

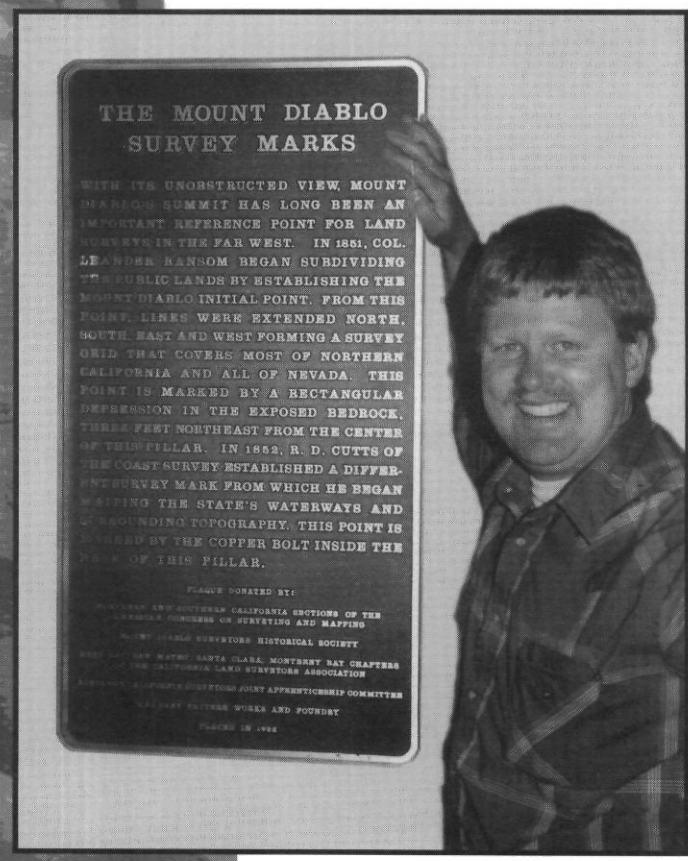
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The California Surveyor

No. 102

The Voice of the Land Surveyors of California

FALL 1993



**THE MOUNT DIABLO
SURVEY MARKS**

WITH ITS UNOBSTRUCTED VIEW, MOUNT DIABLO SUMMIT HAS LONG BEEN AN IMPORTANT REFERENCE POINT FOR LAND SURVEYS IN THE FAR WEST. IN 1851, COL. LEANDER RANSOM BEGAN SUBDIVIDING THE PUBLIC LANDS BY ESTABLISHING THE MOUNT DIABLO INITIAL POINT. FROM THIS POINT, LINES WERE EXTENDED NORTH, SOUTH, EAST AND WEST FORMING A SURVEY GRID THAT COVERS MOST OF NORTHERN CALIFORNIA AND ALL OF NEVADA. THIS POINT IS MARKED BY A RECTANGULAR DEPRESSION IN THE EXPOSED BEDROCK, THREE FEET NORTHEAST FROM THE CENTER OF THIS PILLAR. IN 1882, R. D. CUTTS OF THE COAST SURVEY ESTABLISHED A DIFFERENT SURVEY MARK FROM WHICH HE BEGAN MEASURING THE STATE'S WATERWAYS AND SURROUNDING TOPOGRAPHY. THIS POINT IS MARKED BY THE COPPER BOLT INSIDE THE PILLAR.

PLAQUE DONATED BY:
SOUTHERN AND NORTHERN CALIFORNIA SECTIONS OF THE
AMERICAN CONGRESS ON SURVEYING AND MAPPING
CALIFORNIA LAND SURVEYORS HISTORICAL SOCIETY
MONTEREY COUNTY SURVEYORS CLASS, MONTEREY BAY CHAPTER
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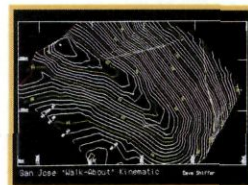


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The California Surveyor

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"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 the Land Surveyors and their work."

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The California Surveyor

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Cover Photo :

John Pettley presents the new, commemorative Mount Diablo Initial Point Plaque. Photos by Don Marcott.

Opinions expressed by the editor or individual writers are not necessarily endorsed by the California Land Surveyors Association officers or its Board of Directors. Original articles may be reprinted with due credit given to the source and written notification to the California Land Surveyors Association.

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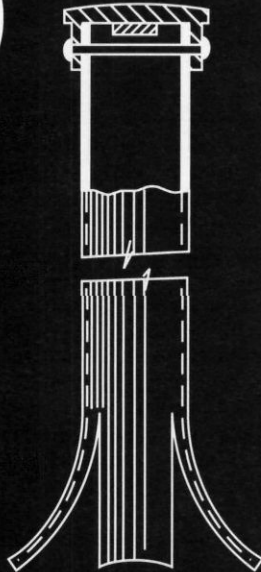
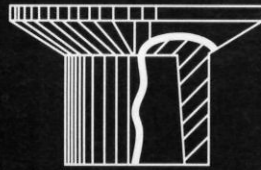
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Letters To The Editor

■ INITIAL POINT CELEBRATION

I had the opportunity to attend the Mount Diablo Initial Point plaque installation celebration last weekend. There was a barbeque in Mount Diablo State Park with a raffle in the morning and a tour of the museum with the new plaque in the afternoon. I sure had a good time.

To make a long story short, the reason for the new plaque is this: In 1851 Col. Leander Ranson established the Mount Diablo Initial point, for the surveying of the public lands. His monument was a small depression in the highest rock atop the mountain. Then in 1852 R.D. Cutts of the U.S. Coast & Geodetic Survey needed a good spot for a control point so he set a brass cap 3 feet Southeast of Ranson's initial point.

Mount Diablo State Park was dedicated back in 1921, and again in 1931. At some point in time, the visitor's center was built at the top of the mountain around both of these monuments. Unfortunately, a plaque was installed that incorrectly describes how the USC&GS monument (which someone has removed and only the bolt is remaining) is the initial point for the Mount Diablo Baseline & Meridian.

This didn't settle well with my friend John Pettley back in 1985. Well, it's been 8 years, lots of pushing from members of the No. Calif. section of ACSM, East Bay, San Mateo/Santa Clara, and Monterey Chapters of CLSA, some string pulling from Bud Uzes of the State Lands, an Autocad drawing from hell, and 3 boxes of paperwork to remove the old plaque and install a new one which reads as follows:

THE MOUNT DIABLO SURVEY MARKS. WITH ITS UNOBSTRUCTED VIEW, MOUNT DIABLO'S SUMMIT HAS LONG BEEN AN IMPORTANT REFERENCE POINT FOR LAND SURVEYS IN THE FAR WEST. IN 1851 COL. LEANDER RANSON BEGAN SUBDIVIDING THE PUBLIC LANDS BY ESTABLISHING THE MOUNT DIABLO INITIAL POINT. FROM THIS POINT, LINES WERE EXTENDED NORTH, SOUTH, EAST AND WEST FORMING A

SURVEY GRID THAT COVERS MOST OF NORTHERN CALIFORNIA AND ALL OF NEVADA. THIS POINT IS MARKED BY A RECTANGULAR DEPRESSION IN THE EXPOSED BEDROCK, 3 FEET NORTHEAST FROM THE CENTER OF THIS PILLAR. IN 1852, R.D. CUTTS OF THE COAST SURVEY ESTABLISHED A DIFFERENT SURVEY MARK FROM WHICH HE BEGAN MAPPING THE STATE'S WATERWAYS AND SURROUNDING TOPOGRAPHY. THIS POINT IS MARKED BY THE COPPER BOLT INSIDE THE BASE OF THIS PILLAR.

Inside the museum is an old transit and gunthers chain from the late Cecil Hansen's collection donated by his son, and an old field book donated by Bud Uzes.

The installation celebration took place on July 17, 1993 and was the 143rd anniversary of Col. Ranson's survey. It was a great summer day in which I had the pleasure of seeing some old friends and meeting some new ones.

Thanks and congratulations to John Pettley, Steve Wilson, Myron Lewis, Mount Diablo Surveyor's Historical Society and everyone else who made it happen.

Mark Lewis, P.L.S.

■ ENFORCEMENT OF THE LS ACT

I am responding to David L. Lindell's letter in the Spring 1993 California Surveyor. David's emphasis was on the Board to enforce the provisions of the LS Act. I feel that each local chapter of CLSA could be more active in this area, since there are only certain parts of the state where this seems to be a problem.

For example, in the county that I practice (San Luis Obispo), most Surveyors know the law and comply with it. But there are a few, whose prices are usually about half as much, who will sell their pride to make a buck. They will usually set 1x2 hubs without tags established at record courses. During a retracement, I tell the landowner that they got "approximate corners" although we all know that there is nothing

in the LS Act that allows setting of approximate corners.

One way to encourage enforcement is to get your County Surveyor involved. If our County Surveyor checks a map which has a tagged monument shown as "no record," he simply calls that Surveyor and asks them politely when they are going to file a map. If the County Surveyor never receives the map, they are eventually reported to the board. There are certain exceptions for no record monuments which were obviously set 30 years ago and the surveyor is deceased.

Unfortunately, counties like Riverside County who charge \$1500 to file a record of survey only encourage Surveyors to break the law, since the cost of filing the map may exceed the cost of the survey. In San Luis Obispo County, the County Surveyor usually spends a few hours checking a map which easily justifies a \$90.00 fee.

As a result of revised Rule No. 464(d)(e) by the Board of Registration, our county has recently allowed the filing of a Corner Record when multiple corners have been set. This is allowed under the law, providing trigonometric calculations are not required and there is no "material discrepancy." The County defines, "material discrepancy" as a ratio of 1:5000 between record and measured data. Corner records cost \$5.00 to record and checking them takes minimal effort of the part of the agency. Corner Records are a viable alternative to filing a record of survey, providing the county has a method of researching the document after it is filed.

Educating the public about the law is an important factor. According to Curtis Brown "Boundary Control and Legal Principals," monuments that are not called for are uncertain. Explain to your clients that you are bound by the law to record a map and that monuments that are set by a Surveyor without a record will not carry the same weight in court. Over time, clients may learn to insist on a recorded map.

Filing a record, either by corner record or record of survey, benefits future Surveyors retracing the survey as well as the public. If a Surveyor gives an estimate for a lot in a block in which there are many no record monuments but no maps, the cost to the client will be considerably more than if maps were filed. In other words, everyone who owns

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How I Spent My Summer Vacation

By Tom Mastin P.L.S.

When I was a young lad, there were a few experiences that taught me how to prepare an article under pressure out of thin air. These experiences were, of course, the dreaded "How I spent my summer vacation" reports I was hit with the first day back in school, just so the nuns could show us who was boss, and we could lose that back to school excitement. This was at the age where I still wrote with the pencils big as a bat on paper that had four lines to a sheet and felt like sand paper. Naturally they gave us until the next morning to get it done, so we worried all evening, thereby completely destroying any chance of having fun after school. I was always sure my reports were "A" material, even if I didn't start until I was on the way to school, and I only had two sheets to the report. The teachers always had a different grading system than I did, as my reports were only read when they felt the class needed a good laugh.

If there is a moral to the story, it has nothing to do with my ability to write an article out of thin air (although this article may show such ability) but it has to do with what was in those reports. We had in our class, as in every class, those few that completely destroy the grading curve. In my class they all happened to be girls. I don't know if there was a reason for this, but I suspect there was. They always turned in reports that made a Michener novel look like a short story, and their handwriting looked like it was typewritten. Then there were the smart ones, who instead of using their genius for good, used it to get around having to do any real work (I'm sure they are all attorneys now). They knew what the teacher wanted to see, and just rewrote the one they turned in the year before, which was the one they got from their older sister. I always wrote about the first things that came to mind about summer, which was under-

standable, as I was usually finishing it up as the reports were being collected. (I learned early to sit in the row furthest from the door and just behind the front, as it gave me the most time before collection).

My reports didn't tell about the family trips we took, although we always had good vacations, but usually were on more mundane things I did like the mowing jobs I had or the slot cars I built. I knew enough not to men-

I have often come across that "island" attitude from good detail surveyors. You know, instead of *No Man is an Island*, the island attitude motto is *All Surveyors are an island*.

tion the rock fights I got into or the survey laths I pulled out even though they were usually strong memories. I'm sure it was the subject matter that confused the teachers when giving me a grade and not the grammar, spelling or writing style.

If there is a reason why I bring this up, it is because I am still like that. It is the smaller things that interest me, or as they say, I am a "detail" person. What interests me when I get involved in a big project is the surveying problems I will have to deal with, not that my work will be a small but important cog in completing the project. In fact, I am usually the cog that all other cogs must wait for before they can gear up. If I was more of a "big picture" person I would see that this puts me in a position that allows me to increase my stature and the stature of the profession.

I believe that most surveyors are detail people. If you don't know if

you are a detail person take this simple test:

- Would you rather everyone left you alone, so you can get your work done?
- When adjusting a line to get an exact 5 acre piece, do you read just the line because you are 1 square foot off being 5 acres?
- Does your blood pressure rise when you're told you have to stake a grading plan done by an architect?
- Do you think how great it will be to do topo's with GPS?
- Have you actually answered any of these questions?

If you answered yes to any of these questions you are a detail person. Being a detail person, I don't see that as a bad thing (remember I can't see the forest through the trees), but even I realize that we must support those big picture people within the surveying profession in order to survive.

I have often come across that "island" attitude from good detail surveyors. You know, instead of "No man is an island," the island attitude motto is "All surveyors are an island." Those people who don't want to make waves, want to be left alone so they can do their work. They are quick to get upset about any new concepts proposed and unwilling to do anything to help the profession. Their comment is that they are too busy trying to make a living to do anything else. It is easy to see why some surveyors are like this. The big picture surveyors are always perceived (almost always incorrectly) that the reason they are big picture people is because they weren't capable of detail work. I suspect the perception comes from a little insecurity and a little from dealing with some big picture developers. Also, most "Improve the Profession" articles and talks come across that the day-to-day surveying is not really professional. I suspect some of them believe it, but what do I care (they can't do the detail work anyway). What I finally realized was that if I am working too hard to try and make a living then maybe I should help upgrade the profession, so that I won't have to work so hard to make a living, or if I am, at least its to make the payments on the Mercedes and the vacation condo in Tahoe.

Again I don't see myself or most surveyors as the ones that are going to increase the stature of the land surveying profession, except by following

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Letters To The Editor

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property within that block will benefit from maps being filed.

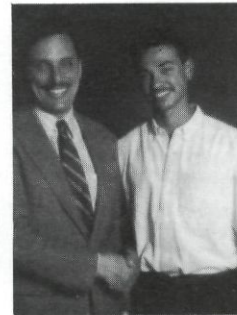
The degradation of the public lands survey system is due largely to monuments being set without supporting records showing how the points were set. If I find a section corner and a record map states "found rock mound, reset 1" IP;" that carries a lot more weight than "set 1"IP at record 2640 feet." Without a map the surveyor re-tracing a survey will never know how much risk they are taking by blindly accepting a point.

It's true that surveyors who comply with the law are at a disadvantage in terms of cost to the client. The ones who sell their pride to make a quick buck, lower the status of our profession in the eyes of the public. In the southern states no one ever files a map, and they charge about \$100 to survey a small lot. In that area of the country, surveyors also make the lowest wages. I think there is a connection.

Michael Stanton, P.L.S.

RECORD OF SURVEY DEBATE

It would benefit the surveying profession to support legislation that would allow the County Surveyor to use the monument preservation fund money to pay for examining, processing and preparing Records of Survey and Corner Records. Philosophically, Records of Survey and Corner Records are definitely a form of monumentation preservation by virtue of the fact that existing monuments are shown along with their relationship to new monuments. The new monument becomes a witness to the existing record monument. The real benefactor of the Record of Survey is not the owner of the property being surveyed. Once the corners are set and a sketch delivered to the property owner what else does he or she need? The property is marked. However, subsequent surveyors now have a record to base their work on. Once a difficult boundary is resolved and a record filed, additional surveys in the area become less difficult and less expensive to perform. The public is the real benefactor in this case and should share in the cost. This sharing can be done via the monument preservation fund. Records are the life blood of the surveying profession. We must take every step necessary to see



Joyce Setty, Paul Fredrickson and Miguel Benevides from California State University, Fresno, receive their CLSA scholarships from President Joseph Betit.

that they are maintained for the good of the profession and the benefit of the public.

Paul A. Cuomo, P.L.S., Retired

ON THE CALIFORNIA SURVEYOR

This is my very first letter to The California Surveyor. I have been an avid reader for years, and after having just completed the Summer 1993 edition, I just felt like writing down a few thoughts.

In the "Letters to the Editor" section, I noticed a fine letter from Jim Dorsey and another from Brett Jefferson; still another one from George Shambeck, a colleague and friend: and behold, a letter from Rich Ray, not only a colleague but a very good friend.

Then came the articles! I enjoyed the well-written, intelligent, yea even elegant WHOSE VIEW IS IT ANYWAY, by my good friend Mike Pallamary. Mike is a lot more than a professional surveyor; he is a teacher.

I was fascinated by Michael McGee's TIDAL WATER BOUNDARIES. I read the article not only from the surveyor's point of view, but from that of the "Title-Man," (is there such a creature anymore?) Mention Tidal Problems to a so-called "title-person" nowadays and you will get the same reaction as Count Dracula before a crucifix!

It's a shame, really, that the once excellent title industry is now more concerned with speed, production, and "easy" searches. Alas.

Anyway, congratulations to you, Tom, for the wonderful job you are doing as Editor of "our" magazine. Keep it up.

Wishing you, your staff, and everybody connected to The California Surveyor and CLSA, the very best of luck and success.

Jack C. Wilcox,
Orange County Chapter

CSU FRESNO

Thank you for your scholarship contribution for 4-year Surveying majors at the 32nd Annual CSU, Fresno Surveying Engineering Conference. We took photographs of presenters and winners as you will remember. Enclosed you will find the picture of your representative, Joseph Betit and your scholarship winners. Please keep the photograph and share it with your family, colleagues and friends. Your support does make a difference.

Based upon current tabulations, we have graduated 402 surveying majors at CSU, Fresno since the inception of the program in 1971. This is evidence that we are slowly but inexorably changing the face of the surveying profession in the golden state.

This has been a difficult year. State budget uncertainties continue to cause some discomfort. As part of the CSU, Fresno effort to deal with lean budgets, a campus wide program appraisal was conducted during the 1992-1993 school year. **Surveying Engineering was the top ranked BS degree program on Campus.** You played a key role in the appraisal process by supporting us. Evidence of your support was woven into our appraisal document at every possible opportunity. **Thank you!**

We will be looking forward to your continued support at the 33rd Annual CSU, Fresno Surveying Engineering Conference on January 29-30, 1994 at the Fresno Holiday Inn Centre Plaza. You should be hearing from us within a few months as we begin the pre-conference push. Have a great summer.

James K. Crossfield, P.L.S., Ph.D.
Coordinator, Surveying Engineering
CSU, Fresno

■ GIS TASK FORCE

The Report of the Geographic Information Task Force, established by AB 429 (1991) and Governor Wilson's Executive Order W-22-92 is complete.

I believe this is a very important report for California that will guide the State's and the nation's future use of geographic information. If its recommendations are implemented, we will have taken some important steps toward rationalizing the use of geographic information in California.

Copies of the Geographic Information Task Force Report are available for a nominal cost of \$3.00 to cover postage and handling.

Check should be made payable to: State of California (\$3.00 total) and mailed to:

Governor's Office
Office of Planning & Research
Attn: Terry Wheeler
1400 Tenth Street
Sacramento, CA 95814
or contact Ben Williams at
(916) 322-3170

■ APPROVED PLATS

This letter is to inform you of cadastral survey plats approved by the Chief, Cadastral Surveyor for California (see listing below) during the second quarter of fiscal year 1993 (January 1, 1993 through March 31, 1993).

These plats are now on file in the Survey Records Office, Bureau of Land Management, California State Office, 2800 Cottage Way, Room E-2841, Sacramento, California 95825

You may circulate this letter among your membership, as well as publish it in your bulletin if you so desire.

Clifford A. Robinson
Chief, Branch of Cadastral Survey ⊕

TP/RG/MER	Approval Date	Type of Survey/Plat
T. 15 N., R. 8 W., MDM	01/05/93	Dependent Resurvey
T. 44 N., R. 6 E., MDM	01/06/93	Supplemental Plat
T. 16 N., R. 10 W., MDM	01/19/93	Dependent Resurvey & Subdivision
T. 10 N., R. 8 E., HM	01/26/93	Dependent Resurvey & Metes-and-Bounds Survey
T. 8 N., R. 8 E., MDM	02/10/93	Supplemental Plat
T. 15 N., R. 9 W., MDM	02/22/93	Dependent Resurvey & Subdivision
T. 15 N., R. 16 E., MDM	03/03/93	Dependent Resurvey & Metes-and-Bounds Survey
T. 16 N., R. 16 E., MDM	03/03/93	Dependent Resurvey & Metes-and-Bounds Survey
T. 16 N., R. 18 E., MDM	03/09/93	Dependent Resurvey & Subdivision



From the President -Elect

The Record of Survey - Will It Die or Be Revived?

By Kurtis K. Hoehn, P.L.S.

I have just finished reading the Summer 1993 issue of the California Surveyor. In that issue there is, an article by Tom Mastin on the present state of the record of survey and its possible demise.

In my position as President-Elect, I have had the opportunity this year to visit quite a few of the chapters around the state. By doing this I have hoped to better understand how people feel about some of the issues confronting CLSA at this time. One of those issues is the infamous "Record of Survey." I come from a county that has spoiled surveyors to expect their records of survey to be recorded with minimal effort on their part (Thanks to the county surveyor and his staff). With this in mind, I go to other areas, maybe naively, expecting something of the same from areas in other parts of the state. Unfortunately, all is not as it seems to be in utopia.

But wait, who is at fault here for the problem areas? Is it the checking agencies with their exotic checking fees and policies, or is it the private surveyors with their attitudes of "My survey is perfect and does not need to be checked, so just record it" to the blank maps that are submitted saying "Tell me what is wrong with this map so I can get it recorded" and then get paid

for doing my job, even though the checking agency did the job for me.

I have seen how some agencies and the private surveying community can work together and get the checking fee lowered to a "reasonable" amount (both in time and money). This has to do with the private surveyors submitting all backup data, calculations, documents, record maps and anything else that can be helpful for checking purposes. All this data is ultimately given back to the surveyor. So, no muss, no fuss, right? Wrong! Unfortunately I made this comment at a chapter I was at and didn't necessarily get yes answers from everyone. This was, needless to say, a little disappointing to me.

While I seem to be ripping the private surveyors a lot, from my vantage point there are also many agencies who seem to believe that any type of checking process they can put the licensed individual through is an open invitation for a blank check. This type of attitude is ludicrous. Are private surveyors to pay for the many agencies that have inexperienced staff or who want to make sure the north arrow is in the right corner. I had an agency try to get me to put the mapping angle on my record of survey. Was this the intent of the ROS? I don't think so.

The days of the \$5.00 record of survey is long gone. This is due mainly to the cost of doing business in an inflation riddled world. But who is at fault for where the record of survey has gone? Could we, being the private practitioner and the public checking agency, have envisioned this would get so out of hand? Who would have thought that a deposit to check a simple record of survey would be in the area of \$1,500. Who is really at fault for this? Is it the checking agency or local governments who want to show they are the rulers or is it the surveyors

National News

WALTER S. DIX, Surveyor

and/or engineers licensed to survey who have a "I make no mistakes" or a "I don't know what to do, so let them tell me" attitude. Maybe, just maybe, it's both! What a novel idea.

We are now being told that counties are being held liable for the checking of a record of survey. This decision has been handed down in a court case in the San Bernardino area. While I do not know all the particulars at this time, I am concerned to what extent the counties will feel they have to go to absolve themselves of possible liability judgements. What else? Now the records of survey will have remark after remark concerning how a boundary was interpreted and placed on the map. Who really gets to sign the map and who is really ultimately responsible for its content?

The whole idea of a record of survey that is acceptable to all (and not being a corner record) seems to be a tough pill to swallow. Both sides must either learn to swallow or we'll both choke and no one will win. Then the record of survey will die. The public agencies and private surveyor both must compromise to some extent for the record of survey to survive. Corner records have become an alternative but not a solution.

If we, as an organization, expect to resolve this deficiency, then we need to work with the agencies, educate them about the methods we, as surveyors, use, and come up with a solution that is acceptable to all. This also means the agencies that are checking our maps for us must come down from their golden towers and work with the profession. As the editor for the California Surveyor so amply put it, "...as the record of survey dies, so does our profession."

Walter S. Dix, 94, a retired surveyor who had worked for the Tennessee Valley Authority, died June 13 at Washington Hospital Center after a heart attack.

Mr. Dix, who lived in Washington, was born in England. He came to the United States as a child and grew up in Toledo. As a young man he worked for R.H. Randall & Co., Geodetic and Topographic Engineers in Toledo, then in 1935 joined the staff of the Tennessee Valley Authority. He was assigned in Washington shortly thereafter to work with the U.S. Geological Survey on coordinating mapping activities for the

TVA region. He retired from the TVA in the early 1960's.

Mr. Dix was an expert in the use of photogrammetric techniques to produce accurate and large-scale maps.

He was founder and former president and executive secretary of the American Congress on Surveying and Mapping, and he had been editor of the ACSM Bulletin. He was a member of the American Society of Photogrammetry and Remote Sensing and the American Society of Civil Engineers.

His wife, Violet Latil Dix, died in the early 1970's. There are no immediate survivors.

NOTICE TO OUR READERS

Virtually all of the Coast and Geodetic Survey's offices located in Rockville, Maryland, have now been relocated to new facilities in Silver Spring, Maryland. Following is a listing for some of the new C&GS telephone numbers which are of special interest to our readers.

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Ocean Resources Cns & Asmt,

301-713-2989

Ocean & Coastal Resources Mgt,

301-713-3155

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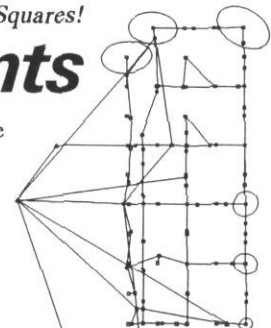
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Corner Monuments and Monuments at Corners

A Question of Title and Location

By Chuck Karayan, P.L.S.

Within the surveying profession today, there is a rising movement to accept monuments established subsequent to the initial conveyance as "the true corners which they purport to represent." The assertion is that, if the surveyor followed appropriate methodology in establishing a monument where none had existed prior thereto and the quantum of error is equal to or less than the applicable standards in effect at the time, the monument should be given the dignity of an original (corner) monument.

This movement has actually been "growing" for quite some time but has only recently come to general attention. The thought is appealing to some because they mistakenly believe they will not need to "prove up" the monuments which they find. This is not so. Application of the theory necessitates a thorough survey; otherwise, the surveyor could not determine that a monument was or was not within the locus of applicable accuracy/rectangularity/position. To others, the theory is appealing due to its "practicality" and apparent "reasonableness." The theory gains further credibility from the professional stature of its proponents.

Care must be taken to distinguish between the corner (of a land title boundary) and the monument (established/intended to mark the corner location). The terms "corner" and "monument" are not interchangeable. A "corner" is the common end of two boundary lines which run at an angle with each other.¹ A "monument" is a physical object which helps to establish the location of the line called.¹ Although corners do not have a material existence, they are not "mere theory." Although monuments may be existing, durable, and identifiable, they do not gain "instant credibility" because prior to their establishment no surveyor had marked the true corner which they purport to represent. The essence of this movement is that under the stated conditions a "monument" (other than

one contemplated by the parties at the time of original conveyance) can and will become the "corner" common to the instant parcel and its adjoiners. If the proffered theory is correct, one of two conditions must pertain: (a) "corners" are not created until monumented; or (b) although created, "corners" have no location until monumented.

Leaving aside (for the moment) the existence of, or call for, "monuments," the "description must be sufficiently certain to distinguish the land intended to be conveyed from all other land . . ." ² If the description lacks this specificity (exclusivity), the attempted conveyance is void for want of certainty. However, "an allotment made by reference to a plan . . . , although none of the boundary lines have been actually run or located, will be sufficient . . ." ³ because "boundary lines may be indicated by course and distance as well as by monuments, or by both . . ." ⁴ From the above, it can be seen that boundaries can be created by plat, metes, or bounds, provided that the calls are "certain." Since the boundary lines are sufficient, although not actually run or located, the "corners" (the common ends of two boundary lines) are created by the act of conveyance (and/or plat recordation) without regard to monumentation. The first condition, "(a)," does not pertain. "Corners" do not need "monuments" in order to have existence.

Leaving aside (for the moment) the call for monuments, let us look at location being defined by "monuments" set subsequent to the initial conveyance and not within the contemplation of the parties. The Statute of Frauds is intended to assure "the quieting of men's estates." If location is not "certain" prior to the establishment of monuments, there cannot be a quiet title. "To assume that a hitherto un-called-for monument . . . is acceptable for the control of line is to assume too much . . ." ⁵ ". . . Recitals in deeds . . . establish the extent (boundaries) of the

property . . . (and) . . . the location . . ." ⁶ Therefore, ". . . the purchaser is entitled to . . . location . . . according to the plan" ⁷ unless the conveyance contains a "more certain" description.

Leaving aside (for the moment) the argument against the proffered theory, let us look at its application within the context of this theory. Assume that a surveyor had, at some earlier time, established a monument which purported to be the corner in question but which is now missing; and assume further that the quantum of survey error in so doing did not exceed the locus of appropriate standards of accuracy/rectangularity/position in effect at that time: The present surveyor is then faced with a new question: At which location should the new monument be established? The location prior to initial monumentation? Or the location of initial monumentation? If the answer is the former, then "corners" jump between their location as defined by the written description and their location as defined by a monument (intended/assumed to be at the "written"

This movement has actually been "growing" for quite some time but has only recently come to general attention.

location). Presumably, this jump is not limited as to its frequency but is limited to the acceptable locus; that is, the "corner" remains fixed—but we will call as the "corner" that extent "monument" first established within the acceptable locus. If the answer is the latter and the new monument likewise is in error (but within the acceptable locus) "corners" can creep to limitless dimensions. In either event, we would deny the owner any definiteness (certainty) of boundary or location. The second condition, "(b)," does not pertain. The location of "corners" is not, per se, dependent upon the location of "monuments."

A rephrasing of the question may help to clarify the solution. The true question to be asked is: Is this a "corner monument" or a "monument" intended to be at a "corner?" When title to land is transferred, employing a de-

scription which calls for monuments, the "corners" are created within the "monuments" (even if the monuments are not in their called-for locations).⁸ The "monuments are the "corners" which they purport to represent; that is, they are "corner monuments." ". . . In surveying terminology, the term original monument is applied . . . Other monuments are not original monuments . . ."⁹ Monuments, other than "corner (original) monuments," are established to indicate where, in the exercise of professional judgment, a surveyor believes a particular corner is located. Such monuments gain their credibility by persuading an open mind that they properly and correctly establish the boundary (location). ". . . only original monuments control . . . location."⁹

This is not to say that there are no exceptions to the general rule. Two areas of concern deserve comment. First, where the parties accept, as controlling monuments set subsequent to the initial conveyance, they will be so bound. Examples could be: where the survey was "back-ordered;" where the parties entered into a boundary-line agreement; even (under limited conditions) where the parties "shook hands" on an adopted monument/line. Second, where the public (generally-surveyors) have accepted and used, for many years, a monument which cannot be proven wrong, it will be given the dignity of the original corner monument.¹⁰ This is the rule of common report, and its application would be inappropriate where there is sufficient evidence to prove that the monument does not occupy the true corner position.

As with all aspects of the practice of surveying, the professional assumes ultimate responsibility. If a "Brass Cap" in a monument well is accepted and it is shown that the local authority did not follow appropriate methodology, the professional cannot escape responsibility because the error was caused by others. So, too, with a line-of-reasoning. If others, regardless of their professional stature, advocate concepts which are not in conformity with the rules of law, the professional cannot escape responsibility resulting from adopting such (erroneous) advocacy.

Our founding fathers provided that no person should be deprived of property without the due process of law.¹¹ "The position of a tract of land . . . is absolutely fixed . . . Under fundamen-

tal law, the corners are unchangeable."¹² "The boundary line of a . . . grant of land may not be changed by a survey or resurvey made . . . after . . . the land was granted . . ."¹³ Generally, land owners are not bound by surveyor error (unless they intend to be so bound). CAVEAT SURVEYUS.

Footnotes

- ¹ *Black's Law Dictionary*, 5th Ed. (West Publishing Co St. Paul, Minn.).
- ² R.G. Patton, author of: *Patton on Titles*.
- ³ *Hancoy Holding Co. vs Lambright*, 101 F1 128, 133 So 631.
- ⁴ 12 Am Jur2 Boundaries § 10(1).
- ⁵ *Writing Legal Descriptions*, G.H. Wattles (G.H. Wattles—Orange, Cal.).
- ⁶ 12 Am Jur2 Boundaries § 101 note 17.
- ⁷ *Watrous vs Morrisons*, 33 F1 261, 14 So 805.
- ⁸ *Cragin vs Powell*, 128 US 691 (1888).
- ⁹ *Evidence and Procedures for Boundary Location*, Brown & Eldridge (J. Wiley & Sons—N.Y.a.).
- ¹⁰ *Boardman vs Reed*, 31 US 328 (1832).
- ¹¹ U.S. Constitution, 5th Amendment.
- ¹² BLM Technical Bulletin #6, § 6-15(1).
- ¹³ *Kean vs Calument Canal & Improv. Co.*, 190 US 452.

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How I Spent My Summer Vacation

Continued from Page 6

along. From these are those surveyors who are making the effort to improve our lot by being big picture people and getting those outside the profession excited about what the profession can do for society in the next century. These are the people that need our support. More than support we need to listen to them with an objective ear and believe what they say until proven otherwise. Support can be shown by joining and being active in professional organizations (this is specifically a plug for the California Land Surveyors Association which has some of those individuals that work so hard at promoting the profession).

If you don't believe the direction the profession is going is the correct one, then become involved in the Association so that your voice is heard. Remember, a profession is like a civilization; it can advance or it can decline, but it can't stand still. So next time you think about your summer vacation, remember the profession that got you that vacation, and think about the vacation you would rather be on. ⊕

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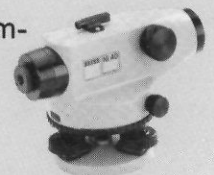
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How Many Monuments Are Enough?

A Question of Uncertainty and Negligence

By Chuck Karayan, P.L.S.

Surveying is the artful application of science. The "ultimate" science is mathematics, but mensuration is an art. Surveying is becoming the victim of myosis. Due to our near-sightedness, we fail to distinguish between human inability to monument a corner without uncertainty and civil liability for negligently monumenting a corner incorrectly.

As scientists, we know that mensuration is a series of observations, limited by the humans who make them. Determination of distance, as an example, depends not only upon the equipment and procedures employed but also upon the empirical observations of the surveyor. Given that a length is not "known" until the surveyor measures it and given that human observa-

tion (even through machinery) contains inherent error, we can never "know" a length; we can only state a

The second surveyor must have believed either that his measurement was absolutely correct or more nearly correct.

value in terms of the probability (and/or the magnitude) of error. As

scientists, we know that none of us can "prove" our measurements—let alone repeat them; we can only use equipment and procedures which will persuade an unbiased mind that they are more likely "right" than "wrong."

Many years ago, I found an old 2 x 2 hub. Along with other memorabilia, that hub decorates my office and it still has the tacks and brass tags of two surveyors. The tags are only 0.08 feet apart. Generally, either both surveyors were "wrong" or both were "right." If both are "wrong," neither should have been set. If both are "right," the second should not have been set. The second surveyor must have believed either that his measurement was "absolutely correct" or "more nearly correct." While it is possible that the first is true, no one could possibly know that it is true. In order to "know" that the second possibility is true, the accuracy and precision of the survey must have yielded a probable error of position less than 0.02 feet (a highly unlikely condition). This is the thought process that results in three iron pipes, a brass cap and two rods all purporting to be the same corner.

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Short of a court order upholding your survey, what more secure space could you be in other than the fact that another surveyor has independently come to substantially the same point? In order to accomplish this "agreement amongst surveyors," you must: (a) Say what you do: (b) Do what you say. When a subsequent survey calls an existing monument NO.01—E0.03 (as an example), there is no accusation of wrong. There is, however, a validation. According to *Black's Law Dictionary* (West Publishing Company, St. Paul, Minnesota), a monument is a physical object which helps to establish the location of a survey line. The existing monument, when honestly interrelated, serves such a purpose.

The myosis of surveying must not be allowed to blind us to the difference between error and negligence. Error is present in all surveys. Negligence exists (in a legal sense) when the surveyor fails to act as a reasonable and prudent surveyor would have acted under the same, or similar, circumstances or when the surveyor fails to meet the standard of performance commonly expected of a competent surveyor. "Absolute correctness" is *not*

the measure by which a surveyor is judged because it is not "known;" rather, the standards of accuracy/rectangularity/position established by the profession (generally, your state society) are the measure of negligence. Given that a monument exists NO.01—E0.03, as in the above example, and assuming (*arguendo*) that such a failing was absolutely correct — absent unique circumstances — there is no professional liability for such error.

Perhaps the question that should be asked is: What purpose is served, what need is fulfilled by an additional monument? Assuming that your deter-

mination of location is "absolutely correct" and that the existing monument is within the locus of appropriate accuracy/rectangularity/position, the establishment of an additional monument can only serve to hold surveying up to ridicule in the uneducated minds of other professions and the public. It will make surveying appear to be less accurate/precise than it is.

This is not to suggest that if the existing monument is beyond the "acceptable locus" and special conditions exist that you *should not* establish an

Continued on Page 17



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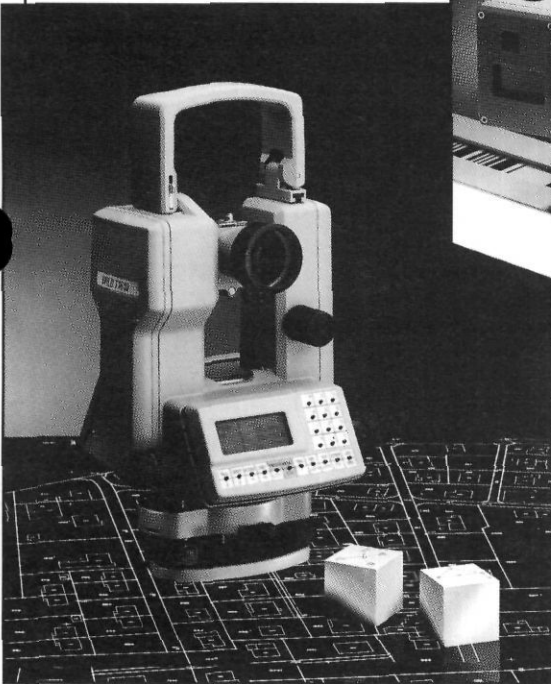
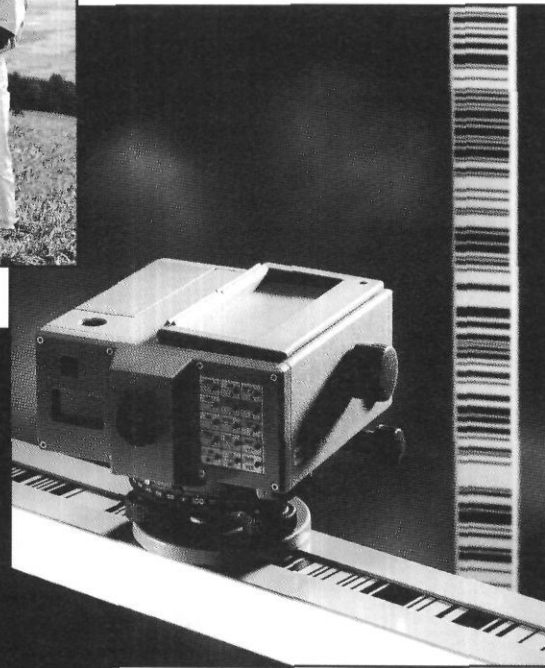
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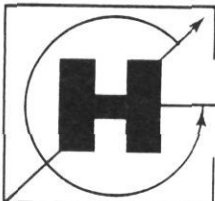
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When Does A Boundary Monument Represent A Deed Corner?

By Doyle G. Abrahamson

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Abstract. This paper addresses procedures and established precedents for determining when a boundary monument represents a deed corner. Documents supporting the position that a boundary monument, once set using acceptable practices, procedures, and accuracies, marks the location of a deed corner include acts of Congress, the General Land Office/Bureau of Land Management (GLO/BLM) survey manuals, and numerous court cases from many different states. When a surveyor encounters a monument that was set using acceptable practices, procedures, and accuracies, it must be held as the deed corner.

In this paper, I will attempt to answer several questions regarding the differences between a boundary monument and a deed corner not monumented at the time of the original conveyance or creation of a parcel of land. I will not address the establishment of a boundary corner by adverse possession or acquiescence. Specific questions to be addressed are

1. What are the basic guidelines for differentiating various types of surveys?
2. What is the definition of a deed corner?
3. Can a professional surveyor monument a deed corner on the ground exactly?
4. Is a deed corner a theoretical point, unable to be located on the ground?

Types of Surveys

Original Survey

An original survey is a survey in which corners have been established in the field by using the surveying process. Monuments are set marking the location of the corner and are called for in the original deed of conveyance. In most cases, these monuments control the location of the corners of the property conveyed, even though they may have been established using unaccept-

able surveying practices, procedures, and accuracies. An exception to this would be when the monument falls on land that is not owned by the grantor. In such cases, the monument will not control the boundaries of the property but would generally still be used for alignment purposes.

First Survey

A first survey is the first survey to establish the field location of a corner after the first deed of conveyance has been executed. For this monument to control the location of the deed corner, it must be established using acceptable surveying practices, procedures, and accuracies.

An example of a first survey would be where the center quarter corner of a section was not monumented at the time the United States issued a patent. For example, on the northeast quarter of a section after the patent or first deed of conveyance was issued, the private entry person had the southwest corner or the center quarter corner of the section surveyed and established. This survey would be the first survey. It is the first survey ever made to establish the corner in the field after the original deed of conveyance was executed. It is important that acceptable practices, procedures, and accuracies are followed when performing a first survey to protect property rights already established in the original deed of conveyance.

Dependent Resurvey

A dependent resurvey of a lost or obliterated corner is the process of reestablishing a corner established in an original or first survey, in its original position based on the best available evidence. When performing a dependent resurvey of a lost or obliterated corner, the surveyor has to keep in mind that what he or she is doing is setting a monument at the same field location where the corner was established in the original or first survey. This loca-

tion may not be exactly on a straight line or exactly at the deed called distance according to his or her measurements.

There does not seem to be much disagreement within the surveying profession on how to establish a survey corner for the first time. Problems seem to arise when a surveyor tries to use the procedures that are outlined for the original or first survey to do a resurvey of an already surveyed parcel of land. In my own experience, I have encountered numerous instances in the field where surveyors have set four or five boundary monuments within a one-foot radius of each other. All of these were to represent the same corner described in the deed.

Establishing a Deed Corner

In defining the difference between a deed corner and a monument, the 1973 BLM *Manual of Surveying Instruction* refers to a point established by the surveying process as a corner. Chapter 5, Section 4 of the manual states

The "corner" is a point determined by the surveying process; the "monument" is the object or physical structure that marks the point.

According to the manual's definition of corner, there is no corner until it has been established in the field by the surveying process. If the original monument was not set at the time of the original conveyance, the only thing the original deed of conveyance created was a procedure to establish the corner.

Federal statutes support the position that a deed corner is not established until a surveyor, using acceptable surveying practices, procedures, and accuracies, goes to the field and establishes the deed corner. Federal statutes concerning the subdivision of a section describe the procedures to be used to survey and establish the position of aliquot corners of a section in the field. The Act of February 11, 1805, entitled "An Act Concerning the Mode of Surveying the Public Lands of the United States," states that corners are to be located "as nearly as possible." The Act of April 5, 1832, addressing the lines of division of half-quarter sections, states that corners should be located "as nearly as may be." No reference is made to creating a corner by any means other than surveying.

Can a Surveyor Establish a Deed Corner Exactly?

BLM, federal statutes, and courts appear to agree that a deed corner does not exist until established in the field. It seems abundantly clear that our courts also agree that a surveyor can establish a deed corner exactly on the ground—even though we all know that no surveyor can set point exactly on a straight line or at the exact called-for distance. In fact, what the courts refer to is the surveyor's ability to establish the corner exactly on a straight line or at the exact called-for distance according to his or her measurements. The court's answer to the theoretical question, "Can a boundary corner, as defined in the deed, be monumented exactly on the ground?" is addressed by the following statements:

Wallace v. Hirsch, 142 Colo. 264, 350 P. 2d 560 (1960) and *Matthews v. Parker*, 163 Wash. 10, 299 P. 354, ...Just as the center of this section 34 can be and was later correctly established upon the ground...

Packsher v. Fuller, et al., 33 P. 875 (Wash., 1912), ...In other words, he fixed his starting point exactly in the middle of the line between the northeast corner of the section and the half-mile post west on the north line (north quarter corner), according to actual measurement upon the ground...

Rodenbaugh v. Egy, 128 P. 381 (Kan., 1912), ...It does not appear, nor is it seriously contended, that the surveyor or the court erred in determining the true division line between the NW 1/4 and the NE 1/4, Section 30...

Phillips v. Hink, 114 NW 699. (S. Dak., 1908), ...The subject of the method of surveying and ascertaining the center quarter section corner of the section was fully considered by the Supreme Court of Iowa in the analogous case of *Gerke v. Lucas*, 92 Iowa 79, 60 N.W. 583...

Oliver v. Oliver, 65 S. 373 (Ala., 1914), ...and we further find that the true location of the boundary line between the lands of the plaintiff and defendant, to wit, between the northwest quarter of the southwest quarter and the southwest quarter of the southwest quarter of section 34, township 24, and range 23, is the old Jim Cosby survey...

Is a Deed Corner a Theoretical Point?

Although the courts support the surveyor's ability to define a corner ex-

actly, they have determined that the most valid test of whether the surveyor performing the first survey or dependent resurvey of a lost or obliterated corner has established the true boundary corner is if the first or dependent resurvey was performed using acceptable practices, procedures, and accuracies acceptable at the time the survey was performed.

An excellent example is the case of *Stenzel v. Gallejos, et al.*, District Court, County of Weld, State of Colorado, Case No. 85CV997, Division II, involving the location of the center of a section. The court appointed a commissioner of the court to locate the disputed boundary and to file a report with the court. The plaintiffs and defendants both objected to the commissioner's report. A trial was held over the commissioner's report. After reviewing the evidentiary exhibits, arguments of counsel, and oral testimony of five Colorado licensed land surveyors, the court, by court order on August 24, 1988, accepted the report of the commissioner, Charles B. Jones, in total.

The commissioner's report that the court accepted in total contains the following statements:

As one can see by our Congressional acts, the only procedures mentioned to subdivide a section, is by field surveying and to locate the corners, "as nearly as may be" or "as nearly as possible."

There is no Congressional act or interpretation of a Congressional act by the GLO or the BLM which will allow one to subdivide a section by any other means than by surveying it out on the ground.

When evaluating the position of the pipe at the center corner, it must be evaluated based on accuracies required for the surveyor at the time it was monumented, and not based on the accuracies that we as surveyors are now capable of, or required to meet.

The position of the monument currently in place must be evaluated against the accuracy requirements at the time the monument was put in place, and not based on the accuracies necessary at any data thereafter. The adherence to any other procedure would create boundary disputes that would be unending.

In reviewing these acts of Congress and court cases, as well as the GLO and BLM manuals, it is clear that a corner

Continued on Page 22

How Many Monuments Are Enough?

Continued from Page 13

additional monument. It is to suggest that, when adequate (although inaccurate) monuments exist, from which establishment of your survey line is possible, additional monuments are superfluous technically. It is to suggest a practical criterion: if, under the circumstances (location, topography, etc.), another surveyor can readily locate the point that you have determined from "existing, durable, and identifiable" monumentation, there should be no new monument established. The same rationale would also apply beyond the "acceptable locus" if such appurtenances were viewed as witness or reference monuments.

Adoption and application of this standard necessitates professional judgment as to when the potential benefit outweighs the potential risk. The choice is yours. In the public interest and for your sake (not to mention mine), I hope that you choose not to harm our profession. CAVEAT SURVEYUS.

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FEMA Technical Advisory Committee Report

National Flood Insurance Program

By Wendy Lathrop, P.L.S.

Recently ACSM and ASPRS joined forces to create a technical advisory committee to the Federal Emergency Management Agency (FEMA) regarding mapping issues for the National Flood Insurance Program. We have long been aware of problems with the quality in the base mapping features of Flood Insurance Rate Maps (FIRMs). It is the objective of this committee to lend expertise to assist FEMA in correcting past problems and avoiding future difficulties.

FEMA has become aware of the need to accept information for future maps corrections even when the one who discovers the problem is not seeking a Letter of Map Correction or Letter of Map Amendment. Surveyors and others who use the FIRMs may find mislabeled streets, incorrect configuration of features, disparity between adjoining map panels, or other situations causing difficulty in using the map panels. This information, when documented as to the type of error and the source material for its correction, is valuable to FEMA. They have agreed to collect this data between the actual reprinting of the map panels in order to be sure corrections are complete.

Therefore, I ask your assistance in supplying documented needs for FIRM revisions to FEMA. The checklist enclosed has already been approved by FEMA and has been used successfully to report FIRM problems. Please distribute this checklist or make it available through your society publications. One checklist is to be used for one panel, although more than one problem can be reported on a form. Each report is to be accompanied by copies of documentation supporting the proposed changes and a full description of the problem.

Thank you for your interest. Concerns and questions can be directed to me at the address above, or to any of the committee members on the attached list. ⊕

CHECKLIST FOR REPORTING APPARENT F.I.R.M. MAPPING ERRORS

COMMUNITY NUMBER

PANEL NUMBER AND SUFFIX

STATE AND COUNTY

MUNICIPALITY (OR UN INCORPORATED AREA)

TYPE OF ERROR

- Label (street or water course name incorrect)
- Location Configuration (shape, size, or relation to other features)
- Non-continuous depiction of feature between adjoining panels
- Other (specify)

FEATURE IN ERROR

- Street
- Water course
- Municipal Boundary (Corporate Limits)
- Flood zone
- North arrow
- Scale Other (specify)

SOURCE OF DOCUMENTATION (provide copy with this checklist)
Copies of supporting documentation should contain:

- full name of document
- date (and last revision date)
- scale of the image provided
- name and address of individual, agency or firm which created the document

Type of document provided:

- | | | |
|--|------|-------|
| <input type="checkbox"/> USGS quadrangle map | date | scale |
| <input type="checkbox"/> Tax map | date | scale |
| <input type="checkbox"/> Aerial photo | date | scale |
| <input type="checkbox"/> Subdivision map | date | scale |
| <input type="checkbox"/> Survey | date | scale |
| <input type="checkbox"/> Other (specify) | date | scale |

All reports are to be accompanied by a copy of the portion of the FIRM in error and supporting documentation. Include the title block with the scale and the north arrow of the FIRM panel in question. Include a full description of what exactly the apparent discrepancy is and why the submitted additional data contains better information than what is represented on the NFIP maps.

Please send to: John Matticks, Assistant Administrator
Office of Risk Assessment, FIA
Federal Emergency Management Agency
500 C Street SW
Washington, DC 2472

Detailed description of FIRM problem (compared to documentation):
(attach additional sheets if necessary)

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Press Releases

Choice Computing Announces TrueCAD for Windows

Choice Computing of Los Altos, California, announced today the release of TrueCAD for Windows, a powerful new CAD package that takes full advantage of the Windows environment. TrueCAD is designed for use by Engineers, Surveyors, Planners, Architects, and others who need a full-featured, yet easy to use Windows based CAD package. TrueCAD was shown for the first time at COMDEX/Windows World in Atlanta.

TrueCAD is built on a proven CAD engine designed for speed. Its unique use of construction geometry allows the user to very quickly design and create complex entities. The intuitive interface lets even beginning CAD users be productive immediately. Through DXF Import and Export, drawings can be shared with other popular packages such as Word for Windows and Corel DRAW.

The TrueCAD engine can be driven via DDE from other applications, making it ideal for third party developers. Customized interfaces can be easily developed with Visual Basic and Visual C++ for vertical applications.

TrueCAD has the power of high-end packages costing thousands of dollars, but is priced at a reasonable \$395. Competitive upgrades are available. For further information, contact:

Sean Curry
Choice Computing
670 Belden Drive
Los Altos, CA 94022
1-800-828-2770
1-415-949-2615 (FAX)

New Trimble GPS Mapping and Data Collection Systems

Access Differential Broadcasts for Higher Accuracy

Sunnyvale, CA June 16, 1993—Trimble Navigation Ltd. announced today three new GPS mapping and data collection systems that utilize the real-time differential corrections from the U.S. Coast Guard's rapidly growing network of differ-

ential radio beacons. The new products will enable users to accurately navigate, record data and create maps with 2 to 5 meter accuracy in real-time.

The three systems are the Real-time Basic Plus system, the Real-time Professional system and the Real-time Prolite system. Each of these systems was created by joining Trimble's NavBeaconXL, a U. S. Coast Guard differential GPS beacon receiver, with a different GPS Pathfinder system.

GePoS for Universal Application

Thornwood, N.Y. - Carl Zeiss has introduced GePoS (Geodetic Positioning System), a high-performance universal program system for the processing of GPS (Global Positioning System) observations. It guides the user by menu control through all stages of processing the measuring job. From the planning to the required coordinate. The modular structure of GePoS permits the program system to be tailored to the user's specific requirements. All geodetic measuring procedures provided by GPS can be processed with GePoS. Available in DOS or UNIX operating systems.

Rec Elta 15 — A Total Station With Internal Recording

Thornwood, N.Y. - Carl Zeiss has added new budget-priced Rec Elta 15 to its full line of total stations which includes Rec Elta 2, Rec Elta 3, Rec Elta 4 and Rec Elta 5. To ensure fast, simple and productive measurement, the main benefits of the Rec Elta series were incorporated in the new Rec Elta 15 and optimized for the specific measurement and computation runs to be performed.

New Ni 30, Ni 40, and Ni 50 Automatic Levels

Thornwood, N.Y. - Carl Zeiss has introduced new Ni 30, Ni 40 and Ni 50 series of automatic levels. These instruments meet all requirements for accurate, fast and reliable measurement. Protected against extreme weather conditions and impact, these levels are suited for all types of leveling work. The ergonomic layout of their controls makes operation highly convenient and straightforward. The standard

deviations for 1 km of double leveling are ± 1.0 mm for the Ni 30, ± 2.0 mm for the Ni 40 and ± 3.0 mm for the Ni 50.

For more information on Zeiss surveying and photogrammetric products, contact the Surveying & Photogrammetry Division, Carl Zeiss, Inc., One Zeiss Drive, Thornwood, NY 10594. Call (914)681-7303, or fax (914)681-7472.

New Surveying Field Station From Nikon Combines Total Station, Data Recorder, Personal Computer In The Field

Melville, New York, June 11 — A compact instrument introduced by Nikon improves surveying productivity by combining a top-of-the-line surveying total station, data recorder, MS-DOS compatible computer, and comprehensive applications software in a single unit.

The Nikon Field Station 700 series enhances productivity by eliminating several steps in the process of taking field data and converting it to plots or maps. The system takes surveying measurements, records data electronically, and transmits the data to its own on-board computer or any compatible PC for processing, analysis, and output. The Field Station user is able to enhance accuracy, eliminate repeat measurements, and speed the field-to-finish process.

The easy-to-use Field Station, which features a dual-axis tilt sensor, is the first of its kind in the world. In front, it has a 256 x 80 pixel graphic display and an easy-to-use keyboard, while a rear display provides a 16-character x 4-line LCD with five keys. Both LCDs are backlit to ensure clear readability.

The Field Station also employs standard data cards that are inserted directly into card drives. ⊕

When Does A Boundary...

Continued from Page 17

has not been established until it has been located on the ground. Further, this corner does not represent a deed corner just because someone has set a monument to represent the corner. Before a corner represents a deed corner in a first or dependent resurvey, it must be established using acceptable practices, procedures, and accuracies.

In conducting a dependent resurvey, in my opinion, it is wrong for the individuals conducting the resurvey to accept the monument merely because "it's within a tenth of a foot of the true corner." Likewise, it is wrong for the surveyor to set a new monument because the existing monument is not "within a tenth of a foot" of his measurements. The surveyor, instead, needs to determine if the found monument was set using practices, procedures, and accuracies that were acceptable at the time the monument was set. If acceptable practices, procedures, and accuracies were followed to establish the found monument, the monument marks the true location of the corner, even though it may be some distance

away from the dimensions arrived at by the individual conducting the resurvey.

There can be no true corner at only one point located exactly on a straight line, since human beings are incapable of establishing a monument without error. If surveyors cannot accept work done by another surveyor because they believe that, according to their measurements, the original or first surveyor's monument is not exactly on a straight line, they should then use their same reasoning and turn in their land surveyor's registration to the state board of registration. The courts, when defining a surveyor's measurements as exact and accurate are only referring to a surveyor's measurements when he or she is establishing a corner for the first time.

Monuments that were established for corners of lots in a platted subdivision, corners of a metes and bounds description, or fractional corners of a section must be evaluated to see if they were established using practices, procedures, and accuracies acceptable at the time such monuments were established. If the previous conditions are

met, the monument represents the corner.

Conclusion

Conflicting survey monuments should not be set when a survey monument is found to mark the location of a deed corner and said survey monument was set using acceptable practices, procedures, and accuracies. The found survey monument in this case is the deed corner.

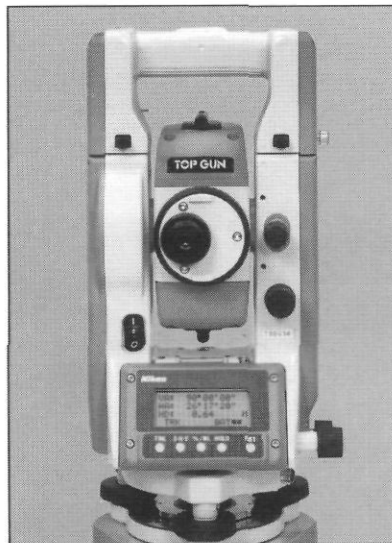
Acknowledgments

The assistance given to me by Mary Heinritz in writing this paper is greatly appreciated.

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- Phillips v. Hink*, 114 NW 699 (S.Dak.).
- Rodenbaugh v. Egy*, 128 P. 381 (Kan.).
- Stenzel v. Gallejos et al.*, District Court, County of Weld, State of Colorado, Case No. 85CV997, Division II.
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Here's Some Important Information About CLSA

The goal of the California Land Surveyors Association is to promote and enhance the profession of surveying, to promote the common good and welfare of its members, to promote and maintain the highest possible standards of professional ethics and practice, and to elevate the public's understanding of our profession. CLSA represents all land surveyors, whether they are employees or proprietors, whether in the public or the private sector.

Representation

- LOCAL: Your local chapter represents you in local issues. Through your chapter representative to the State Board of Directors, the individual member can direct the course CLSA will take.
- STATE: The surveyor is represented at the state level through an active legislative program, legislative advocate, and liaison with the State Board of Registration.
- REGIONAL: CLSA is an active member of the Western Federation of Professional Land Surveyors. This federation is composed of associations throughout the western United States and addresses regional issues.
- NATIONAL: Through institutional affiliation with the National Society of Professional Surveyors and the American Congress on Surveying and Mapping, CLSA is represented at the national level.

Education Opportunities

CLSA presents annual conferences which provide technical and business programs, as well as exhibits of the latest in surveying and computing technology. Seminars and workshops are presented to assist in continuing education. CLSA publishes the *California Surveyor* magazine and the *CLSA News* to keep the membership abreast of changing legislation, legal opinions, and other items which affect our profession.

Business and Professional Services

CLSA provides a fully staffed central office which is available to answer questions or to provide up-to-date referrals concerning legislation, educational opportunities, job opportunities, or other issues concerning our membership. Health and professional liability insurance programs are available to members.

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The above described database is not the same as the horizontal control previously made available to CLSA.

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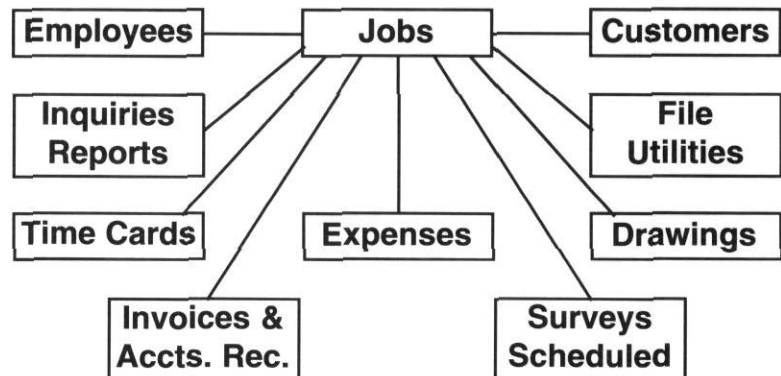
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