (BLM), I'm honored to have the opportunity today to shine the spotlight on the Public Land Survey System and the historic Cadastral Survey Program.

The original thirteen states in our country were based upon division of lands that had been set by the King of England through land grants. These grants had been established from London, where the information on the New World was sparse and inaccurate. Maps were almost nonexistent. After the Revolutionary War with England, the States wanted to resolve their boundaries. More importantly, the States wanted to establish the unclaimed lands of the West – “the Western Reserve” land west of the Appalachian Mountains as public land or “Public Domain lands” for the development of the country.

Controversy on how the lands were selected and the validity of surveys had long laid the seeds for survey reform in America. The change came in the form of a new design for a rectangular survey system, or the Public Land Survey System. The Continental Congress would debate and finalize this system in 1785. The system would be used for the disposal and sales of the non-original thirteen colony lands, or the Western Reserve Public Domain lands, of the newly formed United States. Most of you are aware of these events, but many people do not realize that the BLM's roots originated before the Constitution was ratified with the Land Ordinance Act of 1785. This act established the “Public Domain Lands” and the system of surveying that you are all familiar with today.

The debates that occurred before the passing of the Land Ordinance Act of 1785 are fascinating and colorful because many of the founding fathers of this country were directly involved with surveying. George Washington's career was based upon his surveying expertise and his association with Lord Fairfax. This early livelihood was extremely important and pivotal to the success of Washington's life. By surveying the raw and unsettled lands of the New World, many windows of opportunity were opened for Washington. Throughout history, land has always equated to power and wealth, and this was amplified in colonial America. Land ownership was the gauge of a person's status, power and wealth in 18th Century America. Only land-owners were allowed to vote, and the size of land ownership was definitely the mark of status. The value of land has only increased today. The status is still there, and the demand on the lands and its uses has only increased at an exponential rate.

Washington realized that to measure, or survey, the land would afford him a great advantage in the “currency” of the New World. His experience in surveying and mapping the lands also provided him with invaluable skills and knowledge during the Revolutionary War. Thomas Jefferson was keenly interested in surveying because his father was a surveyor. Also, Jefferson was appointed as a county surveyor and was influential in the new design of the Public Land Survey System. Roger Sherman, a surveyor from Connecticut, was the only person to sign all four documents establishing this country - “the Articles of Association,” “the Declaration of Independence,” “the Articles of Confederation” and “the Constitution.” Of course, Abraham Lincoln was a surveyor and used the income from surveying the homesteaded lands of Illinois to pay for his education to become a lawyer and eventually one of our Nation's greatest presidents.

Long before the Department of the Interior was established, surveyors were hard at work drawing the boundaries of this nation's new frontiers. The General Land Office (GLO) was created in 1812 as a separate bureau within the Department of Treasury. Most of the Public Domain land was surveyed with oversight by the GLO. These surveys were the first inventory of our nation's natural resources and were the basic tool for systematic develop-

Continued on next page

ment of both private and public lands. By 1910 the GLO employed over 1,400 people. The GLO became a part of the BLM in 1946. Portions of Alaska, Nevada and other western states continue to be surveyed for the very first time. However, the majority of our survey work is to modernize century-old surveys and boundaries with new survey markers and modern GPS measurements.

The land laws enacted by Congress since 1785 are based upon the Public Land Survey System. Future laws will also be based upon this system. These laws include the management of minerals, water resources and wilderness; almost any activity performed by both the private and governmental sectors. Today, many of our Federal lands are noncontiguous, a patchwork of parcels that require certainty of location – surveys form the foundation of all land management work that the Interior performs in partnership with States, Tribes, counties, municipalities and the private sector.

The Western Governors' Association recognized the importance of cadastral survey information through a resolution that stated:

“...Western Governors urge BLM to complete, enhance, and maintain the Cadastral (system) ...in support of energy development, forest health restoration, wildland fire management, Homeland Security and First Responders.”

One of the chief tools that the BLM uses to accomplish its work is the Manual of Surveying Instructions (Manual)¹, the standard to which more than 300 government surveyors and 50,000 private surveyors adhere in conducting surveys. Not only Federal, State, county and local surveyors, but also attorneys, solicitors, and the title and real estate industries couldn't do their job without the Manual. The new manual completed under the leadership of Don Buhler and Bob Dahl was officially released on September 24, 2009, at a ceremony at the Department of the Interior in conjunction with the National Society of Professional Surveyors and the American Congress of Surveying and Mapping. Working closely with the Solicitor's Office, the authors updated the Manual to be consistent with current legislation, judicial and administrative decisions, and current surveying practice. When the Manual was last issued in 1973, editors could not have foreseen the modern technology now commonly used in the surveying community. This time, we've tried our best to make the language “technology independent.” We also addressed how to survey in Alaska, which is done somewhat differently than in the lower 48.

The four areas of significant change in the new Manual include:

- 1) Updated content on water boundaries
- 2) Standard of evidence
- 3) Coordinates as collateral evidence
- 4) Mineral survey resurveys.

Americans can be confident that the 2009 edition of the Manual will see us into the future, regardless of what township we may be in.

Last year, the Secretary had the pleasure of recognizing in a brief ceremony 110 BLM cadastral surveyors for their expertise in professionally carrying on the rigors of the Public Land Survey System. This work could not have been done without the support of the private professional surveyors. Because of BLM's cadastral surveyors and the private professional surveying community, we enjoy the benefits of accurate survey and all that comes with that – across all jurisdictions and land tenures of our great country. As our population continues to grow, communities expand, and our country's remaining open spaces become more valued, your work as surveyors is even more essential.

Certainly, land surveyors facilitate effective management of some of America's greatest assets – its treasured landscapes and the rich resources found on and under the surface of Federal lands and beyond. For example, the Department depends on accurate legal descriptions in order to deliver a fair return to the American public for the commercial sale and production of the Nation's mineral estate and natural resources. For that matter, we couldn't begin to confidently capture the wind and solar renewable energy resources found on Federal lands without knowing land boundaries and geographical features.

Our cadastral surveys provide the basic certainty that the renewable energy industry requires before they begin the long process and ultimately the huge investments in development of wind, solar and geothermal energy. This team effort will assist our country in breaking our dependence on foreign sources of energy. The Public Land Survey System, which was conceived by our country's founding fathers, will continue to be one of the key components of economic growth, which is based upon our country's vast land resources. We know the surveying sector is impacted by the recession. Our Cadastral Survey Program is involved with the American Recovery and Reinvestment Act for projects of nearly \$23 million, resulting in private contracting and job creation. The projects include improving the accuracy of our cadastral information, survey plat and records scanning, GIS work, records improvement and cadastral surveys for identification of abandoned mine lands reclamation projects.

In the last 225 years, surveying tools and techniques have changed. It's impossible to even imagine what the next 200 – even 20 – years will bring us. However, one thing is for sure, our cadastral surveyors and you will continue to execute and maintain this great system of land tenure and ownership. I'm confident that through the rich resources the Department and BLM manage – and with the assistance of surveyors, both BLM and private – the Department's role will continue to be monumental in securing a productive future for our Nation. I thank you for the service you provide. ■

1 The BLM's Surveying Manual of Instructions may be purchased by contacting the American Congress on Surveying & Mapping at www.acsm.net (eStore link).



By: *Kenneth D. Wilson, PLS*

Ken Wilson is the president of Wilson Land Surveys Inc. He started land surveying in 1979 and in 1985 became licensed and started in business. Since then he has recorded over 1500 boundary surveys in 12 counties. Ken has been a member of CLSA since 1986.

The Manual of Instructions - Are We Really Ready to Bury It?

In the November issue of POB Jeffrey Lucas argues in his "Traversing the Law" series that when lands in the Public Lands Survey System (PLSS) pass into private ownership, any surveys that attempt to retrace their boundaries are no longer governed by the application of the Manual of Instructions. Further, he states that since this is the case, the principles found in the Manual governing the restoration of lost corners no longer apply. In the January issue, he opened his article by stating: "There are no lost corners, rather, there are only misguided surveyors who are confused as to what their duties and responsibilities are toward property boundaries and property rights." Being a surveyor for the past 30 years that statement got my attention.

Have we been going about this all wrong - are there really no "lost corners"? Are prorations a thing of the past and now inappropriate? Is the Manual of Instructions only for the BLM surveyors? And is a jury really the best place for difficult boundary decisions to be made? Let's take a look into the issues. Since the case being discussed concerns parcels within the PLSS, my comments will apply directly to that venue, even though the principles apply to other types of boundaries.

In California, where I have experience, the earliest original monuments were placed after 1850 when the initial Point at Mount Diablo was established. In the counties I have worked in, most of the public land surveys were completed by 1890 or so, give or take a few years. There were other GLO surveys since then but most seem to be retracements, resurveys and mining claims. Therefore, the original corners and the evidence thereof for most PLSS corners have been in existence approximately 120 to 160 years.

I have searched and recovered evidence for hundreds of PLSS corners, each one being unique, having its own set of pertinent information to assist the current surveyors to determine its location. Some of them have a marvelous pedigree - such as "Found 4x4 scribed with bearing trees still in existence." Others have a written history from recorded maps by land surveyors who found evidence and perpetuated the same - such as "Found Old 3x3, Replaced with 1-1/2" IP LS XXXX." Others are more difficult to deal with due to problems such as differentiating between man-made monuments and naturally occurring tree scars and rock piles. I remember visiting a section corner south of Hearst Castle once looking for bearing trees. I was in the right general area but did not find the three oak bearing trees until I re-visited that same spot several years later. Even though there were scores of trees on that north-facing canyon, the first time I didn't notice the identical

vertical line scar on each tree and missed finding the solid evidence I was looking for. And then there are those rock mounds we hunt for in the dense chaparral that we just can't seem to find. You who have done this know what I am talking about.

Prorations are based on measurements, and the measurements to accessories, topography and to other monuments are an important part of the evidence that surveyors use to determine original monument locations. Surveyors are experts in long distance measurement - that is one of our primary occupations. Therefore, the measurements that are recorded by surveyors become a valuable resource to use in retracement. Does this mean that measurements are the most important and unfailing tool we should use? Of course not. We all know that measurements are never exact. However, based on several factors, measurements can have strengths and weaknesses that must be determined before we decide to base our decision on those measurements.

To illustrate, let us take the measurements shown on the plats and in the field notes of the PLSS. These bearings and distances were provided by the surveyors who were in the field, and they include measurements between monuments, for topographic calls and to accessories. As the modern surveyor attempts to follow in the footsteps of the GLO surveyor he examines the evidence left behind. They usually start from the corners with the strongest evidence of being original, and then try to determine the location of other points by using the bearings and distances that are in the records. Along the way they observe and measure the topographic calls along the line (the prudent surveyor will locate not just one point on a ridge but a decent length of the ridge so that no matter where the calculated section line ends up, they will still know how the ridge relates to it). They look for and measure to potential line trees, bearing trees, rocks, etc. or whatever is found in the field notes. If the notes say the corner is on a ridge facing north, they keep that in mind. If the notes say that you can see from the corner to another distant corner, they keep that in mind and check these things in the field. Where there are lines of occupation and ancient fences, they measure those and include them in the picture. Credible, informed people who have reliable knowledge of the history of the local boundaries are interviewed and their testimony is taken into consideration (extreme care should be exercised in this area because most everyone has an opinion - it is our job to determine if the opinion is credible). In doing all of this, the surveyor is putting together in their mind a picture of all of the evidence of the original survey which they will peruse in order to come up with their best determination of the location of the original

Continued on next page

nal points set by the GLO surveyor. After having done so, they compare the measurements between corners. Let's say the surveyor has what they believe to be indisputable evidence of the original corners that are one mile apart along a section line. Then there are other corners with slightly less credibility in other directions. By comparing the distances between these corners, as measured, with the original distances, the surveyor begins to form opinions about the actual location of corners and lines. With that they also get an idea of the reliability of the measurements made by the GLO surveyor. How closely are they agreeing with their own measurements? This gives them an opinion of the strengths and weaknesses of the measurements of that GLO surveyor.

Now let us go back to the issue of the "lost corner" - the definition as it appears in the Manual of Instructions. It reads as follows:

5-20. A lost corner is a point of a survey whose position cannot be determined, beyond reasonable doubt, either from traces of the original marks or from acceptable evidence or testimony that bears upon the original position, and whose location can be restored only by reference to one or more interdependent corners.

In a perfect world, there are no lost corners. Every original corner set had 4 bearing trees, one in each quadrant, adequate topographic calls every few chains and in general, plenty of evidence for the modern surveyor to find that corner in the future. In

the real world, here is an example of typical field notes for mile upon mile of original GLO surveys in an area of rolling hills east of Highway 101 in Central California.

0.00 North on a true line between Section 8 and 9

40.00 Set post and pits per instructions for 1/4 corner.

80.00 Set post and pits per instructions for corner to Section 4,5,8 and 9

0.00 East on a random line between Sections 4 and 9

40.00 Set temporary 1/4 corner

79.90 Intersect corner to Sections 3,4,9 and 10 15 links south of corner

S89o55'W on a true line between Sections 4 and 9

39.95 Set post and pits per instructions for 1/4 corner

79.90 The corner to sections 4,5,8 and 9

The posts in this example were usually made of oak and in this part of California, retracing GLO surveyors found that within 5 to 10 years some of the oak posts had decayed to near non-existence. You might ask, why are there no topo calls? In some cases the land is so rolling and smooth that there were no real ridges or

Continued on next page



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The Manual of Instructions - Are We Really Ready to Bury It?

gulches, only swales and knolls so the GLO did not record them. Why are there no bearing trees? Either there were no trees nearby or they were too far away to use. Why did they not use rock mounds? There were no rocks nearby.

So what happens when you try to find evidence of original corners where there is nothing out there but an area where dry farming has been going on for decades? Well corners do exist out in those areas. But they may be a mile or more away from the one you need. At the boundaries of the ranches, there are usually old fences. The old farmers were often quite proud of their ability to build quality fences and surveyors have become very experienced at determining the relative age of old fences as well as making decisions as to whether or not they were placed along section lines or randomly. It's amazing how much evidence can be found around fence corners, and we all know that they are the first and best place to hunt for the little treasures we surveyors get excited about. We talk with the old timers and get whatever information they have regarding the fences, corners, etc.

Often it is quite amazing that after putting all of this evidence together into the survey picture, and then determining distances between monuments, one starts to get the idea that the old Government Land Office (GLO) boys may actually have done a pretty good job. The flatter the terrain, the stronger the measurements usually are. So when trying to establish a section corner where there is no evidence of accessories, no topo calls, and no acceptable testimony by a credible witness, you may still find a strength of measurements that is acceptable. You have what the 1973 Manual calls a "Lost Corner." And what is the method proposed by the Manual to restore such a corner? If it is a corner within the Township, then double proportionate measure is the method. Is this valid? Well we have already established that surveyors are expert at measurement. When the GLO surveyors were chaining the land back in 1860, they were the experts. Now in 2010, the land surveying community holds that title. It is our privilege and responsibility to make decisions concerning the restoration of lost or obliterated corners and using the double proportionate method can be just as valid as finding an original 4x4 - as long as it can be shown that this calculated location is not superseded by the other items of evidence we have already discussed (and some we have not discussed). It can certainly be argued that the double proportion may not locate the monument in the exact location of the original. But that mathematical location may very well be the best estimate of the original location. And it is a long standing method, approved by the creators of the PLSS system and used by thousands of surveyors for decades. But double proportion is not the only method of restoration referred to in the manual. What about single proportion of 1/4 corners between section corners? Should that now become obsolete? What about restoring a lost closing corner or standard corner? How about a situation where the line was stubbed out from one or two directions? Really, the manual has numerous recommendations concerning the methods of restoration of "lost" corners that have been used by the land surveyors in this state for many years. The Board of Registration has tested applicants' knowledge of these very principles and rules as found in the manual to determine their qualification to become licensed surveyors. Are we now to assume that these principles are no longer to be used by the private land surveyor? Or should we agree that the methods provided in the manual have in effect become the guiding and steady

hand that has assisted us to maintain a consistency that has served the public well.

If we are now to say that the Manual of Instructions is not a valid tool to be used to retrace parcels created by the Public Land Survey system, we are subject to the whims and desires of the legal pundits who would love to argue and debate these methods in the courts and come up with novel ideas that would only create more confusion. When it comes to measurements it can be noted that in some flatter areas, the measured distances between found monuments from the 1850-1890's are often within 5 feet of the original. So proportionate measurement for a lost corner is used to re-establish those missing corners and we have reason to believe that they fall within a pretty tight range.

The point here is - measurements are an intrinsic part of the evidence used to retrace old surveys and corners. Proportion has been and continues to be a valid means to restore certain corners that have become "lost" to use the Manual's definition. When Mr. Lucas tells us that "there is always some evidence" to go by I agree. Where he is mistaken is in the fact that the measurements are an important part of the evidence and need to be kept within the picture. The State of California has by statute included the terms "Lost Corners" and also the idea that measurements are one of the items that should be used in construing the location of boundaries. (See Section 8773 Land Surveyors Act and Section 2077 California Code of Civil Procedure)

We must be careful not to put emphasis on mystic guesswork and vague opinion and throw out the fundamentals of mathematics that surveying is built upon. So what is our recourse and duty as surveyors? I believe the most important thing we can all do is this: Do the best job we can to follow the footsteps of the old surveyors of the past. Be humble enough to recognize that none of us will perfectly and absolutely be able to do this. No one has the monopoly on being the absolute boundary expert. We all have our opinions and methods. We must be willing to accept new evidence from our fellow surveyors and admit it if we failed to find that additional evidence. In the end we are largely going to be judged not by a jury, not by a judge, but by ourselves. When another surveyor comes along and follows in our footsteps will they be convinced that our footsteps closely follow that 1869 surveyor, who used his solar compass, chain and axe men to run that line? If the surveyors who come behind us accept our monuments and our decisions and agree with us we now have reason to be proud of our work and happy that we are in agreement. The landowners can be confident that the boundary lines they use to build their fences and drill their wells within are solidly based on the original. We can continue with our subdivisions, construction staking and developments knowing we have an accepted boundary to work with.

There are instances where two surveyors cannot come to an agreement. I have been involved in perhaps two thousand boundary projects but I have only been involved in a handful of cases that went to the local courts. In only one instance were there such discrepancies in the evidence that neither side could make a strong enough argument to convince the local judge. There have been times when I did not agree with a previous survey and did not accept their monuments, but these have been rare.

Continued on next page

So really, most boundary determinations will never see the inside of a courtroom. We have enough case law and decisions from our past to provide us with the principles we need to accomplish our work. If it were up to a jury to decide all boundaries, nothing would ever get done. Thank goodness the surveyors have a system that works pretty well and the quasi-judicial function they serve is something to be proud of. In the November Issue of POB Mr. Lucas stated "Being able to call a corner lost allows the surveyor to make easy work out of what may be a complicated problem. Expediency should not be the criterion for our work; rather, our criterion should be the protection of property rights that have been vested under the law and equity."

Actually, deciding when a corner is "lost" is probably the most difficult decision to make and requires more work than actually finding the corner. Before we do so, we need to be absolutely sure that we have searched thoroughly for evidence that would prove a location other than the mathematical proration. However, just because we found something, that does not make it the original. For example, a proration between two solid section corners could actually be better evidence than a monument with questionable character. So before we decide to set our pipe where Mr. Oldtimer says he thinks he knows where it was, don't forget to check your bearings and distances! ■

Photo of the Year

by Hobbyist Photographer



"Re-supplying with Rebar"

submitted by Frank R. Lehmann, PLS, RPF, photograph by Bob Goodmundson, PLS

Bob and I took turns taking pictures of each other when we were establishing aerial control on what was the LGMI, Lassen Gold Mine Inc., site in Modoc County back in 1994. I have referred to it as "re-supplying rebar" as I had wrapped flagging on the end of some rebar and was in the process of "bombing" Bob so that he could set it under his instrument. The Robinson R22 was a great asset on that job, and the two of us leapfrogged around the perimeter of the site establishing targets in a few days on what would have otherwise taken a couple of weeks. — Frank Lehmann, PLS, RPF

Submit your photo to cals@californiasurveyors.org

The Description Writer's Toolbox

The Writer's Frame of Mind

Write as though three people are looking over your shoulder: the surveyor, the title expert, and the judge. In fact there is a fourth, and that is the conniving crook. He is especially dangerous, because if there is an error in your work that he can use to his advantage, he will find it.

The key is to find a way to describe free line calls so that all will agree on how and where to place them in the field. That means basing all free line calls on the strongest possible evidence and not compromising them by placing them just after calls along title lines whose location is uncertain. There are seven key questions that need to be answered before the actual writing begins. They are:

1. What type of description is best? There are a number of tools available. Use the best one.
2. What type of description is best for the adjoining parcels? You may have to write one of them next week.
3. What point is best for the POB? Is it monumented? How good is the monument's pedigree?
4. Where should the basis of bearings be established?
5. Should the description run clockwise or counter-clockwise?
6. What calls should be made? Title experts say that this is where surveyors are likely to make mistakes.
7. What clauses need to be added?

An interesting and helpful exercise is to change the first question to read, "How many different ways can this parcel be described?" It expands our horizons and gets us in the habit of thinking creatively. It may even lead to the invention of a new tool to add to the toolbox. There are infinite possibilities, and most professionals welcome creative effort as long as the product is surveyable, credible, and legally sound. The challenge is to become so proficient in the art of surveying that others will agree that our descriptions are indeed capable of only one interpretation. ■

Administrative support in the development of this article by Rob McMillan, Bill Telling, Jill Van Houten, and John Wilusz.

Additional instructional materials by Russ Forsberg can be found on the Caltrans Office of Land Surveys website:

http://www.dot.ca.gov/hq/row/landsurveys/Study_material/Forsberg/

<http://www.dot.ca.gov/hq/row/landsurveys/LSITWorkbook/15.pdf>

<http://www.dot.ca.gov/hq/row/landsurveys/LSITWorkbook/WorkbookT OC.html>



By: Carl C. de Baca, PLS

Carl C. de Baca is the owner of Alidade, Inc., Elko, Nevada. He is a past editor of the California Surveyor, and is the current NSPS Area 9 Director.

CLSA-NALS CONFERENCE 2010

The 2010 CLSA / NALS joint conference kicked off with a pre-conference workshop on the Public Land Survey System, on Saturday, February 27. The workshop was taught by senior BLM Surveyors Lance Bishop, Dave Morlan and Robert Dahl, and was well received. Sunday saw workshops in the morning followed by a break for the opening ceremonies, which started with a Boy Scout color guard posting the colors and leading the over 500 attendees in the Pledge of Allegiance. CLSA President Aaron Smith and NALS President Matt Gingerich welcomed the crowd, introduced this year's officers, announced that both Nevada governor Jim Gibbons and Reno Mayor Bob Cashell had issued proclamations recognizing the week as Surveyors' Week. They then turned the podium over to the keynote speaker: recently appointed Director of the Bureau of Land Management Robert Abbey.

Bob Abbey, a former Nevada BLM chief, is very familiar with public land issues in the west. He welcomed everyone to his "hometown" and complimented the BLM employees in attendance for their hard work and dedication. Abbey pointed out that this was the 224th anniversary of the PLSS and noted that the 500 million acres administered by the BLM is equal to roughly 1/5th of the total lands in the U.S. He discussed the many founding fathers that had been surveyors and reminded us that Roger Sherman, the only man to sign all four of the great state documents, the Continental Association, the Declaration of Independence, the Articles of Confederation and the Constitution, was a surveyor. Bob jokingly noted that we might be better off if more of our public officials were surveyors. The audience showed agreement with their applause. Abbey also said that recently the Western Governors Association had officially recognized the importance of the BLM's cadastral efforts. He then congratulated Don Buhler and Bob Dahl on the recently completed and released 2009 BLM Manual of Survey Instructions for Public Lands.

Speaking of the new BLM Manual of Survey Instructions, CLSA had 125 copies for sale at the conference and offered them at a substantial discount to the BLM list price. They sold all of the copies but should you desire one you can order it from ACSM at www.acsm.net.

During the course of the conference, Steve Parrish led an all-day workshop entitled "Getting to Know the GLO", Donald Wilson gave a morning workshop on Easements and an afternoon workshop on Land Research Records, and Joe Paiva did an all-day workshop on the "Analysis of Errors." All were well attended and greatly appreciated. Paiva also did a half-day class on GPS/GNSS and another entitled "Reengineering Surveyors and Survey Businesses." Parrish and Morlan wrapped up the conference with a terrific morning Q&A on some of the more mysterious aspects of Public Lands' surveys. In between the kick off and closing ceremonies there were workshops and discussions on machine guidance, real time networks, TrigStar, Vector GIS and FEMA Elevation Certificates. An LS review track ran Sunday thru Tuesday. Sunday evening saw the Exhibitors' cocktail icebreaker followed up by each state's hospitality suite with plenty of animated conversation in all three locations.

At the Awards Luncheon on Monday, Bob Hart, former president and long time enthusiastic supporter of all things CLSA, received the Distinguished Service Award. Steve Parrish, former Forest Service and BLM cadastral surveyor, long time practitioner in both states, and long time presenter of cadastral workshops, received the newly coined Von Schmidt Award for his work on both sides of the state line. Steve Shambeck and Frank Lehman both won Photo of the Year awards (Steve as professional, Frank as hobbyist). Congratulations to all for your contributions to our profession!

The live auction on Monday night was, as usual, a fun and exciting way to spend the evening and a great way to spend too much money (for a good cause!). As usual the auction was presided over by our old friend 'Lightning' and he worked the crowd (and me) mercilessly until the two states had taken in over \$12,000 for the evening. The silent auction, which ran throughout the conference and concluded with the last table being closed on Tuesday afternoon, netted another \$8,000. That's over \$20,000 for all the auction items, to be split between CLSA and NALS based on who donated the items. Times may be hard right now, but plenty of people donated many great items to the auctions, and plenty of people spent generously and I'm

Continued on next page

CLSA-NALS CONFERENCE 2010 BACK TO THE FUTURE

Continued from previous page

veying students who will benefit through scholarships funded by the auctions, are very appreciative. And as they always do, those survey students worked their tails off helping Dorothy, Crissy and Jessica make the conference run smoothly and they deserve a round of applause for their efforts.

Tuesday night saw comedy hypnotist Chris Cady work his magic on several people up on the stage. Anyone who sees Barbara Herrick should ask her if she remembers her name yet, as Cady had temporarily removed it from her grasp. And CLSA president Aaron Smith was made to be the Governor and gave a hilarious if somewhat incoherent speech on surveying in his best Arnold accent. The hypnotized crew on stage was given the suggestion that they were a rowdy blues band and they proceeded to give a rousing performance on imaginary musical instruments to much laughter and applause from the audience.

It was a genuinely great time having the two states together for this conference and here's hoping that we can do it again soon and often. Special thanks to the sponsors, the vendors and the conference committee of Dorothy Clegari and Nancy Almanzan who made this conference a great success. And a special thanks to Hal Davis who did his usual yeoman's job of bidding up every item in the silent auction!

The following sponsors made this all possible and deserve a hearty thanks:

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CLSA AWARDS

It is important that we take the time to recognize individuals that go above and beyond the call of duty to help advance the land surveying profession. Bob Hart, PLS, this year's recipient of the **CLSA Distinguished Service Award** has done just that. Bob is a past president of CLSA and has served on numerous committees. He has been a long time director of the Education Foundation and has helped to raise thousands of dollars for scholarships. One of his most notable achievements was the publication of the CLSA Exam Guide which has served as an instrumental aid to hundreds sitting for the LS Exam.



Aaron Smith, PLS, CLSA President & Bob Hart, PLS

The **Von Schmidt Award** was presented from both California Land Surveyors Association and Nevada Association of Land Surveyors to Steve Parrish, PLS who has gone above and beyond to support both associations and the profession as a whole. Steve has been a friend to the land surveying profession for years. He has supported education not only by being one of the most in demand speakers at our conferences but also by his countless donations to the scholarship auctions. He further helps advance the profession by being an instructor at Great Basin College.

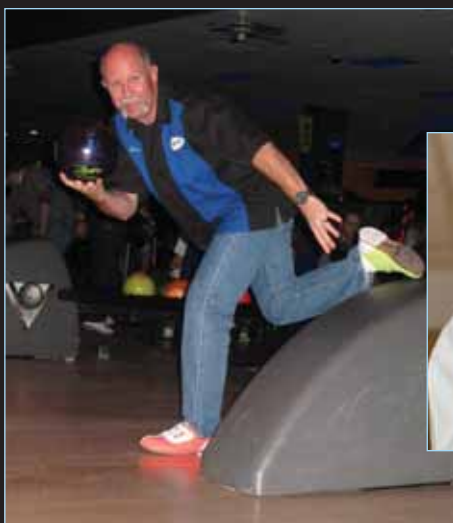


Aaron Smith, PLS, CLSA President; Steve Parrish, PLS; Matt Gingerich, PLS, NALS President

CLSA CONFERENCE 2010 HIGHLIGHTS

CONFERENCE PHOTO COLLAGE, BY STEVE SHAMBECK, PLS PHOTOGRAPHY





Photos by: PLS Photography



RISK MANAGEMENT FOR LAND SURVEYORS



Hate Those Insurance Companies But Remember You May Need Them Someday (It's a Real Love/Hate Relationship)

Insurance Companies serve a necessary financial function by keeping capital flowing in times of disaster such as rebuilding after an earthquake, restoring property after a fire, replacing stolen equipment, paying to get you out of a frivolous lawsuit or paying for an expensive operation and long hospital stay.

Thousands of insurance companies help keep the financial system functioning and do it by collecting and pooling premiums from their customers. Insureds pay their premiums based on their exposure, size and loss potential and get paid according to their losses. The pooled money and claims payments are a disaster softener. The insurance companies aren't evil and don't make sinful profits. Most insurance companies end up with less than 5% profit and often, if disasters have been frequent, have big losses. Ultimately, they can protect you, provide jobs for the many people that work for them and keep the capital wheels oiled and running during frictional times.

You Can Hate Those Insurance Companies

- Because they always seem to keep raising their rates
- While reducing your coverage
- And refusing to pay your claims
- And they seem to fight with you over everything you want and need from them.

But You Can Love Those Insurance Companies

- In times of disaster because they help you get back on your feet
- When they pay for your big losses
- And get lawyers and suppliers and repairs and cash you need to help you out of bad situations.

Use Them Wisely

- Keep your limits within reason and your deductibles high
- Don't trade \$\$\$s with the companies over small and insignificant losses
- Buy only what you need for owners' and contractors' Certificates of Insurance
- Buy coverage only for losses you can't afford such as the big ones.

Remember it's a balancing act between being over- and under-insured, between liking and disliking your insurance and the need for it, working with your broker and company and accountant and lawyer and coming out with the best result for yourself. No one said it was going to be easy or happy. The thought of insurance puts many people to sleep, chases other people away at cocktail parties.

Keep Your Premiums Down

How can you pay less in premium? What can you do to lower your insurance costs?

Here are a few tips:

- Review and reduce your limits if it makes sense
- Increase your deductibles when it's appropriate
- Review and report accurate revenues
- Review and report accurate payrolls, classifications and workforce size
- Control your losses by using your best risk management techniques
- Shop around at renewal-you might find better and less expensive coverage
- Be sure to include your proportionate cost of insurance in all your bids
- Also shop around for your health insurance; consider HMOs, use higher deductibles and Health Savings Accounts

Risk Management Again?

Focused risk management helps save you money and increases your profit and keeps you out of trouble. Review the Risk Management Article in the Winter 2006-07 Issue #149 of California Surveyor Magazine on the CLSA website. Find out how to identify specific risks and control them with procedures that reduce your loss exposure and associated costs. You can **avoid the risk** by not taking it or using a subcontractor to do the work.

With loss control you should be able to **reduce the risk**. Using insurance and indemnity agreements you **transfer the risk**. Deductible and self-insurance strategies allow you to **retain the risk**. Overall be careful, diligent, and wary.

Health Care Reform?

Insurance Companies have become the scapegoat for what's wrong with health insurance but they are only partially to blame. The field is fragmented and full of self-interest among doctors, lawyers, politicians, hospitals, drug companies, federal and state insurance regulators, employers, HMOs, PPOs, and uninsured people. It has more to do with politics and power than with your own health care insurance reform but it is important that you let your feelings be known. Let your congressman or woman and your senator know what you want and whether you like or dislike the bills being pushed by the President and put forth in Congress. ■

The Subdivision Map Act: A One-Day Seminar in Several California Locations!

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WHAT IS COVERED?

This seminar provides guidelines for effective use of the Subdivision Map Act. The instructors will discuss the responsibilities and powers of local agencies under the Act, as well as particular issues regarding when the Act applies.

SEMINAR HIGHLIGHTS:

- Discussion of legislative and judicial changes in 2009
- Relationship of Map Act to other planning, zoning and development laws, and to CEQA
- When the Map Act applies (and when not)
- What kind of Map (Tentative/Final or Parcel Map) to use
- Certificates of Compliance
- Lot Line Adjustments
- Exemptions and exceptions under the Map Act
- Life of Tentative Map
- Vested Rights (including Vesting Maps, Development Agreements and Common Law Vesting)
- Exactions/Dedications/Fees
- Creative mapping approaches

WHO SHOULD ATTEND?

This seminar is designed for planners, surveyors, engineers, developers, builders, attorneys, project managers, architects, planning commissioners, council and board members, property managers, public works and utilities directors, zoning board members, and all others involved with the land use process.

This course qualifies for 6 hours of California MCLE credit.

FACULTY



Michael P. Durkee



David H. Blackwell

Register for a seminar: by phone 415-273-0310 online at LandUseNavigators.com or register and pay at the door

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Dear Fellow Professional,

I am writing you today to ask for your support of the **California Land Surveyors Association Education Foundation**. One of the primary functions of the CLSA Education Foundation is to provide scholarship aid to students of Land Surveying.

As you may be aware, training bright young minds to become the next generation of professionals is key to the perpetuation of the historic and diverse profession of Land Surveyors.

Scholarship aid is a vital link in encouraging students to select Land Surveying as their course of study and continue in the various programs. Your donations are needed to continue funding scholarship to help students all over California obtain their goal to become a Land Surveyor.

There are many ways to donate to the Education Foundation. Becoming a Foundation Associate will provide recognition on the Foundation's web page, www.californiasurveyors.org/educfound.html. You can even donate thru PayPal on the webpage. Many organizations have Employee Charitable Organizations and you can donate via payroll deduction thru these organizations. The Foundation can also be listed as a beneficiary in estate planning.

The CLSA Education Foundation is an IRS 501 (c) 3 charitable organization and can be tax deductible. Consult your tax advisor and please consider donating to the foundation as part of your tax planning this year.

An additional way that you can help the CLSA Education Foundation is to participate in the Auction

fundraisers at the annual CLSA Conference. Donations of new or used items are needed to make this annual event a success. If you have never attended an Auction at the annual conference, I would encourage you to attend, as it is a highlight of the conference and a lot of fun. Of course the funds raised go to a good cause.

The CLSA Education Foundation expects to award over \$40,000 in scholarships to students of Land Surveying in 2010. A donation or continued support on your part will go a long way in keeping our program of providing scholarship aid to students alive. Thank you for your consideration and support.

Sincerely,
Steven J. Martin, Chairman
CLSA Education Foundation ■





Creating Opportunities, Providing Support, Sustaining Land Surveying Education

In this edition of the California Surveyor, there are excerpts from several of the Thank you letters we have received from students who received a scholarship from the CLSA Education Foundation this year. After reading thru these, I think you will agree that the scholarship program is really a great benefit to up-and-coming surveyors and thus to the profession as a whole. With this scholarship support more students can stay in school, complete a degree and obtain the solid academic background which will enable them to grow and have productive careers in land surveying. These students we support today will be the leaders in our profession one. I shudder to think about what would happen if we did not support the bright young minds seeking to enter our profession, but the purpose of this note is to recognize the good work that does go on throughout California to raise money and support this scholarship program.

Of CLSA's 22 Chapters, 16 are now working with the CLSA Education Foundation to sponsor scholarship funds. We would like to work with all of the Chapters, but it does take dedicated individuals to keep focused on the benefits of providing scholarships and raising money throughout the year. Some Chapters hold golf tournaments to raise money, others organize seminars, some use the proceeds of membership dues and meeting fees to create a scholarship fund. The point is that it takes action by individuals or a group of individuals to accomplish goals and CLSA has many individuals working together all year to make the scholarship program a success.

I also want to highlight Adobe Associates, Inc. who has sponsored a new scholarship this year. Aaron Smith and Paul Brown have shown leadership, professionalism and vision by establishing a new scholarship fund in their Company name. I hope their efforts can inspire others into similar action.

With the help of Aaron Smith, Paul Brown, the 16 CLSA chapters, CLSA itself, and all who participated in CLSA Education Foundation fundraisers at CLSA Conferences, the Foundation was able to award well over \$40,000 in scholarships to Land Surveying students throughout California this year! Please keep up the good work and pass the word about the scholarship program and how it benefits the profession. ■

Thank You Letters

Thank you for the great scholarship gift! By giving me \$500, you have paid for my classes, books, and materials for the semester. All that is left for me to do is learn. My family shares my gratitude. It has been financially difficult to return to school, and your assistance is a welcome relief. I have continued to attend the CLSA meetings in Sonoma County, and I plan on being a contributing member for years to come. I look forward to the CLSA NALS conference in Reno where I can meet more surveyors and support the association.

*Sincerely,
Mathew Dudley
SRJC Student*

I wanted to express my deepest gratitude for being awarded the David Goodman Scholarship, Sacramento Chapter at the February 2009 chapter meeting. The fact that CLSA acknowledges and supports my efforts is a great motivation. I am honored not only to be awarded this distinguished award, but to be a member of this organization. I will continue to do my part as a CLSA member and continue working hard towards my educational and professional goals. I look forward to the day I can do the same for a student in need. Again, I really appreciate it. Thank you and look forward to attending the CLSA National Conference.

*Sincerely,
Richard Aviles
Sacramento City College Student*

I would like to personally thank the members of the California Land Surveyors Association, East Bay Chapter, for selecting me to be one of the recipients of your CLSA scholarship, awarded at the 49th Annual CSU Fresno Geomatics Engineering Conference on January 29th, 2010. I greatly appreciate the award and am extremely humbled by it. The award will help me in continuing my last few years of education in the Geomatics program. Seeing the large amount of scholarships passed out this year, even in the economic downturn, really meant a lot to me because it showed me how much the surveying profession supports education. I know that it takes much effort and care to put together as many scholarships as I saw passed out, and I hope that in writing this letter, people can see that the students really appreciate the efforts. Once again, I would like to say thank you, and that I am extremely fortunate and happy that the California Land Surveyors Association, East Bay Chapter, has taken very good care of the Fresno State Geomatics program.

*Thank You!!
Erielle Lamb
CSU Fresno Student*

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Q & A SMA Expert

Question

Does a subdivider's payment of local "impact fees" – collected to finance local and regional infrastructure/improvements - count toward the \$178,000 threshold set forth in Subdivision Map Act section 66452.6 (the section allowing the extension of a tentative map through the filing of multiple (phased) final maps)? And does the "timing" of the payment of such impact fees make any difference?

Answer

Yes, in my opinion, a subdivider's payment of local and/or regional impact fees used to fund the construction of offsite infrastructure/improvements, qualifies toward the Subdivision Map Act's \$178,000 threshold. And my answer does not change whether the impact fees are paid before or after final map approval, before or after building permit issuance, or before or after certificate of occupancy – in my opinion, as long as the payment of those impact fees is a subdivider requirement, then the timing of their payment is irrelevant.

Discussion

1. The Payment of Regional Traffic Impact Fees Counts Toward the Map Act's \$178,000 Threshold.

There are several different extensions available under the Map Act that can extend the life of a tentative map. In fact, these different provisions are *not* mutually exclusive; a subdivider may secure multiple extensions of time under the many different Map Act extensions available. (See, e.g., *California Country Club Homes Association, Inc. v. City of Los Angeles*, 18 Cal.App.4th 1425 (1993).)

Understanding this area of the law involves the Subdivision Map Act and Land Use statutes outside of the Map Act. First, Map Act section 66452.6(a) provides in pertinent part:

... [I]f the subdivider is required to expend one hundred seventy-eight thousand dollars (\$178,000) or more to construct, improve or finance the construction of public improvements outside the property boundaries of the tentative map, excluding improvements of public rights-of-way which abut the boundary of the property to be subdivided ... each filing of a final map authorized by Section 66456.1 shall extend the expiration of the approved or conditionally approved tentative map by 36 months from the date of its expiration, as provided in this section, or the date of the previously filed final map, whichever is later. . . . The extensions shall not extend the tentative map more than 10 years from its approval... (Emphasis added.)

This Section was amended in 1985 "to increase the life of tentative maps in cases where the subdivider is required to make a substantial investment to provide public facilities outside of the project in order to have the subdivi-

vision approved." (Assembly Local Government Committee Report on AB 1624, April 30, 1985). The legislation was sponsored by the California Building Industry Association in order to protect subdividers by extending the life of a tentative map for projects where the subdivider was required to make substantial offsite expenditures in order to have the project approved. Second, the Mitigation Fee Act (Government Code §§ 66000 *et seq.*) controls the justification, adoption, imposition, payment, protest, etc. of "impact fees." Section 66000(b) of the Mitigation Fee Act defines an impact fee as follows:

"Fee" means a monetary exaction . . . that is charged by a local agency to the applicant in connection with approval of a development project for the purpose of defraying all or a portion of the cost of public facilities related to the development project. . . . (Emphasis added.)

Under the Mitigation Fee Act, impact fees "defray" the proportional cost of providing (constructing, etc.) *public improvements* (the Mitigation Fee Act defines "public facilities" as "public improvements, public services, and community amenities." (Gov. Code § 66000(d), emphasis added) necessitated by a particular project by providing the proportional funding source needed to finance the construction of such public improvements. Many local ordinances mimic the provisions of the Mitigation Fee Act when they impose local and regional impact fees.

Taken together, we know that Map Act section 66452.6(a) includes in its \$178,000 threshold any expenditure to "finance the construction or improvement of public improvements" and we know that the Mitigation Fee Act treats the payment of an impact fee as an expenditure to "finance the construction or improvement of public improvements" (with "public improvements" including local and regional improvements such as traffic improvements). Therefore, connecting the dots, the payment of an impact fee under the Mitigation Fee Act is by law for the financing of the construction or improvement of public improvements, and as such, must count toward the \$178,000 threshold amount set forth in Map Act section 66452.6.

2. Impact Fees Qualify Toward the \$178,000 Threshold Even If Paid After the Final Map Approval.

The timing of impact fee payment again involves both the Map Act and the Mitigation Fee Act. Under the Mitigation Fee Act, a city or county that imposes an impact fee on a residential development for the construction of public improvements or facilities *cannot* require the payment of those fees or charges until the date of final inspection or the date of issuance of the certificate of occupancy, whichever occurs first. (Gov. Code § 66007(a).) There are two exceptions to this rule: (a) a local agency may require payment of the fees earlier if the fees are to be collected for public improvements for which an account has already been established and funds appropriated; and (b) if the fees or charges are to reimburse the local agency for expenditures previously made. (Gov. Code § 66007(b).)

Continued on next page

Map Act section 66452.6(a) simply provides that if a subdivider is required to expend \$178,000 or more for off-site improvements, each filing of a final map extends the expiration of the tentative map by 36 months (for a maximum of 10 years). The operative words from the Map Act are that a subdivider's tentative map qualifies for the automatic extension "if the subdivider is required to expend" the threshold amount. Instead of imposing a pre- or post final map approval timing requirement, the Legislature provided a readily available means of determining which tentative maps qualified for the mandatory extension under Section 66452.6(a): those where the subdivider was required to expend the threshold amount, without regard to when that expenditure takes place.

A third statute, Government Code section 65961 (commonly known as the "one-bite-of-the-apple" rule) provides further support for this conclusion. Section 65961 requires the imposition of all existing local laws as a condition to tentative map approval by setting a very high penalty for a city if such laws are not made conditions to the tentative map approval. Section 65961 provides that

... upon approval or conditional approval of a tentative map for a subdivision ... a city ... shall not require as a condition to the issuance of any building permit any conditions that the city ... could have lawfully imposed as a condition to the previously approved tentative map. ...

As a result, the prohibition against enforcement of an existing law not made a condition to a tentative map works as follows:

- (a) First, the condition must be one that could have been legally imposed by the city at the time the tentative map was approved.
- (b) Second, the city must fail to impose the existing law as a condition on the tentative map at the time of its approval ("the missed condition").

(c) Third, the city must then impose that missed condition as a condition to issuance of building permits during the five-year period following recordation of the final map for the development.

When these three elements are present, Government Code section 65961 prohibits the enforcement of the missed condition. Thus, if a city or county were to argue that the satisfaction of a condition—although in existence at the time of the tentative map approval—was in fact not made a condition to the tentative map, the city or county will not be able to enforce the condition at all: Government Code section 65961 will prohibit satisfaction of the condition at the building permit issuance stage. In other words, if a city or county did not impose the payment of impact fees as a condition to tentative map approval – even though the timing of the fees' payment will be after the final map approval (pursuant to the Mitigation Fee Act) – then arguably the city or county would be barred from collecting such impact fees as part of building permit issuance (or any other permit issuance). Presumably, therefore, in order to avoid such a problem, and to "harmonize" all of these statutes, a city or county will require the payment of impact fees as a tentative map condition of approval, but by law cannot collect the fee until that time allowed by the Mitigation Fee Act (usually Building Permit issuance). Such a "harmonization" of the different statutes is a standard rule of legislative construction.

For these reasons, in my opinion, the obligation of the subdivider to pay impact fees must be made a condition to tentative map approval (under Section 65961's "one-bite-of-the-apple" rule), must count toward Map Act section 66452.6(a)'s \$178,000 threshold, and likely *must* be paid after the final map approval (pursuant to the Mitigation Fee Act), although timing of payment is ultimately irrelevant: simply having the payment obligation means the subdivider's map qualifies for the extension. ■

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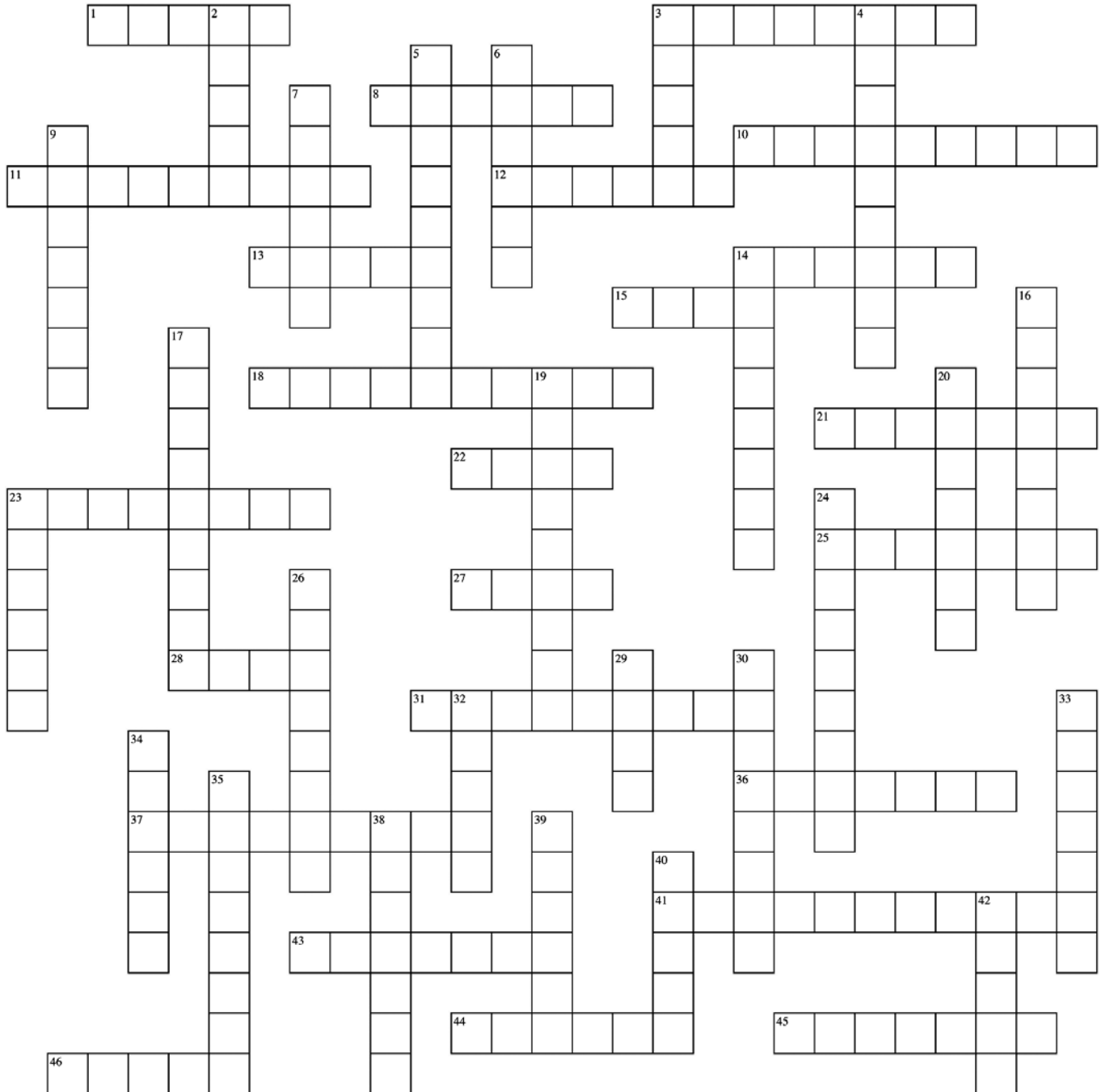
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Crossword Puzzle

By: Ian Wilson, PLS

CLSA Crossword Puzzle #14



Ian Wilson, PLS is the Director of Survey for WRG Design, Inc. in Roseville, CA. As well as being a licensed land surveyor, he and his wife, Laura, are avid SCUBA divers. They are looking forward to "getting wet" on future trips along coastal California and around the world.

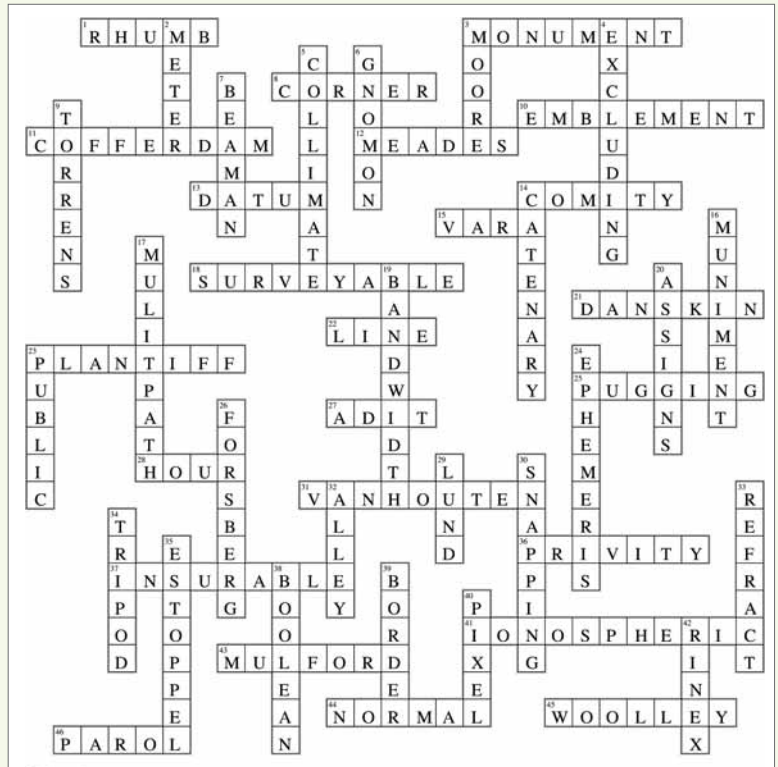
Key to CLSA puzzle #13 (Surveyor Issue # 160)

Across

1. A LINE IN BARBADOS?
3. MARK OF A CORNER
8. MATHEMATICAL INTERSECTION
10. RIGHT TO A CROP
11. WATER BARRIER
12. RANCH OF POSITIONAL IMPORTANCE
13. REFERENCE SURFACE
14. LICENSE FOR ALREADY LICENSED
15. 33 INCHES IN AZ
18. CHARACTERISTIC OF A GOOD PROPERTY DESCRIPTION
21. AUTHOR OF "BEING PROFESSIONAL IS GOOD BUSINESS"
22. TYPE OF DESCRIPTION
23. PERSON OF ACTION
25. TRANSFERRING PHOTO POINTS
27. MINE OPENING
28. TYPE OF CELESTIAL ANGLE
31. AUTHOR OF "PREPARING PLS APPLICATION AND REFERENCE FORMS"
36. TACKING
37. ANOTHER CHARACTERISTIC OF A GOOD PROPERTY DESCRIPTION
41. TYPE OF GPS SIGNAL DELAY
43. AUTHOR OF "BOUNDARIES AND LANDMARKS"
44. PERPENDICULAR
45. AUTHOR OF COMMENTARY ON WOLFORD'S ARTICLE
46. BY WORD OF MOUTH

Down

2. 39.37 INCHES IN CALIFORNIA
3. SPEAKER AT FREE CLSA SEMINAR
4. NOT INCLUDING
5. RENDER PARALLEL
6. SHADOW CASTER
7. ARC
9. SIR ROBERT, THE LAND REGISTER GUY
14. CABLE CURVE
16. TITLE DEEDS AND PAPERS
17. GPS ERROR
19. RANGE OF FREQUENCIES IN A SIGNAL
20. THOSE TO WHOM PROPERTY IS TRANSFERRED
23. NOT PRIVATE
24. PREDICTIONS OF ORBITAL POSITION
26. AUTHOR OF "THE DESCRIPTION WRITER'S TOOLBOX"
29. AUTHOR OF "COVENANT OF EASEMENT"
30. JUMPING TO A POINT
32. NARROW STREET
33. LIGHT BEND
34. SURVEYOR'S DOG WITH THREE LEGS
35. BAR OF DENIAL
38. NOT, AND, OR, NOR FOR EXAMPLE
39. OUTSIDE 1-INCH ON A RECORD OF SURVEY
40. PICTURE ELEMENT
42. GPS FILE FORMAT



If you have an idea for a puzzle theme or a clue you would like to include in an upcoming puzzle, email to clsa@californiasurveyors.org





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