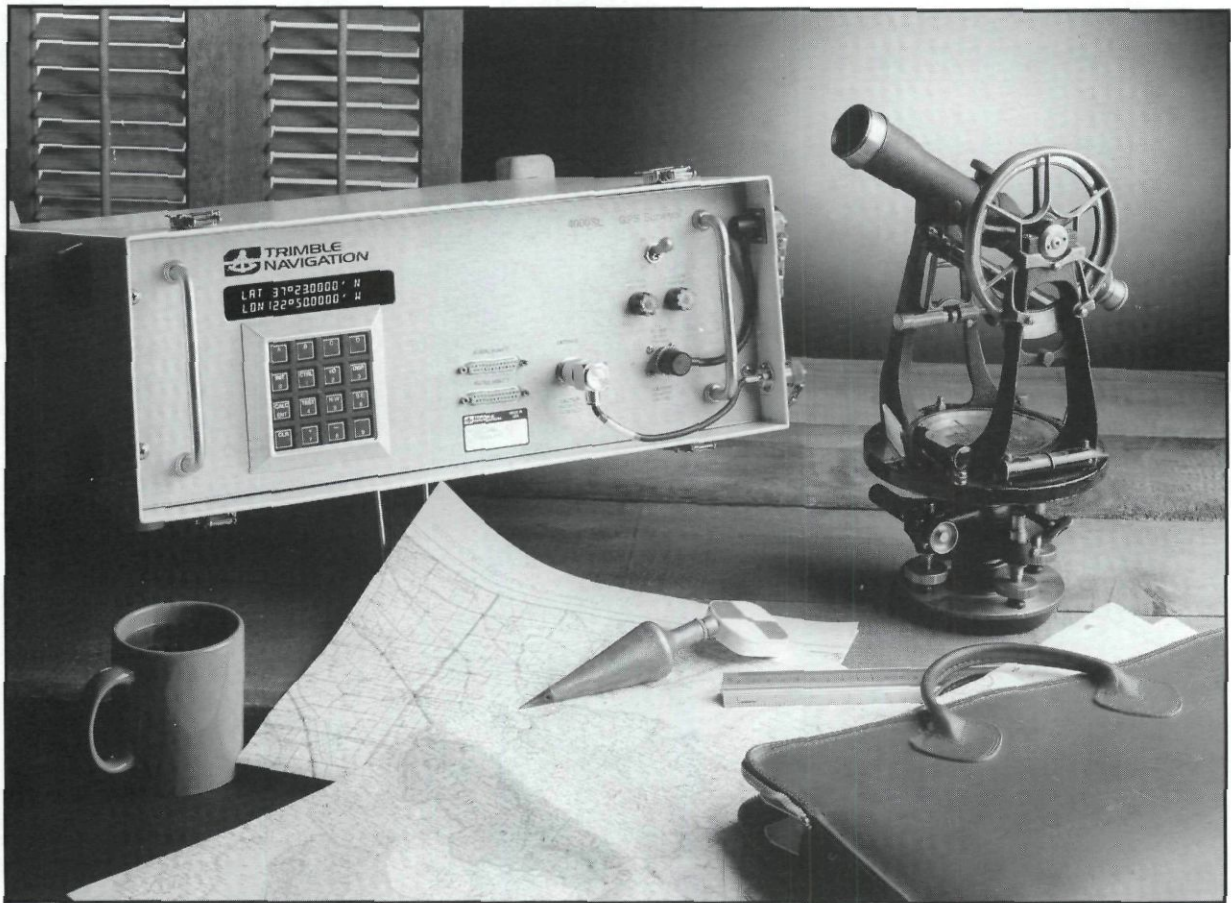


Institutional Affiliate of American Congress on Surveying and Mapping.

The California Surveyor



Trimble Navigation Introduces



The NEW 4000SL

- 40% Smaller
- 45% Lighter
- 30% Less Power
- Internal Datalogging
- Upgradeable to Multi Channels of L2
- Pre-programmable

Trimble Navigation, the world leader in GPS is pleased to introduce the 4000SL. The new 4000SL is the surveyor's answer to a lightweight, backpackable GPS system that can be operated in any environmental extreme. The SL can now be preprogrammed in the office for ease of operator use while in the field. Internal datalogging is accomplished

on an internal 1 MByte of solid state memory. This feature eliminates the need for less reliable cassette tapes or field computers. The 4000SL will be the GPS receiver that all others will be measured by. For further information, call 1-800-TRIMBLE.



585 No. Mary Ave., P.O. Box 3642
Sunnyvale, California 94088-3642
(408) 730-2900 (800) TRIMBLE
Telex 6713973 TRIMBLE UW

The California Surveyor

is 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 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 the Land Surveyors and their work."

PERSONNEL

OWNER

California Land Surveyors Association, Inc.

CENTRAL OFFICE

P.O. Box 9098, Santa Rosa, CA 95405-9990

EDITOR

Jeremy L. Evans, P.L.S.

ASSISTANT EDITORS

Christopher L. White, P.L.S.

Tom Mastin, P.L.S.

ADVERTISING

Commercial advertising is accepted by *The California Surveyor*. Advertising rates and information can be obtained by contacting CLSA Central Office, P.O. Box 9098, Santa Rosa, CA 95405, (707) 578-6016, Fax (707) 578-4406.

SUSTAINING MEMBERSHIP

Membership in the California Land Surveyors Association, Inc. as a sustaining member is open to any individual, company, or corporation who, by their interest in the land surveying profession, is desirous of supporting the purposes and objectives of this association. For information regarding sustaining membership, contact CLSA Central Office, P.O. Box 9098, Santa Rosa, CA 95405, (707) 578-6016, Fax (707) 578-4406.

EDITORIAL MATERIAL

All articles, reports, letters, and contributions are accepted and will be considered for publication regardless of the author's affiliation with the California Land Surveyors Association, Inc. Contributions submitted on floppy diskette medium is encouraged. For compatibility, disks should be 5¼ inch, MSDOS (IBM compatible) format. We can accept ASCII text files or word processor files from the following programs: WordPerfect, Microsoft Word, Windows Write, Multimate, DCA (Displaywrite III and IV), Wordstar, Xerox Writer, and Xywrite.

EDITOR

Jeremy L. Evans, P.L.S.

∕o Psomas & Associates

3187 Red Hill Avenue, Costa Mesa, CA 92626

NEXT DEADLINE DATE

Spring 1990.....February 10, 1990
Articles, reports, letters, etc., received after the above mentioned date will be considered for the next edition.

Cover Photo: CLSA member David Paul Johnson, P.L.S., running levels in Huntington Beach. Photo by Jim Carrico.

Opinions or assertions expressed in articles in this publication do not necessarily represent the official views of the Association.

Copyright © 1989 California Land Surveyors Association

Table of Contents

FEATURES

Meet CLSA's 1990 State Officers	6
Observations <i>by Brett K. Jefferson, P.L.S.</i>	8
How to Copyright Your Work	12
Costs of Surveys <i>by Larry Perry</i>	10
Most 'Nice-Guy' Managers Fail	14
How to Convince Your Boss	14
Diploma or Experience? <i>by Knud Hermansen</i>	16
How to Keep Those Customers Coming Back <i>by John R. Graham</i>	18
Raising the Surveying Standard <i>by Mary Feindt</i>	20
Found Untagged Monument <i>by Warren E. McDowell</i>	24
Getting Your Views Accepted <i>by Grank Grazian</i>	26
Study Shows Government Can Save \$300 Million by Contracting with Surveying, Mapping Firms	28
My Continuing Surveying Education	30
Before Becoming a Consultant	31
New Jersey Couple Funds "Phantom Lot"	31
Yes, There is a Difference Between a Plat and a Map	33
Do You Communicate Well?	33

DEPARTMENTS

President's Message	4
CLSA Officers and Board of Directors	4
From the Editor	5
Announcements	12
Application for Membership in ACSM	12
Application for Membership in CLSA	29
CLSA Publication Order Form	32
New Members	34

Index to Advertisers

Associated Consulting	8
AVCOM Corp.	17
BenchMark Co.	5
Bestor Engineers, Inc.	19
C&R Manufacturing	31
California Surveying & Drafting Supply, Inc.	21
Geotronics of North America	25
Hadco Instruments	31
Haselbach	11
Industrial Pipe and Steel	31
Kern Instruments	9
Lewis and Lewis	13, 15
McGlasson & Associates	7
Serv-Kap	14
T-Berry Electronics Corp.	8
Trimble Navigation	2
Western Surveying Instrument Co.	27
Zeiss Inc., Carl	35



President's Message

TALK ABOUT resistance to change, I still do not use a personal computer or have a work station on my desk. However, the day is near when I too will become a user.

The surveying profession is changing rapidly and dynamically. Us old guys are being constantly amazed by new technology and the way the new guys are eating it up. Data acquisition and retrieval is accomplished electronically. Maps are produced by computer aided drafting techniques. Huge surveys are adjusted by sophisticated software programs in the wink of an eye. GPS technology has lessened the gap between precision and accuracy. The use of State Plane Coordinates is becoming more prevalent by the private sector as it becomes more economical to expand control systems and densify any area with control stations.

There is no reason why any GIS/LIS cannot be based on real world values. If all surveys are based on the State Plane Coordinate system, no matter when it was performed or who it was performed by, these surveys will be permanently tied together. The true position of any boundary corner that has been tied properly to State Plane Coordinates will be perpetuated for eternity. (Perhaps some future manual of instructions for the Survey of the Public Lands of the United States will consider an alternative to double proportioning as a means of establishing a lost corner common to four townships, or a lost section corner in the interior of a township.) The cost of real estate in California has necessitated the need for tighter control of boundary location. The State Plane coordinate system fits this need. Where does CLSA fit into all of this? Perhaps our motto, "Educate, Communicate, and Legislate" can be put to use on this issue.

Educate the profession in the fundamentals and use of State Plane Coordinates. Promote the booklet on "NAD 83 Projection Tables" prepared by Ira Alexander. Support the programs at Fresno State and Cal Poly Pomona where much of this technology is being taught.

Communicate with local agencies who are preparing to build base maps of their jurisdictions and convince them that these projects must be based on actual field generated positions. Show how surveyor's have taken the lead in similar projects and, if necessary, provide reports showing the results of projects based on real world coordinates vs. those based on digitizing from quad sheets or assessor's maps.

Legislate by initiating changes and additions to the Land Surveyor's Act and Public Resource Code defining GIS/LIS as a function of the Professional Surveyor. Bring surveying into any legislation dealing with mapping.

The train is rolling. It's building up a head of steam. It's reaching across the continent. Will the Surveying Profession be the engine or the caboose?

Your President,
Paul A. Cuomo, L.S.

There is no reason why any GIS/LIS cannot be based on real world values. If all surveys are based on the State Plane Coordinate system, no matter when it was performed or who it was performed by, these surveys will be permanently tied together.

CLSA Officers

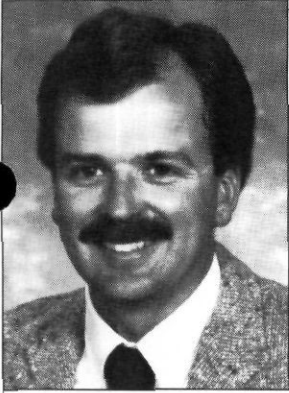
1989

- Paul A. Cuomo, P.L.S.**
President
- Howard W. Brunner, P.L.S.**
President-Elect
- Kenny L. Fargen, P.L.S.**
Secretary
- Lee C. Hennes, P.L.S.**
Treasurer
- Dorothy C. Calegari**
Executive Director
- Susan A. Jensen, P.L.S.**
Immediate Past President

Board of Directors

Chapter Representatives

- Bakersfield**
John F. Hoffman, P.L.S.
- Central Coast**
Joseph E. Waters, P.L.S.
Alan L. Volbrecht, P.L.S.
- Central Valley**
Douglas A. Potts, P.L.S.
- Channel Islands**
Gerald F. Hovell, P.L.S.
Louis E. Rutledge, P.L.S.
- East Bay**
William R. Alexander, P.L.S.
Harold B. Davis, P.L.S.
- Humboldt**
William M. Andrews, P.L.S.
- Lake/Mendocino**
Thomas M. Herman, P.L.S.
- Los Angeles**
Lloyd J. Cook, P.L.S.
Robert D. Hennon, P.L.S.
- Marin**
Lawrence P. Doyle, P.L.S.
- Monterey Bay**
George R. Dunbar, P.L.S.
Donald R. Snyder, P.L.S.
- Mother Lode**
Frederick W. Kett, P.L.S.
- Northern Counties**
Gary T. Lippincott, P.L.S.
- Orange County**
Kurtis K. Hoehn, P.L.S.
Lon H. Maddox, Jr., P.L.S.
Ellwood A. Oehlert, P.L.S.
Paul Baker, P.L.S.
Robert L. Ozibko, P.L.S.
Lawrence L. Truman, P.L.S.
- Riverside/San Bernardino**
Darrell T. Harness, P.L.S.
Alan Hillwig, P.L.S.
Ernest Pintor, P.L.S.
- Sacramento**
Phillip M. Mott, P.L.S.
- San Diego**
Don K. Nasland, P.L.S.
Gary A. Lintvedt, P.L.S.
Gene Gaddy, P.L.S.
Vincent Sincek, P.L.S.
- San Joaquin Valley**
Donald E. Watson, P.L.S.
- Santa Clara/San Mateo**
Paul W. Lamoreaux, Jr., P.L.S.
Billy Martin, P.L.S.
- Sonoma County**
Neal P. Campbell, P.L.S.
Bruce E. Jarvis, P.L.S.



From the Editor

IN 1972 the California Land Surveyor's Association passed resolution 72-1 resolving "that CLSA endorse and work to promote a

concept of compulsory continuing education . . . and accept our responsibility to take a position of leadership in defining, modifying and improving the proposed requirements and offer our services where appropriate in pursuing this goal." I think it's about time we started implementing the goals of this resolution.

I think most surveyor's support continuing education and the benefits it brings to the profession. But add the word compulsory to continuing education and the support begins to decline. You've heard all the excuses for not supporting compulsory continuing education. These excuses range from "We don't need it" to "There's nobody to administer it." The fact is, we do need it and CLSA should be the administrator.

The format for the compulsory continuing education is quite simple. Surveyor's would have to show a minimum number of continuing education credits every four years to renew their license. The curriculum would include not only the typical survey subjects, but also business, real property law, and other professional development classes (the curriculum could easily be based on a four-year survey program). Also included would be credit for teaching, attending state conferences, and holding office at the state or local chapter level. How many credits should be required every four years? How about the equivalent of twelve semester credits every four years? One college course a year isn't an overwhelming number and would fit almost everyone's schedule.

The credits would have to be distributed among the technical and non-technical courses to prevent someone from taking four "legal description" courses. Also some type of exam would be required at the end of every course for credit. No sleeping allowed! The courses could be taught in conjunction with Cal State Fresno, Cal Poly Pomona, Cal State Chico, and the various junior colleges around the state that offer surveying classes. The technical seminars presented by the various associations (CLSA, ACSM, etc.) would also be part of the curriculum.

Administering such a program would be an enormous task. Preparing and updating the curriculum, selecting and reviewing instructors, determining and keeping track of the continuing education units would all have to be done by the

administrator. And of course I'm prejudice towards CLSA handling

the administrative chores and reporting the CEU's to the Board of Registration at license renewal time.

I recently read where the state of Washington is contemplating mandatory retesting to renew a survey license. Their feeling is that continuing education doesn't go far enough in keeping the surveyors working at a professional level. I disagree with their feelings that continuing education isn't enough. Properly presented, continuing education can accomplish the needed goals. But unless we implement a well prepared curriculum soon, maybe retesting will become a reality in this state also!

Jeremy L. Evans, L.S.
Editor

Editor's Note: It has come to my attention that CLSA is in fact investigating the possibility of beginning a continuing education program. You can expect a questionnaire soon asking for your thoughts and comments. ⊕

. . . add the word compulsory to continuing education and the support begins to decline.

Serving The Southern California Surveyor With Our Two Locations



BenchMarkCo.
SURVEY INSTRUMENTS AND SUPPLIES
SALES • RENTAL • SERVICE



Competitive pricing throughout Southern California

Call Toll Free

1-800-992-7822

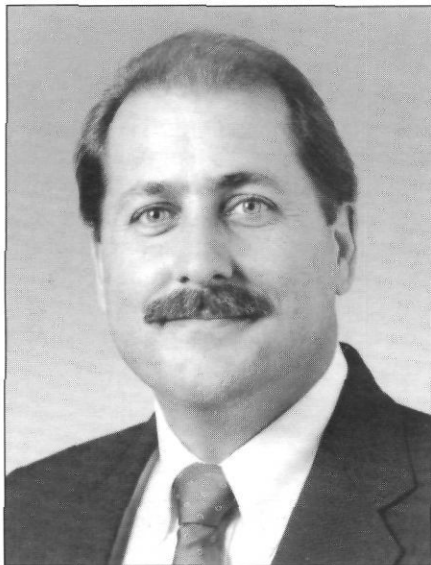
North San Diego County

1045 Linda Vista Dr.
San Marcos, CA
92069
(619) 727-0153

San Diego County

8898 Clairemont Mesa Blvd.
San Diego, CA
92123
(619) 278-7762

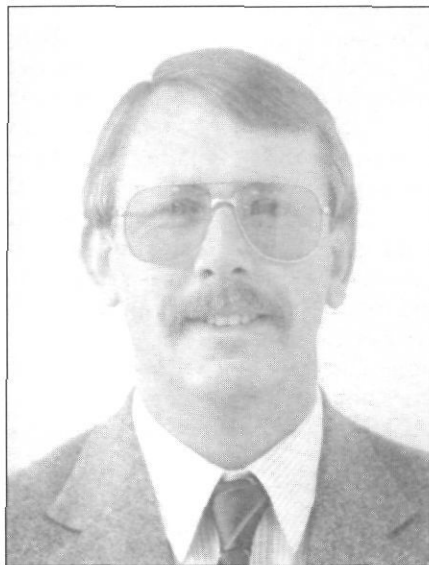
Meet CLSA's 1990 State Officers



Howard W. Brunner, P.L.S.
President

I am 43 years old, married, and have one daughter (Anne, 19 years old). I have practiced land surveying for 25 years, and have been licensed as a land surveyor since 1974. My experience is in private practice and county government. Eight and one-half years of my experience was with the County of Marin where I worked on the county survey crews as chairman, instrumentman, and party chief. Later I was transferred into the design section and worked on surveying and engineering projects, as well as acted as liaison between the field crews and office engineers. After this position, I was transferred into the land development section where I was responsible for all of the map checking and related functions charged to the County Surveyor by State laws and local ordinances. I have been President and Co-owner of two private firms in Marin and Sonoma Counties. I am currently Vice President and Co-owner of Ray Carlson & Associates Inc. in Santa Rosa, California, where we perform all types of land surveys. We are a 100 percent land surveying

CONTINUED ON PAGE 7

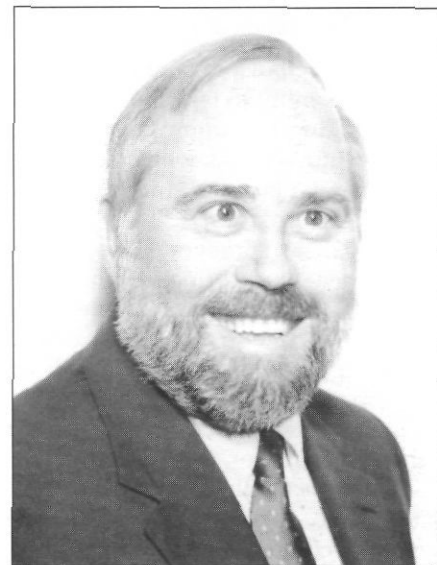


Kenny L. Fargen, P.L.S.
President-Elect

My education in surveying started in 1972 upon leaving the U.S. Army after my tour in Vietnam. I received my B.S. degree from California State University, Fresno, in Surveying and Photogrammetry in 1975. Two years of my experience has been with the surveying departments of two different Northern California counties. My wife and I founded Fargen Surveys Inc. in 1981 and my business experience began. Kathy, my wife, is a special education program specialist with the local elementary school district, and we have three children. I have made the progression through the Central Coast Chapter chairs to the Presidency twice.

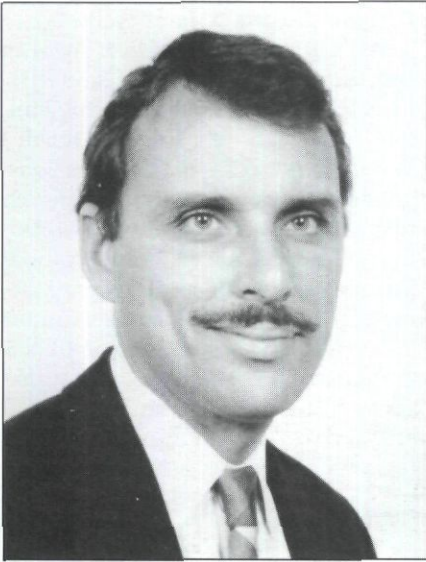
I have been involved in CLSA since my student days at Fresno and feel that personal involvement is necessary.

CLSA has a strong commitment on legislation and education, which is of vital importance, being the only voice that represents all surveyors. I would like to see CLSA grow through increased membership and continue to be a visible force in surveying. ⊕



Lee Hennes, P.L.S.
Vice President

I am a native Californian, and was raised and spent most of my life in the San Francisco Bay area. I have always loved the outdoors, and that love has dominated my recreational pursuits and professional choices. I graduated from the University of California at Berkeley with a degree in Forestry, after which I worked for the U.S. Forest Service as a researcher. I helped to develop and nationally implement a computerized wildlands management tool similar to a modern GIS. A convoluted career switch finally ended in my employment as a surveyor. I have owned my own business and worked as a survey manager in two large engineering firms. I am currently the Director of Surveying for Psomas and Associates in Santa Monica. I have served CLSA as its 1989 Treasurer and as a member of its Board of Directors for almost six years, during which I actively worked on the Legislative and Education Committees. I was an officer in the East Bay Chapter for three years. I am also a member of NSPS/ACSM and a National Committeeman for the Boy Scouts. ⊕



Joseph W. Betit, P.L.S.
Secretary

My surveying experience, from 1972 through 1981, was a mixture of private firms and the public sector in California and Alaska, including two cities — one in California, the other in Alaska — and two seasons with BLM-Alaska.

I was a co-owner of a surveying and soils engineering firm on the Monterey Peninsula from 1982 to 1986. I have been owner of Land Data Services Inc., a 100 percent surveying office, from 1986 to present.

My education includes an A.S. degree in Civil Engineering (Surveying) from Monterey Peninsula College (1975), and a B.S. in Surveying and Photogrammetry from California State University, Fresno (1981).

I am a member of CLSA, both state and local, as well as ACSM national. I have previously held positions as CLSA's Monterey Bay Chapter President, Secretary, Treasurer, and Chapter Representative. I currently hold a position in both CLSA's Legislative Committee and CLSA's Geographic Information System (GIS) Committee.

One of my major interests is the use

CONTINUED IN COLUMN THREE OF THIS PAGE



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

I was born and raised in Washington State, but I have resided in California since 1971. I began surveying in 1969, and graduated from California State University, Fresno, in 1975 with a degree in Surveying and Photogrammetry. I am presently Survey Manager for C.D.C. Engineering Inc. in Irvine.

During 1989, I served as Vice President of CLSA's Orange County Chapter, and I will be their 1990 Chapter President. I am also their Chapter Representative, and have served as such for three years. My previous positions at the Chapter level include Secretary and Treasurer. Other positions which I currently hold include: CLSA's State Chapter Activities Chairman, member of the Board of Directors for the California Foundation for Land Surveying Education, member of the State L.S. Exam Development Committee, and Expert Examiner for State L.S. Exam. ⊕

Brunner . . . CONTINUED

firm and do not provide engineering services. I have served as Secretary, President, and Chapter Representative for both Marin and Sonoma County Chapters of CLSA. I have also served on various committees at the State Board level of CLSA, including the Legislative Committee, and acted as Board of Registration liaison with Susan Jensen. I have held positions as CLSA's 1987 Treasurer, 1988 Secretary, 1989 President Elect, and served as Committee Chairman for the following committees: Workshop, Land Surveying Contract, and Brochure. In 1985, I served on the L.S. Exam Cut Off Score Committee for the State Board of Registration; in 1989 I chaired the L.S. Exam Item Writing Committee and served on the L.S. Exam Cut Off Score Committee. In October of 1989, I was appointed to the L.S./TAC of the State Board of Registration. I am a member of the Board of Directors of the Geysers Geothermal Association of Sonoma County. ⊕

Betit . . . CONTINUED

of computers by the small surveying firm. I have recently completed a seven-year process of complete integration of boundary survey (coordinate geometry), control survey (least squares network adjustment), and digital photogrammetric products through the use of Computer Aided Drafting. The final merged product is delivered on computer disk with hard copy from a multi-pen plotter without the use of hand drafting or hand annotation. Currently, I am in the process of learning to operate and program a newly installed GIS in order to link isolated local surveys into a common area wide database. ⊕

"RIGHT OF ENTRY" CARDS

The California Land Surveyors Association has prepared a field notebook insert of the surveyors' "Right of Entry" law, Section 846.5 of the State of California Civil Code and Section 8774 of the Business and Professions Code. This heavy duty, water resistant (varnished) card can be carried in the field book; handy for showing to property owners, as needed. Just hole punch it to fit your particular notebooks. To order your "Right of Entry" Cards, fill out the CLSA Publication Order Form, which can be found on Page 32 of this issue of *The California Surveyor*.



AFFORDABLE PORTABLE 2-WAY RADIOS

for security, maintenance,
emergency-response,
administration

- Powerful Range
- Metal Frame
- Metal Controls
- Multi-Channel
- Low Price
- Demo Program

Call toll-free or write:
T-Berry Electronics Corp.
15 Technology Drive
Fishers, IN 46038
1-800-648-8683

GPS SATELLITE POSITIONING SERVICES

- ★ Complete GPS Project Services from start to finish tailored to your needs
- ★ GPS and Geodetic computations
- ★ Training in GPS and geodetic field and office techniques
- ★ ISTAC GPS systems sales
- ★ Least Squares software systems sales
- ★ GPS survey applications
 - Geodetic network densification
 - Photogrammetric control
 - Mineral and Cadastral surveys
 - Engineering and Construction surveys
 - Deformation studies

ASSOCIATED CONSULTING INC.
2245 N. Decatur Blvd.
Las Vegas, Nevada 89108
(702) 647-9265

Observations

By Brett K. Jefferson, P.L.S.

OVER THE PAST few years I have noticed that a person can pick up just about any surveying journal or periodical and find an article focusing on the surveyor as a professional. We seem to be obsessed with our image, how to improve it and how it compares with other professionals (i.e. engineers). Even our laws imply some distinction between registration for engineers and licensing land surveyors.

People can and will change their minds. Through time, attitudes and opinions can be changed. All it takes is a preponderance of evidence. Well, I, for one, have changed my mind; not about the surveyor as a professional — I believe that is something which is earned by each individ-

ual, not by mere title — but regarding the surveyor and the future direction of the profession.

I used to maintain the "traditional" definition of a land surveyor. I thought that over here is a pile of engineers and over there is a pile of land surveyors, and n'er the twain shall meet. Making the decision to "catch up" on technology here at Fresno State has been a real eye-opening experience. In fact, my only reluctance to coming to school here was the degree name, "Surveying Engineering." I didn't want to be an engineer; I was interested in land surveying. Well, friends, I'm here to tell you that I was wrong.

There is a new breed of surveyor coming into our profession, and his or her presence is going to cause some change. Who is this person? He or she is the Surveying Engineer. Not a Civil Engineer with an emphasis in surveying, but a graduate en-

gineer majoring in the engineering discipline of surveying. I know what you are thinking, "Surveying as an engineering discipline?" Initially this thought disturbed me as well.

What is an engineer? He or she is an individual who applies scientific principles to solve practical problems. Isn't this what land surveyors do? What about celestial observations, geodetic surveying, electronic measuring devices, computer programming and data collectors, global positioning systems, intricate mathematical adjustment of observations and coordinates, and digital photogrammetry. We aren't just pounding sticks in the ground out there. Land surveyors can achieve the professional status they seek through rec-

ognition as a member of the engineering disciplines. By combining the piles, we will all become stronger. There is no reason for insecurities; electrical engineers don't practice civil en-

gineering, structural engineers don't practice mining engineering, and mechanical engineers don't practice surveying engineering.

How better to prepare surveyors for practice than with a degree including advanced mathematics, physics, programming, land/route surveying, survey computations, microcomputers, geodesy, instrumentation, CADD/CAM, GIS/LIS, economics, boundary law, geopositioning, and photogrammetry. This is a short list of the curriculum here at the Fresno program. Classes such as these qualify the graduate for an accredited degree in engineering. So why not call them "Surveying Engineers" and welcome them, for these are the individuals that will help us to redefine our image and carry the profession of Land Surveying into the future. ☺

*There is a new breed of
surveyor coming into
our profession, and his
or her presence is going
to cause some change.*

KERN AND THE MATTERHORN:

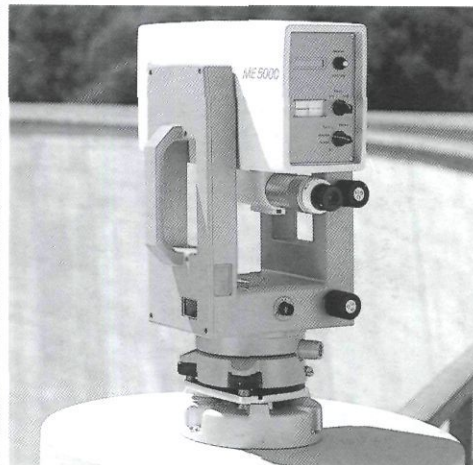
UNMISTAKABLY SWISS



100 years ago, Kern instruments were used to survey mountain tunnels through the Swiss Alps.

Today, Kern instruments are used to align radio telescopes tracking the pictorial conquest of the Universe.

Since its establishment in 1819 the name Kern has achieved the reputation of living up to the highest standards of Swiss precision.



Kern has traditionally developed and produced highest quality mechanical, optical and electronic surveying instrumentation, from the DKM1 to the E2, and recently—the ME 5000; the closest to the absolute distance!

**Kern: a company to focus on . . .
now and into the future.**

Kern Instruments, Inc.
Geneva Road, Brewster, NY 10509
Telephone: 914-279-5095
Telefax: 914-279-4102



KERN Swiss is part of the WILD LEITZ Group

WILD LEITZ

The Costs of Surveys

By Larry Perry

I WAS READING an article in a writer's magazine the other night and thought to myself that it's context was also pertinent to the surveying profession. I decided to attempt putting the context in an article for the surveying profession. I have used quite liberally from the message in the article, and attempted to maintain the texture and central idea as pertaining to the surveying profession. The surveying profession finds the relationship between the pricing of professional services and the image we want to project — that of being a professional — quite difficult. We find it much easier to establish the value of a rifle, boat, house, or truck than we do our services. Those articles we can touch and handle. But how do you weigh, taste, or handle a survey project?

Surveyors face this same question from the profession's side of the transaction. What do you charge for a lot survey, a section breakdown, or the platting of a subdivision? How much time will the research take? How long will it take to find the evidence so that you can begin your field work? Will the evidence found be verifiable with the research done in the office and field? Will the evidence found be acceptable? Will you have to do additional work to verify the data and, how much additional survey work and research will be required before you can actually begin the surveying on the client's project? And finally, how much is your time and talent worth? These are building block considerations that lead to the ultimate two questions: What is the survey project worth to the surveyor? What is the survey project worth to the client? Most surveyors, quite sensibly, would like to survey for the big money. But in the emotional drive to get out in the field and survey, and derive the best possible solution for

the project, surveyors frequently accept far less than big money for surveying. Surveying for small pay, or no pay, is self-defeating from so many viewpoints; the foremost among them, the need to make a decent living. But even more harmful is what this attitude does to the client's perception of the survey itself. People value what they pay for. The more they pay, the higher their regard for the purchase; and vice versa.

The surveying profession finds the relationship between the pricing of professional services and the image we want to project — that of being a professional — quite difficult.

The price that the surveyor sets for his or her work often influences the client's regard for that work. I once overheard a conversation during a construction project. The client was reviewing the work of a site survey, looking for the corners and control points set by the surveyor. After considerable searching, the corners and points were found. The contractor looked at the client and said "what do you expect for a hundred dollar survey?" Experience, expertise, skill, productivity, and acceptability were overshadowed by the price that the surveyor had sold himself for.

So what is a fair price for a survey project? Charging by the acre, corner, or monument is impractical; even establishing the fair value of the total project, survey, or plat is a challenge because the surveying projects are so variable as to the amount of research

and verification of points in the field. A surveyor may size up a survey assignment, consider it a "piece of cake," and quote a price based on a cut-and-dried survey-and-draw-it-up venture. However, when doing the field search or doing the required research in order to do the actual survey or plat, an unconsidered aspect of the undertaking may become apparent. Suddenly the time necessary to overcome these complications quadruple and the surveyor finds himself working at or below minimum wage. A surveyor's fee should meet one criterion: It should be high enough so that the client knows that he or she is dealing with a seasoned successful professional who can be expected to turn out a first-class surveying job. With a substantial investment in the outcome, the client has a vested interest in the success of the arrangement and is more likely to focus on the strengths, instead of looking for flaws in the final product.

Money also plays a vital role in establishing the image of success. It's the "If he's getting that much money, he must be good" syndrome. Money equates with success, success equates with money, and they both equate with acceptance. If you value your work, others are more likely to value it as well.

Doctors, lawyers, engineers and other professionals get paid for their experience and knowledge; why not surveyors? Academia is not the answer. Requiring any number of degrees will not give the surveyor the professional standing in society or the community until the surveyor acts, dresses and charges for services rendered like a professional.

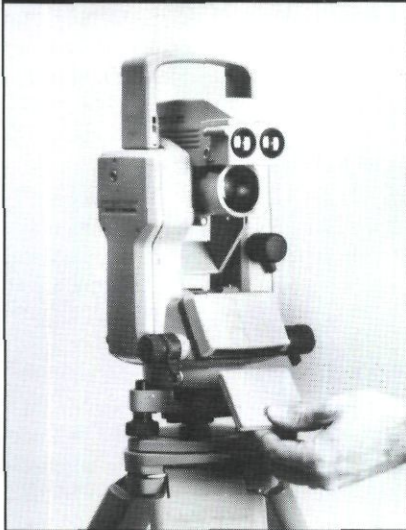
When a surveyor stakes out a building on a construction project does the surveyor receive the same monetary remuneration as the laborer that cleans up the site after construction is complete? When a lot survey is performed, does the surveyor get paid as much as the grading contrac-

CONTINUED ON PAGE 22

WILD[®]
HEERBRUGG ... "FIELD TO FINISH" SURVEYING
 ...with practice-tested performance features

T 1600 THEOMAT

**T1600 with DI1000
 Distomat and REC Module**



■ **Modular System**

Compatible with any Wild DISTOMAT and data terminal to make an electronic total station

■ **Instantly Ready To Measure**

Absolute angle-scanning system needs no time-wasting initialization

■ **ALL Key**

Press a single key to measure and record

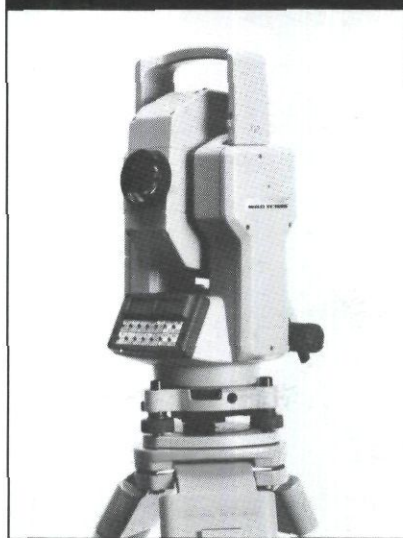
■ **Easy To Use**

Practice-tested colour-coded keyboard

■ **High Angle-Measuring Accuracy**

- Accurate single-face measurements
- Automatic compensation of circle eccentricity
- Standard deviation: 1.5"/0.5mgon

The TC1600



■ **Integrated EDM**

- Standard deviation: 3mm+2ppm
- 2km range to a single prism

**GRM 10 Plug-In
 REC Module**



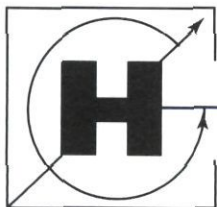
■ **Plug-In Data Module
 (REC-Module)**

- For about 500 data blocks
- Interchangeable
- Recorded data can be displayed

■ **WILDsoft IBM Compatible
 Software:**

- Traverse Calculations
- Electronic Data Collection
- Coordinate Geometry
- Automated Plotting
- Automated Contouring
- Roadway Design and Earthwork Volumes

FACTORY AUTHORIZED WILD[®] HEERBRUGG DEALER AND SERVICE
 Including In-house EDM & Total Station Repairs



HASELBACH

**SURVEYING
 INSTRUMENTS**

1447 Rollins Road
 Burlingame, California 94010
 In CA: (800) 462-8181
 (415) 348-7247

How to Copyright Your Work

The moment you create a work that is copyrightable, that work is automatically copyrighted without further action by you. However, if you "publish" the work, to maintain your copyright you must include three items on all copies of your work with which you are reasonably aware.

The three items are: 1) the copyright symbol (the small letter "c" in a circle) or the word "copyright" or the abbreviation "Copr."; 2) The year of the first publication of the work; 3) The name of the owner of copyright in the work. Example: Copyright 1976 John Doe.

Civil engineers and land surveyors who wish to register their copyright with the Federal Copyright Office should use Form VA. To obtain copies of Form VA, as well as other information about copyrights distributed by the Federal Copyright Office, you should contact the office at: Copyright Office, Library of Congress, Washington, D.C. 20059, (202) 287-9100.

Other documents which may be of interest include Circular R1 (*Copyright Basics*) and Circular R1e (*Copyright Registration Procedures*). ⊕

Interested in Joining Your National Association? . . .

Complete the form below to receive information about the American Congress on Surveying and Mapping.

Yes, I am interested in receiving information about ACSM. Please send information to:

Name _____

Address _____

City _____

State _____ Zip _____

Telephone _____

RETURN FORM TO:
ACSM Membership Department
210 Little Falls Street
Falls Church, Virginia 22046
703 241-2446

ANNOUNCEMENTS

INSTRUCTORS NEEDED

Professional Engineering Institute seeks qualified registered P.E.'s to teach evening review courses January-April for the Land Surveyor-In-Training, Land Surveyor P.E., and the Civil P.E. exams. Call Paulette, Professional Engineering Institute, at (415) 593-9731.

SONOMA CO. SURVEYORS SOUGHT

The California State Coastal Conservancy is seeking the services of licensed land surveyors in Sonoma County. Please send Statements of Qualification to: State Coastal Conservancy, 1330 Broadway, Suite 1100, Oakland, CA 94612, Attn: Prentiss Williams.

EQUIPMENT FOR SALE

Wild T1 Theodolites (2); Lietz TM 10C Theodolite; Topcon AT-F7 Auto Level; H.P. 3800 EDM; GA52B Schoenstedt locator; Metrotech utility line tracer; Wooden tripod; misc. rods and other survey equipment. Contact Jeff Andrews at (602) 242-6229.

MORE EQUIPMENT FOR SALE

ASI aerial camera mount for 500 EL/M, SWC, MK70 and MKW Hasselblad cameras. Was \$2600 new . . . Also, custom machined universal control field for ultra-close range stereometric mensuration. This 350mm x 350mm x 20mm aluminum base has a 10mm grid with 293 drilled seats for 45 vertical pins (4mm to 340mm) \$1800 new . . . For specifications, photo, or more information, call (602) 242-6229.

LSIT REVIEW COURSE OFFERED

An LSIT Review Course has been added to the classes offered by Professional Engineering Institute. The course will be held at Menlo College in Atherton. It will start Wednesday, January 10, 1990, and will meet every Wednesday for 14 weeks from 6:45 p.m. to 9:45 p.m. The cost for the course is \$315, which includes tuition, registration, and books. For further information call Paulette Baumert (415) 593-9731.

LS EXAM REVIEW COURSE OFFERED

UCLA Extension Offers a review course for those preparing for the examination for land surveyor as required by the California Board of Registration for Professional Engineers and Land Surveyors.

The class meets Wednesdays, January 10 - April 11, 1990, 6:30 p.m. to 9:30 p.m., in Room 112 of the Downtown Center in Los Angeles, 1100 S. Grand Avenue. The enrollment fee is \$130. Ira H. Alexander, registered civil engineer and licensed land surveyor, instructs.

The class emphasizes the solution of problems from previous examinations, and topics pertinent to the Land Surveyor's Act and the Subdivision Map Act.

A Land Surveying examination will be given April 21, 1990. For further information regarding Land Surveying examinations, call the California Board of Registration, (916) 920-7466. For information regarding preparatory courses, call UCLA Extension, (213) 825-4100. ⊕



LEWIS & LEWIS

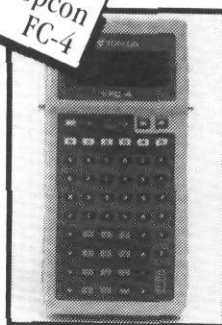
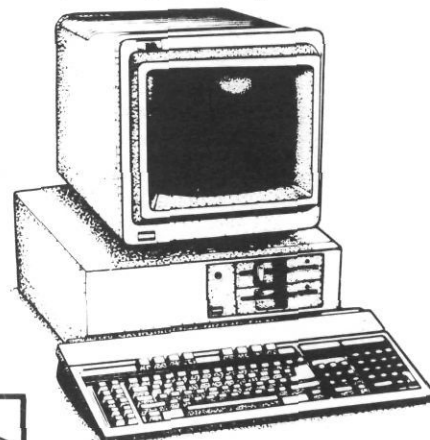
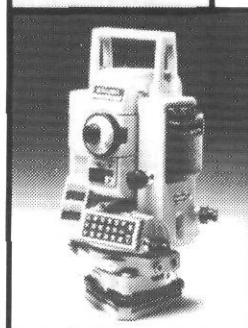
surveying systems

• RENTALS •

TOTAL STATIONS	SHORT TERM DAILY RATES		LONG TERM MONTHLY
	1-10 DAYS	11+ DAYS (one month minimum)	
Lietz SET-2	85.00	51.00	1500.00
Lietz SET-3	75.00	45.00	1300.00
Lietz SET-4 or 4A (NEW)	65.00	39.00	1150.00
Topcon ET-2	"Call for Rates"		
Topcon GTS-4 (NEW)	"Call for Rates"		
Topcon GTS-3B	"Call for Rates"		
Topcon GTS-3C	"Call for Rates"		
DATA RECORDERS			
Lietz SDR-2 (32k)	15.00	9.00	270.00
Lietz SDR-24 (128k)	25.00	15.00	450.00
Topcon FC4 w/transport	"Call for Rates"		
LL71 Survey Module for 71B	6.00	3.60	100.00
SEMI-TOTAL STATIONS			
Lietz SDM3F	50.00	30.00	850.00
Topcon GTS-2R	"Call for Rates"		
TOP MOUNT E.D.M.			
Lietz RED-2L	45.00	27.00	800.00
Lietz RED-2A	40.00	24.00	700.00
Topcon DMS-3L	"Call for Rates"		
Topcon DMS-2	"Call for Rates"		
Topcon DM-A5	"Call for Rates"		
THEODOLITES			
Kern DKM2AT (1")	40.00	24.00	700.00
Kern, Lietz, Topcon (6", 10", 20", 1')	20.00	12.00	350.00
ELECTRONIC TRANSITS			
Lietz DT-6 (20")	13.00	7.80	230.00
Lietz DT-5A (10")	15.00	9.00	270.00
Topcon DT-05 (7")	"Call for Rates"		
Topcon DT-30 (30")	"Call for Rates"		
TRANSITS			
Nikon TT-400	7.00	4.20	120.00
Topcon AG-30B	"Call for Rates"		

"COMPLETE SYSTEMS"

Total stations, data recorders, calculators, computers, plotters, accessories, and supplies from HEWLETT-PACKARD, LIETZ, TOPCON, KERN, and many more!



For more information about our products and services, and a **FREE L&L CATALOG**

CALL TOLL FREE OR
(800) 342-3607 **WRITE:**
 (California)
(800) 235-3377
 (outside California)

Lewis & Lewis
 P.O. Box 1328
 Ventura, CA 93002

"NEW" 30 day/100% Rental-Purchase Plan. If you decide to buy the equipment you have on rent at anytime during the first 30 days, we will apply 100% of the rent paid towards the purchase price.

QUALITY PRODUCTS, SERVICE & SUPPORT

HOME OFFICE

P.O. Box 1328 • 1600 Callens Rd. • Ventura, CA 93003
 (805) 644-7405 • FAX (805) 642-3970

BRANCH OFFICE

540 S. Andreasen, Suite A • Escondido, CA 92025
 (619) 747-8823 • FAX (619) 480-5778

Most 'Nice-Guy' Managers Fail

"NICE-GUY" MANAGERS often try to become tough guys but frequently fail. *The winners:* tough-minded managers.

Nice-guy manager symptoms: Every nice-guy manager prays that problem employees will go away if he or she is just pleasant with them.

Nice-guy results: The opposite happens. Employees see through the avoidance behavior and run roughshod over the manager. The nice-guy manager loses respect.

Finally, the nice-guy manager becomes a tough guy, usually driven into a rage by snowballing employee problems. Angry, tough-guy actions, such as an abrupt firing, follow. But the actions fail, often because of inadequate warnings or documentation.

The solution: Strive to be a tough-minded manager, solving problems before a crisis develops.

- **Meet immediately** and privately with an employee as soon as a problem is spotted.
- **State the problem** factually and specifically, letting the employee know action must be taken now.
- **Listen to** the employee talk about the problem but don't get sucked into evasions or arguments.
- **Get a promise** of action that will solve the problem, and follow up on the promise.
- **Document** every phase of the problem.

Source: Gareth S. Gardiner, associate professor of management, Sangamon State University, Springfield, IL 62794. Reprinted from *Communication Briefings*, March 1989. ⊕

How to Convince Your Boss

IF YOUR BOSS is the type who doesn't usually react favorably to new ideas, consider these approaches:

- **Shape your idea** so that it can be approved by your immediate boss. If the boss has to go upstairs for approval, it might never happen.
- **Discuss the idea** with your peers and others who might be affected. If the boss says, "The others won't like it," note that you have obtained support of the people who would be involved in the change.
- **Find something** is the company guidelines or policies that will support what you want to do. Bureaucrats, especially, love to follow manuals.
- **Explain how** the change will help the organization get where it wants to go faster, easier, and perhaps cheaper.
- **Use company jargon** and terms that are hot buttons in your organization. If possible, relate the change to something that is one of the organization's key goals or objectives.
- **Offer three reasons** why your idea should be accepted. Two may not seem like enough and four may be too many.

From *The George Odiorne Letter*, MBO Inc., 5531 9th St. N., St. Petersburg, FL 33703. ⊕

"Every man owes a part of his time and money to the business or industry in which he is engaged. No man has the moral right to withhold his support from an organization that is striving to improve conditions within his sphere."

☛ Theodore Roosevelt ☛

SURV-KAP[®]

LANDMARK DISCOVERIES.



<p>ALUMINUM SURVEY MARKERS FOR REBAR CONCRETE AND PIPE, MONUMENTS, FLUTED STAKES, DELINEATOR POSTS, ACCESS COVERS</p>	<p>BRASS CONCRETE MARKERS CAST BRASS</p> <p>STAINLESS STEEL MONUMENTS STAKES</p>	<p>FIBERGLASS BOUNDARY STAKES</p>
--	--	--

CATALOG (602) 622-6011 P. O. BOX 27367
FREE AND PRICE LIST **CALL** 1-800-445-5320 or WRITE **SURV-KAP** TUCSON, ARIZONA 85726
 FAX: 602-792-2030



LEWIS & LEWIS

surveying systems

Surveying and Plotting Software for IBM compatible computers

LEWIS & LEWIS SURVEYING SOFTWARE, "LLCOGO & LLPLOT", is a comprehensive 3D coordinate geometry and map drawing program that is EASY TO LEARN AND USE. The program documentation, as well as the program, was written with the Land Surveyor in mind. Clear, concise, and includes a "GETTING STARTED TUTORIAL".

- Windowed screen presentation with pop-up menus
- Both menu and command driven
- Over 365 commands and operations available
- Input and printouts consistent throughout
- LLCOGO/LLPLOT is a standalone program, NOT requiring a "CAD" program

LLCOGO

Version 7.0 Coordinate Geometry \$2,000.00

Summary of Features: Coordinate geometry solutions, Field data reduction, Construction calculations, Coordinate management routines, Design calculations, Screen and printer graphics, Tablet digitizer support with planimeter-style area calculator.

- Complete 2D and 3D Field Data Reduction Routines
- All computations occur in one program
- Enhanced Command Input Files allow computations to be recorded, changed and recomputed without re-entering all the data
- Figure Files
- Scale Factor by State Plane Zone Code
- Automatic Profile (Integrates Vertical Curves and Grades with station data)
- Flexible Point Recovery (located by Description, Elevation, Distance and Boundary Lines)
- Description and keyboard macros
- Offset Intersection problems
- Centerline Stationing

LLPLOT

Fully Annotated Mapping \$1,000.00

- Draws Linework and Annotation to any scale and rotation
- Linework has selectable pattern, repeat length, pen (color) and speed
- Line and Curve Annotation automatically positioned and checked for fit and direction
- Automatic Line and Curve Table Generation
- Annotation of any text file with selectable size, direction, and slant
- Grid layout with Solid-Net or Tic Symbols
- Plot Spooling/Network Plotting
- Manual Plotter Identification
- LLPLOT integrates into LLCOGO, no separate program to run
- Supports all HP Plotters
- Scale may be set manually or automatically computed

LLCADX

Bi-Directional link to AutoCAD program \$1,000.00

- Generates fully annotated Maps for use in a CAD program
- Custom layernames for Linework, Annotation and Coordinates
- CAD Transfer integrates into LLCOGO, no separate program to run
- Almost all of the features of LLPLOT
- Coordinates may be retrieved from CAD Drawings

COMPLETE PACKAGE PRICE \$3,500.00

"FREE" Trial Period Available.

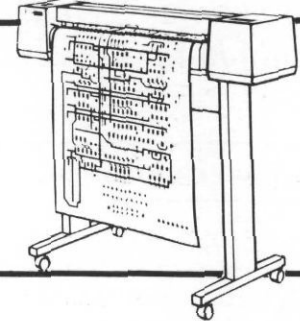
FOR MORE INFORMATION CALL TOLL FREE

HOME OFFICE:
1600 Callens Rd.
Ventura, CA 93030
(805) 644-7405

(800) 342-3607 from California
(800) 235-3377 outside Calif.

BRANCH OFFICE:
540 S. Andreasen, Suite A
Escondido, CA 92025
(619) 747-8823

Computer Systems from Hewlett-Packard



Authorized Dealer for:



AutoCAD
Design software

and

DCA

Engineering Software

- Data Input & Reduction
- Coordinate Geometry
- Design
- Digital Terrain Modeling
- Earthworks
- Highways

SALES & SUPPORT

Diploma or Experience?

The debate continues. Does experience in the field prepare today's surveyor as well as study in the classroom?

By Knud Hermansen

A GREAT DEAL of discussion today concerns mandatory four-year degrees for surveying registration. For this profession they are life-and-death arguments.

It is said that surveyors need a strong academic background in property/boundary law, mathematics, statistics, physics, computer science, hydrology, humanities, public speaking, writing, and business economics/management, to name a few. Knowledge in these fields is necessary to properly perform retracement surveys using modern equipment, prepare a subdivision plan, and manage a profitable firm.

In conjunction with that rationale is the argument that college prepares surveyors to expand the profession's image and their own business activities into new frontiers brought about by satellite surveying, inertial surveying, CAD, and land/resource management, again to name only a few. Surveyors cannot demand the right to practice in new areas while denying the need for a well-rounded background in the sciences.

A degree, it is said, improves growth potential, provides job opportunities, increases salaries, and expands the scope of work that can be undertaken by the firm where the graduate works.

It is also necessary to obtain reciprocity with states that already have such a requirement. The increasing interstate diversity of firms and the fluctuating national market for surveyors compel members of the profession to meet qualifications mandated by other states.

Finally, aside from the extra four years of maturity gained by attending college, the graduate has a better background, more experience, and enhanced ability to work with people and other professions. Not only have college graduates frequently lived and worked with a diversity of people while attending college, but many of their classes focused on development of their public speaking and writing skills. The "core" courses required for all majors provide experience and knowledge common to all professions.

There are considerable arguments against a degree requirement. One says that surveying is not a true academic discipline, but an applied science. For the most part, surveyors deal with practical applications, not theory; surveyors don't have to explain why, just know how. The vast majority of surveying is still done with a theodolite, EDM, and relatively uncomplicated equipment. Why train for equipment the graduate may never use?

A degree does not insure a good, or even "competent" surveyor. In fact, within any given part of the country there is no shortage of stories about engineers and other people with degrees doing sub-standard or erroneous survey work.

Experience is cited as a better teacher than the classroom. Education is no substitute for the practiced eye and hand needed to obtain good measurements, or to recognize obscure evidence such as the ancient re-

mains of boundary/corner monuments. Even if equipment and knowledge become more complex, there is no reason seminars cannot be used to keep current. Seminars and self-learning have worked in the past. Why not the future? Besides, many complexities of the new equipment and knowledge can be handled by powerful, but user-friendly, software. Even those people with a college education seldom take the time to comprehend the theory and concepts behind the new technology. They are just as dependent on the software and seminars as non-graduates.

College graduates are also costly. They expect higher salaries than high school graduates, yet may have no field experience. To give them the necessary experience at the salary they expect would require employers to increase fees. Most landowners do not require the extra knowledge or training time required, nor should they have to pay for it. Even assuming graduates are worth the salary, how to you deal with the good, experienced employees who have their promotion opportunities usurped by people with far less practical experience?

As for the graduate's growth potential, it may be in a direction away from what most would define as "land surveying" into areas such as geodesy, management, or teaching. In other words, the purpose for licensing is to perform land surveying, yet how many college graduates go into the field, gather the information, perform the calculations, or for that matter even decide where the boundaries belong?

And why should the licensing requirements of a minority of states influence the majority? Most surveyors are content to practice within a state. Why should the majority of potential

applicants suffer for the benefit of a few who desire reciprocity with another state?

Speaking from the perspective of someone who obtained professional registration first and later earned a four-year degree, I appreciate the various arguments offered for and against requiring degrees. Despite the arguments, it appears to be inevitable that, if licensing is to survive at all, the requirements must eventually exclude the person who does not have a degree. If the profession does not impose the requirement, outside forces will.

When all the arguments are stripped aside, it is clear that surveying is not just an applied science but an academic discipline to be used in conjunction with the applied sciences. No matter how accurate a survey is, it will not help the client if the measurements are rejected in court because the surveyor could not explain by rudimentary physics how the EDM works (as per the requirements set forth in *Frye v. United States*, 293 F. 1013 (DC Cir. 1923), or is unable to use statistics to show that a one-inch difference is insignificant after traversing one mile.

Furthermore, a degree is not in lieu of, or in competition with, practical experience. Academic knowledge should complement experience. A college education provides a foundation that, when coupled with meaningful experience and successful testing, should produce a competent professional. While many leaders in the profession and many competent professionals do not have degrees, there is a greater proportion of college graduates among the profession's leaders than the proportion of college graduates among the profession as a whole. In other words, while people with four-year degrees may comprise only 20 percent of the profession, they comprise 50 to 75 percent of the leadership or top salaried positions.

There is no doubt that graduates expect to enter the profession at salaries commensurate with their peers in similar fields. As the number of graduates in the profession increases, the fees charged for surveying services will increase. Would the profession help the landowner more by continuing to offer \$200 "mortgage surveys" or by forcing financial institutions to reject the "survey" requirement except in the cases where a surveyor can expect to be paid a realistic price for competent and accurate work?

Finally, while it is always hard to accept change and new methods, few could argue that an EDM and computer are not requirements for a viable firm. It is almost impossible to run a competitive business without taking advantage of technology.

Many favor allowing those without a college degree to take the exam, but require them to have more experience. Certainly, there is every reason to believe an intelligent individual with on-the-job training could learn the concepts and knowledge equivalent to a four-year degree. However, this seldom occurs in practice. Assuming, for the moment, all employers have the knowledge to train the potential registrant adequately, the time and cost needed to run a business make it impracticable to spend resources on training. Rather than being exposed to a broad base of experience, most employees are limited to a particular aspect of a survey operation. Rather than learning, for example, the legal aspects of boundary retracement, many are imbued with improper procedures and quick rules, not always properly used in situations they will eventually face. Without a good academic background or diversified work

experience, the soon-to-be surveyor fails to realize the impropriety of certain practices and, to the profession's misfortune, performs an improper survey.

While landowners will always want the least expensive survey, they or their insurers are no longer tolerant of errors. Demands for damages are often far in excess of the survey's cost. The increasing price of land and multiple land uses (e.g. solar easements and high density development) demand fastidious care and accuracy. It is conceivable that all surveyors will eventually be required to carry liability insurance and that insurance companies will only insure academically trained surveyors, or at least favor them. Large or growing firms, in an effort to diversify and increase profits, demand better-trained and diversified professionals. Much as modern surveyors can no longer earn an adequate living doing only retracement surveys, future surveyors will no longer survive without the breadth and scope of knowledge that can only be obtained by earning a four-year degree.

Knud Hermansen is a licensed surveyor in three states, and a licensed engineer in two more. He is also the author of the book *Boundary Retracement Principles and Procedures for Pennsylvania*. ⊕

D.C.A. CIVIL ENGINEERING SOFTWARE

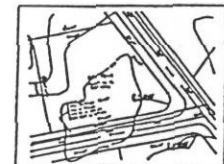
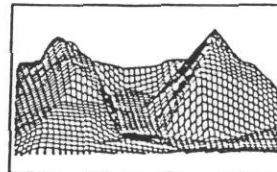
For use with AutoCAD^(R)

D.C.A. Engineering Software allows you to:

- reduce field data
- plot existing ground topo
- automates generation of:
 - contours
 - profiles
 - 3-D grid
 - cross sections



for subdivision, re-construction, and roadwork design all within AutoCAD's drawing editor. All resulting drawings are in industry standard AutoCAD drawing format.



**COGO and DTM Applications with
D.C.A. & AutoCAD
for Surveyors and Civil Engineers**

FOR MORE INFORMATION CONTACT:

AVCOM Corporation
119 University Avenue
Palo Alto, CA 94301



(415) 326-8686

How to Keep Those Customers Coming Back

By John R. Graham

BUSINESSPEOPLE seem to espouse an interesting philosophy: "Once you've sold 'em, forget 'em." Whether it's a Fortune 500 firm or a local supplier, this attitude permeates business today.

Not long ago, our agency did an informal audit of our vendors, the people we do business with during the year. How many come to see us *only when they have something to sell* us? Which ones make contact only when a new salesperson is assigned?

Do any stay in touch with us regularly to see if we need their help? Is any specific effort made to cultivate us as a continuing customer? Whether it's office supplies or computers, the answer is a resounding "no" in each case.

OUR ASSOCIATES AGREE

We were so appalled by the results, we asked business associates to evaluate our conclusions. The reactions were exactly the same! "Once they sell you something, they drop you like a hot potato — until the next time."

Not only is this a sad commentary on the business community, but it appears to reflect a dominant sales strategy that focuses total attention on getting new customers rather than developing business from existing ones.

IT MAY BE JUST TALK

If the behavior of salespeople betrays their words, then all the talk about "consultative" and "problem-solving" selling, as well as "quality service," is just that — a lot of talk.

One of the primary goals of any company is to get existing customers to come back again and again. Sure, everyone wants new business, but to ignore existing customers is ultimately self-defeating.

BUYING PATTERNS ARE CHANGING

Today, this issue is more pertinent than ever because of changes in buying patterns. There is far less brand and vendor loyalty than in the past, along with a trend to "shop around." We believe most of this is due to poor customer relations.

In the same way, looking for the lowest price may be more a reflection of customer dissatisfaction than a desire to get a rock-bottom deal. When customers move from one vendor to another, they are looking for someone who will relate to them over a period of time and not just at the point of the sale.

YOU'LL INCREASE SALES

As a result, the consistent, effective cultivation of present customers is one of the best ways to increase sales over a period of time. It's the wise CEO or sales manager who understands this issue.

Whenever I hear someone say, "We've got to increase sales," I know there are problems. The sales "push" is the direct result of refusing to take the time and effort to create a climate that will keep customers coming back.

HERE'S WHAT TO DO

Here's what we believe can be done so existing customers will remain loyal and *want* to continue to do business with you:

■ **Let your customers know why they are smart to do business with you.** Customers want to feel they are making a good decision when they choose you and your product or service. The most important continuing task is to reinforce that decision over a period of time. If you do, then your competition won't have a chance. And it is easy to do, too.

For example, if a positive article is published about your company, send a copy to your customers. If your pro-

ducts get an outstanding evaluation or review, make sure that information is sent to your customers. If you let doubts creep into a customer's mind, that is the beginning of the end.

■ **Educate your customers.** Very few businesses do a good job of customer education. In fact, this may be the most neglected area of sales today. Of course, it takes time and effort to create an effective company newsletter. Yet the investment is invaluable when it comes to building solid relationships with your customers.

But don't make a newsletter into an "ad" for your company. It won't get read. Use the newsletter as an opportunity to pass along helpful information. Be sure to feature your customers, too. This will go a long way toward strengthening the ties with your firm. Certainly, customer education includes letting people know about *all your products and services*. Believe it or not, most customers have no idea about all the things you can do for them.

■ **Give them ideas on how to improve their business operations.** Salespeople almost always miss an extraordinary opportunity. They pick up ideas and techniques that can be helpful to their other customers. We're not talking about disclosing trade secrets or proprietary information. But it's great to pass along helpful, time-saving suggestions.

Example: "Over at the XYZ Company, they solved this same problem. Why don't you give them a call?" Customers appreciate this type of concern. And it will mean more business for you.

■ **Say "Thank you" regularly.** Nothing is more important. A call after a sale just to express your appreciation shows that you care about building a relationship. A simple note commenting on the fact that "It was a year

THE PROCESS OF WRITING LEGAL DESCRIPTIONS JUST BECAME MUCH EASIER!

With **LEGAL HOLIDAY™**, you can

- Enhance productivity
- Improve quality control
- Reduce professional liability exposure
- Eliminate the tedious aspects of description writing
- Make more money



EXAMPLE DESCRIPTION

A parcel of land lying in Sections 20, 21, 28 & 20, Township 31 south, Range 19 east, Hillsborough County, Florida, more particularly described as follows:

Commence at [redacted] thence North, a distance of 381.51 feet; thence North $89^{\circ}30'46''$ East, a distance of 678.35 feet; to the beginning of a curve, concave southerly, having a radius of 200.00 feet and a central angle of $24^{\circ}45'30''$, thence easterly along the arc of said curve to the right, a distance of 86.42 feet, said arc subtended by a chord which bears South $78^{\circ}06'29''$ East, a distance of 85.75 feet to the curve's end; thence South $65^{\circ}43'44''$ East, a distance of 179.99 feet; to the beginning of a curve, concave northerly, having a radius of 250.00 feet and a central angle of $24^{\circ}16'18''$, thence southeasterly along the arc of said curve to the left, a distance of 105.90 feet, said arc subtended by a chord which bears South $77^{\circ}51'52''$ East, a distance of 105.11 feet to a point of reverse curvature with a curve, concave south-westerly, having a radius of 179.56 feet and a central angle of $90^{\circ}18'57''$, thence easterly along the arc of said curve to the right, a distance of 283.04 feet, said arc subtended by a chord which bears South $44^{\circ}50'32''$ East, a distance of 254.63 feet to the curve's end; and the POINT OF BEGINNING of the herein described parcel; thence South $00^{\circ}18'57''$ West, a distance of 345.78 feet; thence South $41^{\circ}08'29''$ West, a distance of 198.00 feet; to the beginning of a curve, concave southeasterly, having a radius of 625.00 feet and a central angle of $34^{\circ}57'18''$, thence southwesterly along the arc of said curve to the left, a distance of 381.30 feet, said arc subtended by a chord which bears South $23^{\circ}39'50''$ West, a distance of 375.41 feet to a point of compound curvature with a curve, concave easterly, having a radius of 150.67 feet and a central angle of $50^{\circ}23'45''$, thence southerly along the arc of said curve to the left, a distance of 132.53 feet, said arc subtended by a chord which bears South $19^{\circ}00'41''$ East, a distance of 128.29 feet to the curve's end; thence South $44^{\circ}12'34''$ East, a distance of 320.00 feet; thence South $45^{\circ}47'26''$ West, a distance of 278.50 feet; to the beginning of a curve, concave northerly, having a radius of 600.00 feet and a central angle of $129^{\circ}42'34''$, thence southwesterly along the arc of said curve to the right, a distance of 1358.31 feet, said arc subtended by a chord which bears North $69^{\circ}21'17''$ West, a distance of 1086.28 feet to the curve's end; thence North $04^{\circ}30'00''$ West, a distance of 789.50 feet, to the beginning of a curve, concave southeasterly, having a radius of 100.00 feet and a central angle of $120^{\circ}00'00''$, thence northerly along the arc of said curve to the right, a distance of 209.44 feet, said arc subtended by a chord which bears North $55^{\circ}30'00''$ East, a distance of 173.21 feet to a point of cusp with a curve, concave southerly, having a radius of 500.00 feet and a central angle of $06^{\circ}50'56''$, thence northwesterly along the arc of said curve to the left, a distance of 59.77 feet, said arc subtended by a chord which bears North $67^{\circ}55'28''$ West, a distance of 59.73 feet to the point of intersection with a non-tangent line thence North, a distance of 381.51 feet; thence South $76^{\circ}34'24''$ East, a distance of 1242.60 feet, to the POINT OF BEGINNING. Containing 41.4985 acres of land, more or less.

Inclusion of title and caption!

Requires only the insertion of a description of the point of commencement!

Recognition and description of a point of reverse curvature!

Recognition of compound curvature situations!

Complete or partial curve geometry description capability!

Recognition and description of a point of cusp!

Recognition of points of non-tangent intersection!

Area calculation!

This is an unedited example legal description exactly as generated by LEGAL HOLIDAY. This description was prepared in under 60 seconds, including data entry.

SURVEYING AUTOMATION TAKES ANOTHER MAJOR STEP FORWARD!

As land surveying enters the 1990's, we find widespread usage of automation techniques in the field and office. Firms are using computer aided design and drafting systems and are integrating these with electronic field instrumentation to form the much talked about and advertised "*Field to Finish*" systems. One of the remaining obstacles to achieving a completely automated "finished" state in most applications is the manual generation of metes and bounds legal descriptions. This burden has been removed once and for all with the development of LEGAL HOLIDAY, a legal description program, taking you another step forward into the future of surveying automation today. See how LEGAL HOLIDAY can improve your productivity, reduce your liability, and make your job easier.

LEGAL HOLIDAY generates the legal description fast.

After computing and adjusting the traverse or boundary courses with your present coordinate geometry software, use LEGAL HOLIDAY to generate a nearly finished description in a matter of seconds. Then use the program's built-in text editor to add any additional required controls or conditions and print the finished description within minutes. The resulting ASCII text file can be imported by your word processor for incorporation within a document or by your CADD system for inclusion on a drawing.

LEGAL HOLIDAY does all the dull, boring, and uninspired work.

To generate a description, you need only select the cogo file and enter the point numbers or figure numbers defining the courses. Then enter the title, the section(s), township, and range numbers, and select the locality. The program does the rest. It evaluates the geometric circumstances related to each course and selects from its inventory of 35 user designated phrases, each of which is associated with a situation commonly encountered in property descriptions. The geometric measurements related to each course are incorporated within the appropriate phrase in each case as the program generates the description.

LEGAL HOLIDAY eliminates the most common source of errors.

Numeric transcription errors occur all too often in the process of manually preparing descriptions from data derived from cogo inverse commands. These are totally eliminated by using LEGAL HOLIDAY. Typographic errors are also eliminated from that part of the description generated by the program. Only text which the user might edit into the finished description can possibly contain a typing error. Even the best of typists are prone to occasional error, and metes and bounds descriptions are among the most difficult of typing assignments. LEGAL HOLIDAY can significantly decrease your chances of ever generating a faulty description through a scrivener's error.

LEGAL HOLIDAY minimizes geometry errors & reduces checking time.

The program employs several procedures to help detect data entry and computational errors. LEGAL HOLIDAY generates a quality control report addressing several key issues and appends such a report to every description, as an aid to the person responsible for checking it. The data entry report echoes the cogo file name and the point numbers on which the description is based. The program generates a closure report for both the point of beginning reference (traverse to the POB), and the sequence of described courses. Finally, any instances of non-tangent intersection are specifically noted in the non-tangency report and appropriately described in the text. This last feature is included because of the possibility of unintentional non-tangency conditions resulting from computational error.

User specifiable tolerances control the detection of non-tangent intersection situations and error detection in the case of unequal entry and exit curve radii. A warning is issued if the error of closure exceeds a user specifiable maximum.

These reports place a great deal of information at the fingertips of the checker. Even so, the actual process of checking a description progresses much faster than that of a manually typed description. This is because of the confidence level associated with the program's numerical computation capabilities and its phrase selection and grammatical competence.

```
DATA ENTRY REPORT
Cogo File = COBIACAY.COG
Point of Beginning Reference
1 2 3 C 4 R 5 6 C 7 L 8 C 9 R 10
Sequence of Described Courses
10 11 12 C 13 < 14 C 15 < 16 17 18 C 19 < 21 C 22 R 23 C 24 L 1 2 10

POINT OF BEGINNING REFERENCE TRAVERSE CLOSURE REPORT
Closing latitude = .0035'      Closing departure = 0.0013'
Closing distance = 0.0038'    Closing bearing = S 20° 45'54" E
Distance traversed = 1715.21'
Total Error of closure ..... 1/455,895
Error of closure in latitude ..... 1/487,566
Error of closure in departure ..... 1/1,285,895

SEQUENCE OF DESCRIBED COURSES BOUNDARY CLOSURE REPORT
Closing latitude = .0109'      Closing departure = .0113'
Closing distance = 0.0157'    Closing bearing = S 45° 56'01" W
Distance traversed = 5697.24'
Total Error of closure ..... 1/362,019
Error of closure in latitude ..... 1/520,522
Error of closure in departure ..... 1/503,831

NON-TANGENCY REPORT
A non-tangent curve/line intersection was encountered at point number 1
```

Quality Control Report

LEGAL HOLIDAY is thorough in its description of property.

Most previously available software of this type simply inserts numeric data into a standard, fixed phrase template, representing either a straight line or curved course. These programs leave a significant amount of writing to the user. LEGAL HOLIDAY, on the other hand, generates a description that is very nearly complete, and which can contain appropriate descriptions of dozens of different situations. The basic description produced includes the title, caption, body, and the closing statement.

The program uses subtle wording variations to distinguish between many different geometric situations in a grammatically correct manner. It detects and appropriately describes points of reverse and compound curvature, points of cusp, and points of non-tangent intersection between curves and lines, or other curves. No matter what the combination of geometric conditions encountered, the program has a unique phrase specifically tailored to address the situation.

LEGAL HOLIDAY writes descriptions exactly the way you want them written.

You may, in the past, have been discouraged from using automated description generation software because of its imposition of a particular style you considered inappropriate. You can easily set up LEGAL HOLIDAY to employ your particular styling preferences. We supply the program with a *composition file* configured to prepare a legal description in a manner preferred by our staff. In just a few minutes, you can completely alter this file to conform to just about any conceivable combination of wording, punctuation, capitalization and formatting styles. Separate composition files can be maintained for individuals and for particular clients or projects. This unprecedented capability is the most notable feature in distinguishing LEGAL HOLIDAY from other description programs.

In addition to its grammatical flexibility, the program offers you the ability to select the parameters to describe curved courses and the circumstances under which each is to be used. Supported parameters include the radius, central angle, arc length, chord length, chord bearing, direction of concavity, initial direction of travel, direction of curvature, local tangent bearing, and radial bearing.

LEGAL HOLIDAY makes it easy to enter additional descriptive text.

After generating the description, the program presents the completed text within its own full screen text editor. The description can be reviewed and edited immediately, saved to a file, or printed from within the editor. The copy can be printed in your choice of single, double or triple spaced output in order to simplify editing. The resulting ASCII text file can be imported into most word processors, and any CADD system which supports the importation of ASCII files.

LEGAL HOLIDAY works with your present hardware and surveying software.

There are a few coordinate geometry software products that offer limited legal description generation capabilities. Unless you use these particular cogo products this capability has been unavailable to you. *LEGAL HOLIDAY* is available to users of most popular coordinate geometry programs. Rather than having to change cogo software, our software builds on and adds value to your existing investment in software and training.

LEGAL HOLIDAY is easy to use.

The process of generating a description with *LEGAL HOLIDAY* is simple. The User's Guide serves as a convenient reference manual, presenting all required information in a thorough and organized manner. A separate tutorial manual offers step by step examples of the procedure for generating routine descriptions. In addition, the tutorial has examples of advanced features which can be employed in special circumstances to save even more time and effort. In addition to its written documentation, *LEGAL HOLIDAY* provides context sensitive on-line help every step of the way. This is one computer program that you can be using in a production situation within minutes of installation.

LEGAL HOLIDAY is offered with a 30 day money back satisfaction guarantee.

Order *LEGAL HOLIDAY* and review the User's Guide and the examples presented in the Tutorial Manual. We know you will be pleased and amazed with this product. However, if for any reason, within thirty days of purchase, you are not satisfied after seeing the program demonstrated, you may return the program disk for a full refund.



SYSTEMS, INC.

5912A Breckenridge Pkwy.
Tampa, FL 33610
(813) 621-7900

ago you bought a Widget from us and I appreciate your business" takes only a few minutes to write, but the customer reaction is impressive.

If you receive a referral, make certain you say "Thank you." We use gift certificates as a way of expressing our appreciation.

■ **Project a leadership image** for your company. All of us want to be with winners. In fact, we almost automatically shy away from both people and companies that look like losers. That's why logos and printed materials are so important.

In other words, make sure your firm has a distinctive "custom look," one that separates it clearly from other businesses in the same field. Give names to your products or services. Work to qualify for awards for your company. This helps you stand out in the crowd. Also keep customers informed about business trends. This places you in front of the pack.

■ **Show a continuing interest** in your customers. Frankly, this is easier said than done. It's a lot of work keeping a mailing list up-to-date, but constant communication indicates that you care about those who have chosen to do business with you. Mail copies of articles you think may be of interest to a customer. Then, when the time comes to make a sale, you have a reservoir of goodwill to draw upon.

Also, sent out reminders: "You may want to check your supply . . ." or "Last year at this time you ordered . . ." By taking these simple steps, customers will come to rely on you.

■ **Ask your customers** for their opinions. The finest form of flattery is: "What is your opinion?" Those words say so much. They show you value a person's ideas. This is how lasting relationships are made. Sure, you can hand out tickets to a show or a sports event, but the effect is not nearly as strong as getting someone to express his or her views.

Most of us don't have sufficient opportunities to talk about our ideas. Anyone who creates a situation that lets us share our opinions has made a friend.

■ **Make your customers** feel important. There's nothing worse that a salesperson making a customer feel insignificant. Yet, it happens every day. To make a strong impression, someone will say, "Just last week, Gotcha Corp., the international conglomerate, bought 1,000 of our computers." That's great, but how does it make someone who is buying one, two, or three feel? Pretty small.

Congratulate customers for their achievements. Life in the trenches isn't always easy, so making people feel good about what they are doing gives a boost that will not be forgotten.

Making an investment in building a bond with customers would be at the top of the list for a company that wants to succeed. In the final analysis, what is more important than knowing your customers will be there when you need them tomorrow or next year?

John R. Graham is president of John R. Graham Inc., a marketing services, public relations and advertising agency, 40 Oval Road, Quincy, MA 02170. ⊕

Arizona Professional Land Surveyors 1990 Conference February 15, 16, and 17

"Set Your Sights Along the Colorado River"

Be a part of the first APLS conference held along the Colorado River at the Riverside Casino and Resort Hotel in Bullhead City, Arizona.

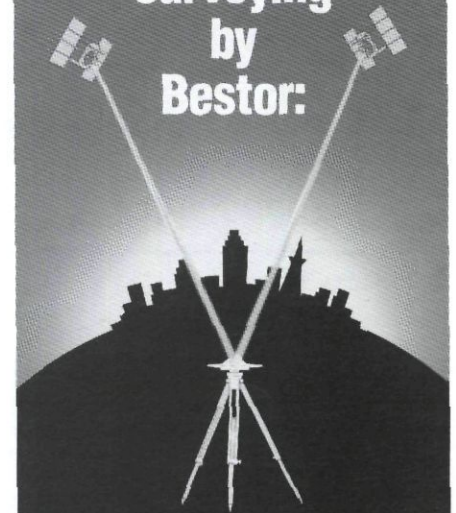
For More Information Contact:

APLS 1990 Conference

Jack Stovall, Conference Chairman

2332 Highway 95, Bullhead City, AZ 86442

GPS Surveying by Bestor:



Bringing Your Costs Down To Earth

Tap into Bestor's full range of GPS services — including stop-and-go kinematic GPS — for the highest accuracy at the best cost-per-point value.

Projects need smaller crews and go faster with the power of GPS. This leads to lower bids on even the most common survey projects.

- geodetic control
- cadastral surveys
- structure deformation
- photo control

Use our GPS equipment and a full Bestor crew, or let one of us train your team to use our system. Call us at 408-373-2941 to find out how much better your cost-per-point can be.



Bestor Engineers, Inc.
9701 Blue Larkspur Lane
Monterey, California
USA 93940
408-373-2941

Raising the Surveying Standard

By Mary Feindt

President of
Charlevoix Abstract and
Engineering

WHY DO SOME of us do shoddy work? Why do we allow such persons among our ranks? Unfortunately, the poor work of a few negatively reflects on the profession as a whole. As a surveyor, I realize that to be a proficient and qualified professional requires intensive preparation. Having accomplished such preparation, surveying professionals must uphold the values of honesty, justice, courtesy, integrity, and most importantly, fidelity.

However, not all who work with surveyors find them to embody these ideals. After the 1986 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys were adopted by the ACSM Board and the American Land Title Association (ALTA), the document was probed by members of the Life Council and Lenders Council (groups of attorneys who represent the life insurance companies and the large lending institutions).

This criticism motivated a meeting among ACSM surveyors, ALTA representatives and attorneys from the Lenders Council. After working hard to construct the Minimum Standard Detail Requirements document to set forth concise guidelines for professionals on what must be included in property surveys used for title insurance purposes, I was distressed to detect some ALTA surveys had lacked critical elements such as the North arrow, page numbers, and vicinity maps. The Lenders Council attorneys claimed that 30 percent of

maps prepared under the guidelines were inadequate.

However, I cannot say that I was totally surprised by what I heard. As a title person, some of the surveys presented to me to be relied upon for insurance purposes have been utterly slipshod. When I receive certifications that do not incorporate the indispensable items of the standards, it is obvious that some surveyors are completely unaware of essential characteristics which must be included in surveys used by title insurance companies to insure commercial projects.

The importance of surveyors and their work in the process of title transfer and insurance cannot be overestimated. Surveyors set the cornerstone on which title examiners and attorneys premise their judgments. Many intricate details observed in the field need to be portrayed. Their representation should be accurate, neatly rendered, legible and, above all, it should reflect professionalism.

The criticism of the large lending institutions makes it evident that some surveyors are not adhering to the ground rules set out in the ALTA/ACSM document. To address the problem and to demonstrate to these institutions that they can rely on the profession to address their concerns, the *Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys* were updated to further specify what is essential to be included in these surveys.

However, this is not to say that all of the problems are on the surveyors' side. As a surveyor, I am conscious that the attorneys and title people sometimes lack understanding of the involvement of surveys and of the excessive cost to produce them. Contour lines are not needed for title insurance purposes. Stripes designating parking areas can constitute a complex maze. The identification of indentations in the land purported to silhouette an-

cient cemeteries are bewildering to distinguish. Does the skeleton found buried outside the back of my office as the consequence of utility excavation constitute a cemetery?

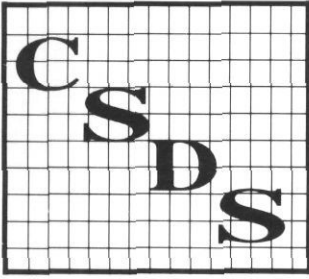
If the early settlers in our country could mastermind a plan for subdividing all of our original territories, could not we, as delegates of our three professions, acquiesce to the needs of one another? Happily this is what transpired, and refinements improving the standards for all concerned were adopted. In the fall of 1988, both ACSM and ALTA officially embraced revisions.

Specifically, a new table has been added to the standards. The table, which appears on the page 22, is a list of optional items to aid surveyors as well as clients. As an example, flood zone designation is not compulsory in order for a survey to be in compliance with the certification set forth in the standards. Flood zone designation appears in the new Table 3 and can be added if the client has a need for the data.

An added advantage of the ALTA/ACSM standards, in addition to the obvious role they play in conforming surveys used for title during development and modification, the process brought together members of the bar, land title people, and surveying professionals for discussion and cooperative efforts.

Because I am a surveyor, I am well aware of the responsibilities and liabilities associated with certification of a product such as land surveys. I am also cognizant that it is not an easy task to satisfy the demands of those persons who have little knowledge of actual field conditions. When it comes to solving problems such as how to illustrate a building that is not plumb or how much reliance to place on underground easements that may be crudely depicted on utility company maps,

CONTINUED ON PAGE 22



CALIFORNIA SURVEYING & DRAFTING SUPPLY INC.

Architectural • Drafting • Engineering • Surveying • Construction Supplies

4733 AUBURN BOULEVARD • SACRAMENTO, CA 95841

(916) 344-0232

(800) 243-1414

TRADE-IN TRADE-UP *to Lietz SDR Data Collectors*

For a limited time
you can trade-in your present
*Data Collector, **working or not**, and
RECEIVE \$1200 OFF
an SDR 22 or 24 Data Collector.



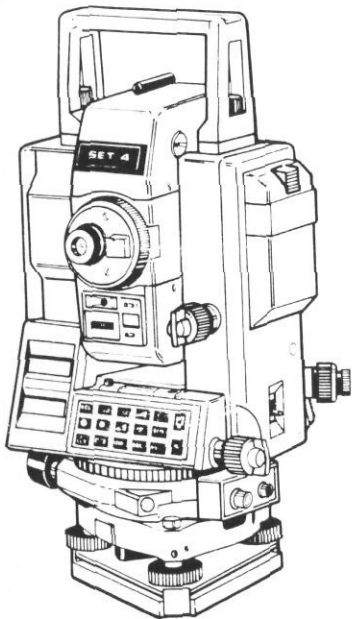
HURRY!

This offer is for a limited time only.

Don't forget to check our fantastic prices on Lietz total stations.

YOU CAN SAVE UP TO \$5,000.00!

California Surveying is now one of the most sophisticated Lietz Electronic repair facilities offering authorized electronic and warranty repairs. Call for estimates.



*Acceptable for trade-ins are: SDR2, FC-1, HA-3, COOP 41, DR-1, DR-2, DC-1Z, Alphacord, Geodat, Super Surveyor, Hayes, MC-II, MC-V and GRE-3.

Raising . . . CONTINUED FROM PAGE 20

non-surveyors rarely recognize the amount of skill and work necessary to accurately record these attributes.

However, the fact that lay people do not comprehend the details of surveying work does not excuse the professional surveyor from meticulously preparing surveys so they meet all of their intended requirements. When all surveyors join the ranks of the majority who perform their work professionally, the profession will no longer face the embarrassment of censure by other allied professions. By exhibiting a commodity that is in compliance with the ALTA/ACSM standards, surveyors will raise their professional image by producing a product that secures not reproof, but admiration.

[Editor's note: Copies of the revised Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys will be mailed to all NSPS members. Additional copies (limit ten) can be obtained free of charge by sending a stamped, self-addressed envelope to Dolores Alonso, NSPS Coordinator, 210 Little Falls St., Falls Church, VA 22046.]

Mary C. Feindt chairs both ACSM's ALTA Liaison Committee and ALTA's ACSM Liaison Committee. She is an honorary member of ACSM. ⊕

Costs of Surveys . . .

CONTINUED FROM PAGE 10

tor gets for doing the finish dirt work? When a boundary survey is done, does the surveyor receive a fee comparable to that paid to the attorney that reviews the conveyance and transaction contract? If not, then ask yourself, "Could the conveyance of land have taken place without this survey? Could this building be constructed in its proper location without the survey?" If the answer to these last two questions is no, then the survey is of considerable significance. Surely your endeavor is worth more than the grading contractor's or the attorney's, for without the surveyor's contribution there would be no project for them to do. The surveyor locates the land, describes the parcel and monuments it for future generations; nothing can happen until the survey is complete. Surveying is crucial to any land transaction or construction project. The majority of attorneys can read a description, and some may even possibly write one, but can they go out and physically show where these bounds are situated? The chances of an attorney being able to do this are remote at best; so the surveyor should be appropriately compensated.

If you want to be a professional, you must charge a fee that is commensurate with the service rendered. If you want to be thought of as a subprofessional, or a laborer, then charge accordingly. *The choice is yours.*

Larry Perry is a graduate of the Asheville Buncombe Technical Institute of Asheville, North Carolina, and has been active in Surveying and Engineering-related fields since the early 1960's. He is the owner of Terrestrial Surveying and Mapping Company in Cheyenne, Wyoming, and is licensed as a land surveyor in Wyoming and Arizona. Larry is a Past-President of the S.E. Chapter of the Professional Land Surveyors of Wyoming, and has received many awards for his professional activities and community projects. He is a strong supporter of professional development and is active in legislative affairs. In addition to state and local interests, Larry is a longtime member of ACSM/NSPS and ASPRS. ⊕

TABLE 3

ADDITIONAL SURVEY REQUIREMENTS

If checked, the following additional items shall be shown on the ALTA/ACSM LAND TITLE SURVEY:

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. ___ Monuments placed (or a reference monument) at all major corners of the boundary of the property. 2. ___ Legend of all symbols and abbreviations used. 3. ___ Vicinity map showing the property surveyed in reference to nearby highway(s) or major street intersection(s). 4. ___ Flood zone designation. 5. ___ Land area. 6. ___ Contours. 7. ___ Setback, height and bulk restrictions of record or disclosed by applicable zoning or building codes (in addition to those recorded in subdivision maps). If none, so state. 8. ___ Square footage of all buildings. 9. ___ All improvements (in addition to buildings, such as signs, parking areas or structures, swimming pools, etc.). 10. ___ Parking areas and, if striped, the striping and the number of parking spaces. 11. ___ Indication of access to a public way such as curb cuts, driveways marked. 12. ___ Location of all utilities serving the property, including without limitation: | <ol style="list-style-type: none"> (a) all railroad tracks and sidings; (b) all manholes, catch basins, valve vaults or other surface indications of subterranean uses; (c) all wires and cables (including their function) crossing the surveyed premises, all poles on or within ten feet of the surveyed premises, and the dimensions of all cross wires or overhangs affecting the surveyed premises; and (d) all utility company installations on the surveyed premises. <ol style="list-style-type: none"> 13. ___ Observable evidence of cemeteries. 14. ___ Governmental Agency Requirements:
 <div style="margin-left: 20px;"> Department of Housing and Urban Development
 Veteran's Administration
 Other </div> 15. ___ Significant observations not otherwise disclosed. 16. _____

 _____ |
|---|--|

NOTE: The items of Table 3 must be negotiated between the surveyor and client. It may be necessary for the surveyor to qualify or expand upon the description of these items, e.g. in reference to Item 7, there may be a need for an interpretation of a restriction. The surveyor cannot make a certification on the basis of an interpretation.

A Remarkable Opportunity For California Land Surveyors Association

Save 50% On Your Lodging Costs Every Time You Travel!

For The Best Of Times...At The Best Of Prices

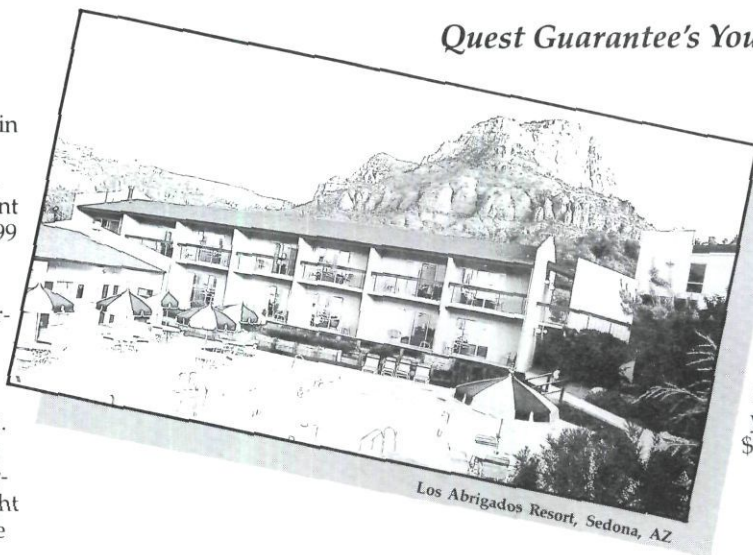
As a Quest International member, you'll stay at fine hotels and motels across the Continental U.S., in Hawaii, Alaska, Canada and the Caribbean. And, while you enjoy the luxuries you'll pay just half the standard room rate—for a night, a weekend or your whole vacation.

Appreciate The Simplicity

Quest is the finest hotel travel value anywhere. Why? Because it was designed for simplicity. You save 50% every night, subject only to space availability. There are no maximum or minimum stay requirements. No coupons or vouchers. No strings.

Your Quest Membership Is Only \$19.95!

Now you can enroll in Quest for an entire year for only \$19.95. That's an 80% discount over the standard \$99 Quest membership fee. And you can renew your membership at the same preferential Association rate for year after year of savings. Just think, by using your Quest membership for only one night of lodging—it's more than paid for itself!



Quest Guarantee's Your Satisfaction

Spend up to 90 days to discover that your Quest membership is worth far more than the \$19.95 you paid for it. Then, if you are not completely satisfied, return your card for a full \$19.95 refund.

Choose From More Than 1,100 Quest Affiliated Hotels And Motels At Exceptional Savings — 1/2 The Standard Room Rate!

Quest International membership offers you 50% off your lodging costs at hotels and motels across the United States, in Canada and the Caribbean. Participating hotels include many:

Holiday Inns	Hiltons	Ramada Inns
Westins	Rodeway Inns	Best Westerns
Radissons	Sheratons	Quality Inns
Stouffers	Residence Inns	Howard Johnson's

Take Advantage Of The Best Travel Value Anywhere—Enroll In Quest Today!

YES, I want to save 50% on my lodging costs by becoming a member of Quest International through this remarkable offer.

My check is enclosed.
(See below for total charges.)



Please charge my:

Quest International

VISA MasterCard American Express

Mr., Mrs. or Ms./First Name/Last Name

Account #

Expiration Date

Address

Signature

City/State/Zip

Return this application with your check, money order (or credit card info.) for \$19.95, plus \$1.95 for postage and handling (Total: \$21.90) to "CLSA Quest Offer", P.O. Box 871 Yakima, WA 98907. Make checks payable to "Destinations". Access # 1117

If you prefer, you may call:
Destinations, Inc.

(509) 453-1666

Found Untagged Monument

To retag or not to retag? That is the question.

By Warren E. McDowell,
P.L.S.

FROM TIME TO TIME I have attended meetings where respected surveyors have spoken about placing their tag on a found untagged monument. The procedure seems to be that a retracement surveyor is to tag an unidentified point if this monument is to be included in the survey, and then the retagging information is to be so noted on the map. retagging is a seductive notion that has seemed to some people like it should be a good idea.

When I have heard this sort of thing said, I find there is something about the whole idea that strikes a peculiar chord within me. Something that says, "No, No, No!" So far, I am not convinced that running about the countryside popping plugs into every well-placed, but unidentified, open pipe equates with good land surveying practice.

When I was first learning this business, one of the messages I got from the old timers was respect for the other surveyor's monument. The inviolate rule was do not molest, do not disturb if for no other reason than it was not mine. At best, I am only a user. Another message was, the survey happens on the ground, that is the real record; all else — field books, calculations, deeds, and maps — are but included shadows of that survey on the ground. Occasionally we need to be reminded that earthquakes, fires, and other calamities can destroy county courthouses and maps and paper records. The notes and other ornaments that we may place on our maps will not last as long as the boundaries we work nor the monu-

ments we set. Therefore, to the largest extent possible, our monuments had better be able to stand alone.

Some surveyors behave as though they have come to believe that an untagged monument is an illegal monument. It is as though "source unknown" disqualifies a monument from consideration. A gold-plated tag will not improve a monument that is mislocated. To me, what makes a monument significant is its location.

***A gold-plated tag
will not improve a
monument that is
mislocated.***

***To me, what makes a
monument significant
is its location.***

The instruction to place a tag is a requirement that is placed on the surveyor; failure to do so is a mark against the surveyor, not against the monument.

The original surveyor was charged with laying out original boundaries. In so doing he pinned that boundary to the earth by setting the original corners, with or without tags. The responsibility for the point rests with the primary agent, the original surveyor, who established the monument in the beginning. I have searched, but thus far I have found nothing in land surveying literature or in the Professional Land Surveyors Act that would grant surveyors the obligation or authority to retag orphan found monuments. It should be apparent to all field surveyors that if we work until the end of time we can never insure that all monuments will be permanently tagged. Even retagging would not

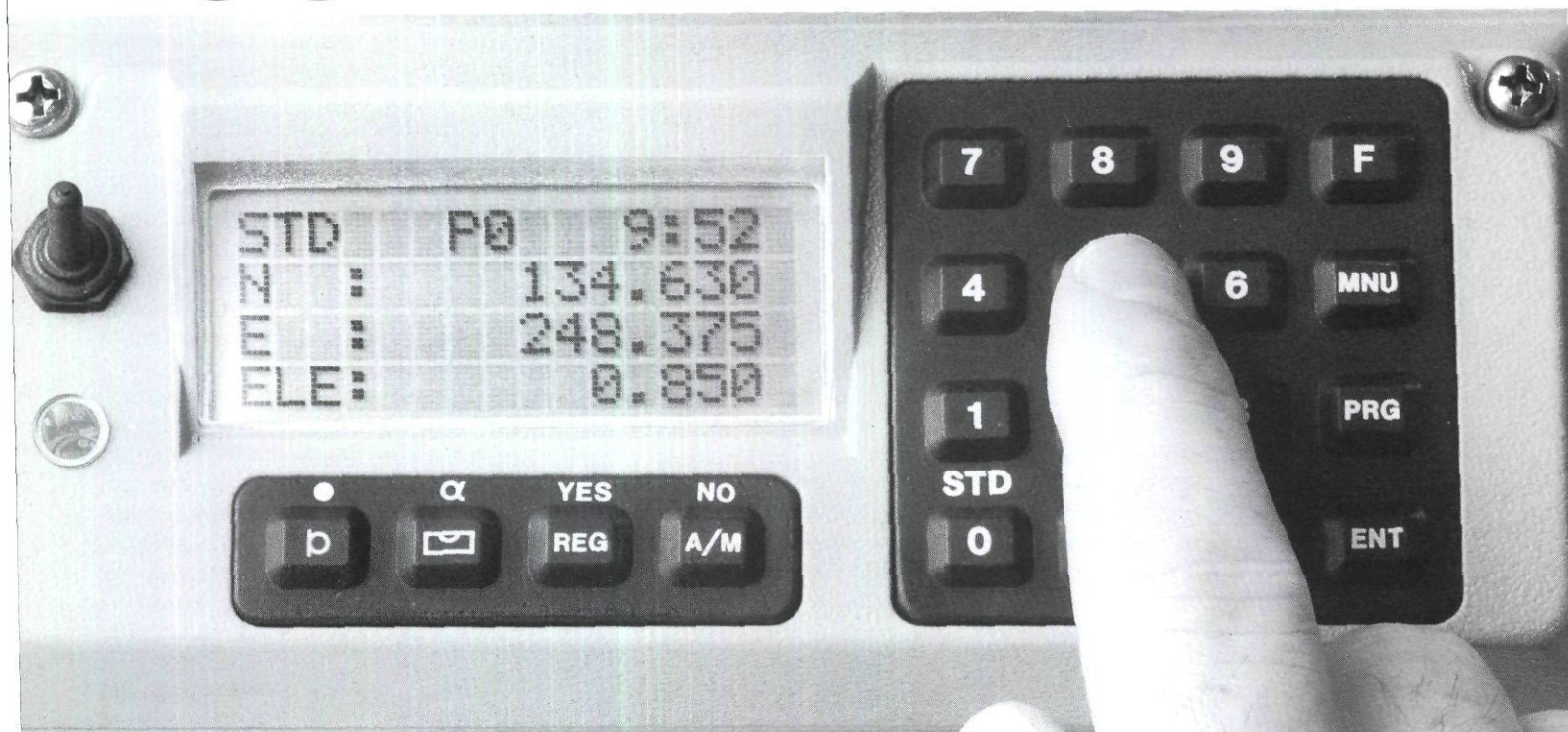
change that fact. The farther I look, the more convinced I become that retagging is a flawed notion that corrupts the authentic record in the field without conferring any benefit.

As land surveyors, our authority and responsibility is spelled out rather clearly in the Professional Land Surveyors Act. In Paragraph 8772, we are told that the surveyor who sets the monument is to tag the monument. Conversely, the surveyor who tags the monument is the one who set the monument. Nowhere in the Act is there language to refute this proposition.

At this point one might well ask, what about resetting or rehabilitating found monuments? Why would that be any different than retagging an unidentified found monument and then noting the fact on your map? As a surveyor, my given task in a retracement survey is to follow in the footsteps of the original surveyor. In so doing, when I find a monument in distress — in its last moment — I tie out the point and place a monument in the exact same location and leave that point with my tag. I have acted out of necessity to preserve the point lest it be lost for all time. In this case, I was an agent of necessity. But note, while the replacement was my work, in so doing I have not changed the original location. The monument remains where I found it, only now the point has a future. Whether I rehabilitated the original monument or installed a new one, the replacement was my work, and therefore my tag. The Professional Land Surveyors Act (8764 & 8773.3) provides for this as necessary for the preservation of monuments. When I use an existing point, I am just that — a user. Neither the location nor the point came into being at my hand, therefore I have no claim to its origin and can not place my tag on that point.

CONTINUED ON PAGE 26

IT WORKS THE WAY YOU WANT TO WORK.



EASILY.

Look at the unique four-line display and simple keyboard on all three of our Geodimeter System 400 total stations. Easy-to-understand menus and prompts make your surveying job simple, fast and accurate. If you want, you can easily set up your own recording procedures.

And yet, at your fingertips is a powerful, third-generation hardware/software system that's superior to any other system on the market today.

Best of all, it's totally compatible with the way YOU want to work in the field and office. Most likely, it's fully compatible with the software you already have installed and know how to use.

How's that for "user-friendly"? Ask for a hands-on demonstration and see for yourself.



Geotronics Of North America, Inc.
55 Leveroni Court, Novato, CA 94949
(415) 883-2367

Tell me more about: Geodimeter 410 420 440.
Is my present software _____ compatible?
 I want a hands-on demonstration.

Name _____ Title _____
Company _____
Address _____
City/State/Zip _____
Phone (_____) _____



Getting Your Views Accepted

By Grank Grazian

Executive Editor
Communications Briefings

KNOWING HOW to get your views accepted is vital in business.

How many times, for example, have you agonized over how to persuade an audience to support your cause or how to convince the boss that your proposal should command top priority?

Fortunately, research has uncovered various approaches that work. But many people still rely on primitive, seat-of-the-pants methods.

Here's a roundup of research studies you should find helpful:

✓ Don't let others draw their own conclusions unless they are knowledgeable about the topic. You'll change more opinions when you draw conclusions for your audience.

✓ Present only one side of an argument when:

— Your audience initially agrees with you and will not be exposed to the other side;

— you are viewed as an authority on the subject.

✓ Present both sides of an issue when the audience:

— is opposed to the idea;

— will later be exposed to the other side;

— is knowledgeable about the subject.

✓ Ask for a small favor first if you want to induce someone to do a major one. Research at Brandeis University showed that once someone has complied with a small — even trivial — favor, the person is more likely to agree to a big one.

✓ Use the "home court advantage" when seeking a favor or approval for an idea. Ask the person to come to your office or home to discuss the issue.

✓ Use both emotional and logical appeals when trying to persuade someone. *Why:* People believe themselves to be logical and seek to rationalize their decisions.

✓ Appeal to one or more of these four basic emotional categories: trust and security, reward and recognition, independence and power, status improvement.

✓ State your arguments in specific terms. Specifics gain acceptance more readily than general terms. Also, use examples and case histories instead of statistical data.

✓ Suggest a test of your idea, one that won't cost much to demonstrate its effectiveness.

✓ Use the "door-in-the-face" technique to get someone to carry out a request. First ask the person to do something difficult, a task you know the person will refuse. Then follow up with a more moderate request — the real one — and often you'll get the desired result.

Example: "Would you be willing to volunteer 100 hours of your time to help with the campaign?" When the person declines, come back with: "Then how about just 10 hours?"

A variation of the approach is called the "self-determination" technique. Eliminate the moderate request and ask the person how much time he or she is willing to donate.

Reprinted from *Communications Briefings*, June 1989. ⊕

Found Untagged . . .

CONTINUED FROM PAGE 24

To return to the fundamental idea, as a surveyor my task in a retracement survey is to follow in the footsteps of the original surveyor; to find the boundary. When in the course of my work I should find an otherwise unidentified monument that satisfies all of the locational requirements of the original survey, I am reasonably confident that I am following in those original footsteps. But if I do not like the location of a found monument, tagged or not, I can set my own point. I do not have to use a monument of questionable value.

Someone might say the real issue here is identity, and by retagging the found monument you identify this particular point as the one that was used in the most recent retracement survey. Identity is helpful, more identity even more helpful; misleading data is not helpful. A monument's significant worth is in its location. If it is in the wrong location, any other information about that point is meaningless. Whether a monument was used in a recent survey will be revealed by its location, and all a tag might do is confirm that conclusion. How can it be thought that retagging would help this process? Will the next surveyor be unable to make that grand leap of intellect to realize the untagged monument most likely was set by the original surveyor and used ever since by other surveyors? Placing my tag on a found monument will provide that point with no special virtue and no special character. Would someone explain to me how retagging differs from plagiarism?

I have been told that several years ago the State Board sent out a letter recommending the practice of retagging. For many of the reasons stated above, I think the practice amounts to fraud and will never ripen into law. If someone can reasonably and logically explain away the concerns that I have expressed here, I am reluctantly prepared to listen. However, until that time, I shall not retag, nor recommend the practice to my friends. ⊕

STEP INTO THE ELECTRONIC AGE. AFFORDABLY.

Now work faster, work smarter... with the industry's finest value in electronic surveying instruments — the DT5A and DT5 by Lietz. These easy-to-use digital transits make quick work of foundation staking, lot and loan surveys — their quality and convenience can help make your business more profitable.

- ▶ Large, liquid crystal displays are easy to read in bright sun, backlit for low light
- ▶ Digital angle display for superior accuracy
- ▶ Time-saving optical plummet
- ▶ Superior optics with 30X telescope
- ▶ Lightweight durability



LIETZ DT5A:

Features two-line LCD display and soft-touch function keys. Perfect for the contractor or construction layout. Perfect back-up for the part-time crew.

Don't wait any longer to give yourself the electronic advantage — call today for full details and a personal demonstration.

LIETZ DT5:

Features dual, two-line LCD displays and soft-touch function keys on both front and back of instrument. Versatile and fast.

LIETZ[®]
SINCE 1882

© 1988 The Lietz Company

Lietz instruments and equipment available
under GSA contract number GS00F-93527.

**WESTERN
surveying
instrument
company**

WESTERN SURVEYING INSTRUMENT COMPANY, INC.

1141-B Old County Road
Belmont, CA 94002
(415) 592-1341

California State University, Long Beach
School Of Engineering
Continuing Engineering Education

**STRUCTURAL, P.E. (CIVIL),
LAND SURVEYOR, SEISMIC DESIGN, AND
ENGINEERING SURVEY MANUALS**

P.E. (Civil) License Review Manuals, Second Edition
4 Volumes, 2,640 Pages, \$225.00*

S.E. (Structural) License Review Manuals, Second Edition
7 Volumes, 3,600 Pages, \$295.00*

Land Surveyor License Review Manuals, Section Edition
1 Volume, 436 Pages, \$50.00*

Seismic Design
1 Volume, 250 Pages, \$24.95

Engineering Survey
1 Volume, 175 Pages, \$19.95

For information, call Continuing Engineering Education at
(213) 985-5363 or Fax No. (213) 985-5489, or write:

Dr. C. V. Chelapati
California State University, Long Beach
Continuing Engineering Education
1250 Bellflower Blvd., Long Beach, CA 90840-5006

* Plus shipping/handling and applicable tax for California
residents. Individual volumes may also be purchased separately.

D.C.A. TEN

*D.C.A. Engineering Software,
Inc. has announced Release 10
of D.C.A. Civil Engineering
Software for use within AutoCAD® (Release 9 or
Release 10). New features include:*



**D.C.A. Engineering
Software, Inc.**

- New Manuals featuring illustrations, screen menus, examples, solutions to common errors.
- 400% Faster TIN Generation, with ability to edit the TIN on screen, and supply break lines by point number.
- Enhancements to all modules.

*Call for pricing and availability. Upgrades are
available to existing users.*

*Let our staff of Professional Engineers assist
you in creating a complete solution to your
design needs. As Authorized dealers for
AutoCAD, D.C.A., and numerous lines of
hardware, we offer complete service from
selection through training and support.*



McGlasson & Associates

625 N. Palm Avenue
Fresno, California 93728

Phone (209) 233-5895

Study Shows Government Can Save \$300 Million By Contracting with Private Surveying and Mapping Firms

BALTIMORE, MD — The Federal Government can save between \$100 and \$300 million dollars by increasing potential utilization of private surveying and mapping firms, according to a study recently released by John M. Palatiello.

In a paper presented at a national surveying and mapping conference in Baltimore, government relations consultant John M. Palatiello said "the savings can be achieved by applying Office of Management and Budget (OMB) Circular A-76 to all government agencies with surveying and mapping activities or requirements."

The circular requires agencies to implement management efficiencies and compare the government's cost of providing goods or services to proposals from private firms. If the private entity can provide quality services at a lower cost, it wins the contract. If the government is more inexpensive, the service stays in-house. In either case, the taxpayer is the winner, since the management efficiencies applied when a service remains with the government also result in savings. Past OMB efforts on other services result in savings between \$10,000 and \$30,000 per Federal employee studied, with about 50 percent kept in-house. OMB has targeted map-making related services for A-76 studies in the 1990 budget submitted to Congress earlier this year.

"More than 20 Federal agencies employ 10,000 Federal workers and spend \$1 billion each year on surveying and mapping. Meanwhile, there are 6,400 qualified private surveying and mapping firms capable of providing the services the government needs. A number of Federal surveying and mapping agencies not only perform their own work instead of contracting out, but they market their services to other Federal agencies, State and local government and foreign governments, thus becoming direct competitors of U.S. firms," Palatiello said.

Palatiello is principal of John M. Palatiello & Associates, a Reston, VA based marketing, public relations and government affairs consulting firm specializing in services to the surveying and mapping community. He also serves as Executive Director of the Management Association for Private Photogrammetric Surveyors (MAPPs), a national trade association of 80 surveying and mapping firms. His research findings were presented in a paper "The Case for Privatization of Federal Mapping Services" at the convention of the American Congress on Surveying and Mapping and American Society for Photogrammetry and Remote Sensing. ⊕

WHY YOU SHOULD JOIN THE CALIFORNIA LAND SURVEYORS ASSOCIATION



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: Through an active legislative program, legislative advocate, and liaison with the Board of Registration, the surveyor is represented at the state level.

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.

EDUCATIONAL 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.

The California Land Surveyors Association is taking this opportunity to explain our structure and our activities. Your membership and involvement will provide you with the opportunity to meet and exchange ideas with your colleagues, to make valuable professional contacts, and most importantly, to work toward improving and enhancing the surveying profession.

Every man owes a part of his time and money to the business or industry in which he is engaged. No man has the moral right to withhold his support from an organization that is striving to improve conditions within his sphere.

— THEODORE ROOSEVELT

JOIN CLSA TODAY!

APPLICATION FOR MEMBERSHIP IN THE CALIFORNIA LAND SURVEYORS ASSOCIATION

- CORPORATE MEMBER GRADE: Shall have a valid California Land Surveyors or Photogrammetric license.
- AFFILIATE MEMBER GRADE: Any person, who in their profession, relies upon the fundamentals of land surveying.
- ASSOCIATE MEMBER GRADE: Any person who holds a valid certificate as a Land Surveyor in Training.
- STUDENT MEMBER GRADE: A student in a College or University actively pursuing the study of land surveying.

a. Name _____ County _____

b. Address _____ City _____ Zip _____

c. Mailing Address _____ Phone No. _____

d. Employment: Private _____ (Principal _____) Retired _____ Public _____
Name of Firm or Agency _____

e. Signature and L.S., P.S., C.E., OR L.S.I.T. No. _____

f. Recommended by (Affiliate and Student Grades only) _____

Dues schedule: * Corporate \$120.00 * Affiliate \$60.00 * Associate \$60.00 Student \$12.00 (* Entrance Fees \$15.00)

Mail application and payment to: **California Land Surveyors Association • P.O. Box 9098 • Santa Rosa, CA 95405-9990**

I authorize charge to my: MasterCard Account No.: _____

Bank Americard / Visa No.: _____

Expiration Date: _____ Signature: _____

FIRST YEAR'S ANNUAL DUES ARE TO BE PRO-RATED FROM DATE OF APPLICATION

My Continuing Surveying Education

By Ernest Pintor

THIS YEAR of 1989 will mark my 25th year as a Professional Surveyor in the State of California. As I reflect on my surveying education and career, it is not as unique as I once thought.

My Mom gave me a small book titled "The Coast Artillery Corps of the United States Army" at the age of ten. It was the only book that I kept while growing up. So it comes as no surprise that my first duty station in the Marine Corps was with the 12th Marines in Camp McNair, Japan, with the Survey Section, in 1958. I learned the techniques of pacing, chaining with a 100' tape, turning angles with an aiming circle, and computing with log books. By the end of my tour of duty 14 months later, I was an instructor teaching the new arrivals what my predecessors had taught me.

In September 1957, I enrolled in San Bernardino Valley College extended day classes which included Engineering 15A, Surveying.

By the early 1960's I had advanced from a Senior Engineering Aide to Junior Civil Engineer and to Survey Party Chief with the Riverside County Surveyors Office. Several of us would drive to wherever surveying courses were being offered in Southern California — including drives to UCLA extension courses in downtown Los Angeles instructed by Ira Alexander — and Pasadena City College seminars.

While Chief Surveyor at the City of Riverside, I was issued, for life, a State of California Standard Designated Subjects Teaching Credential in Surveying. This gave me the opportunity to teach various surveying courses from 1966 through 1975 at San Bernardino Valley College.

The 1970's kept me busy running my own business and doing my civic obligations as Chairman or President of various organizations. During this time, I served as a member of the City of Riverside Planning Commission, as a City Councilman, and as Chairman of the Redevelopment Agency.

The 1980's saw me concentrating on surviving the 1982 recession, and a personal surveying injury. In 1986, I rejoined the Riverside/San Bernardino Chapter of CLSA; I served as

***A very important vehicle
at Pomona is the Open
University Concept
which allows enrollment
in any regular on-campus
courses on a
space-available basis.***

Chapter President in 1988, and currently hold the position of State Representative.

Last October, while attending the First Annual California Poly Pomona Survey and Mapping Conference, I learned that Dr. Howard Turner, Ph.D., P.L.S., would begin teaching in January 1989. The idea of getting a land surveying degree began to emerge for me.

After meeting with Dr. Turner twice this year, I found the program at Pomona is geared towards graduating a Civil Engineer with some surveying knowledge. I feel that Dr. Turner may be able to convert the program to a Surveying Degree; however, it will not be in the immediate future. A very important vehicle at Pomona is the Open University Concept which allows enrollment in any regular on-campus courses on a space-available basis. This is an interesting concept in continuing educa-

tion. Those interested in obtaining further information should contact Dr. Turner.

On January 27 and 28, 1989, I attended the 28th Annual Surveying and Photogrammetric Conference in Fresno. I met some of the professors and, much to my pleasant surprise, met three Professional Surveyors attending Fresno State full time.

Larry Cloney is retired as City Surveyor for San Jose, California. His goal is to graduate, become a Professor, and teach surveying.

Michael McGee, past State President of CLSA, will graduate in the Spring of 1990 from Fresno State. His future goal is to attend law school and specialize in Real Estate Law.

Stephen Frank worked for Ramco in Saudi Arabia. His goal is to graduate with a Masters Degree in Surveying and obtain an advanced Surveying Management position with a world-wide company.

In March 1989, I attended the CLSA Conference in Anaheim, California. I was able to renew my acquaintances with Larry, Michael and Steven.

I also met with James K. Crossfield, Ph.D., Professor from Fresno State. Upon returning to my office I wrote Professor Crossfield and asked him to evaluate my transcript and resume and make other suggestions. Within a week, I received everything requested.

Professor Crossfield's prompt reply, and comments by the above three individuals, have convinced me that the surveying program at Fresno State has to be one of the top programs in this country.

Personally I have to decide if I have the desire to go through three classes of Calculus, two in Physics, and find a way to leave my business for two years in order to get a Surveying Degree.

In the meantime I will continue my own education by attending conferences, seminars, classes and working on CLSA committees. ⊕

Before Becoming a Consultant

IT IS NOT DIFFICULT to jump from practitioner to consultant. However, before you make that move, you must make some tough decisions:

- **Look hard** at business development. Were you successful at selling ideas to colleagues and supervisors? Do you like selling? If not, you need to reconsider.
- **Survey** successful consultants. Find five whose backgrounds are similar to yours. Interview them.
- **Develop** a game plan. Incorporate data from all sources. Create an action plan with several options.

Source: Loretta D. Foxman and Walter L. Polsky, writing in *Personnel Journal*, 245 Fischer Ave., B2, Costa Mesa, CA 92626. ⊕

New Jersey Couple Funds "Phantom Lot"

WEST MILFORD, NJ (UPI) — For years, Henry and Ida Mae Struble's tax bill kept coming in, and for years the couple kept paying it.

Last year, after a revaluation, the couple realized that since 1964 they have been paying not only for their cottage and 1.3-acre lot, but for a 1.2-acre lot next door.

After a year's investigation, local officials have determined that the second lot is not the couple's property — and that it, in fact, does not even exist.

"It appeared to be impossible to have those dimensions on our tax map," Tax Assessor Brian Townsend told the *Record of Hackensack* newspaper. "Then I paced off the property, which wasn't exactly scientific, but it was close enough to let me know it wasn't there."

What first caught Henry Struble's eye was a revaluation notice that said he owned 2.5 acres. But he was especially tax-conscious last year because the bill on the phantom lot had jumped from \$304 to \$1,100.

The Strubles are owed \$4,616.92 for tax overpayments. The town says it does not owe them interest, and the couple does not plan to pursue the case once they get the check.

Townsend said he examined tax records last year, after the Strubles reported that they were being billed for more than they owned, and discovered no deed on file for the 1.2 acres.

"It's like Ripley's Believe It or Not," Ida Mae Struble said.

The Strubles once owned more property, but subdivided it and sold most of their land in the early 1960s. The phantom lot was apparently created on paper then, Townsend believes. ⊕

SURVEYING STAKES

SAVE UPWARDS OF 50%
ON THE FINEST
STEEL PIPE
BOUNDARY STAKES

PRICES FOR MOST POPULAR SIZES		
3/4"	I.D. x 12"	.43 each
1"	I.D. x 12"	.59 each
1 1/2"	I.D. x 12"	.89 each
2"	I.D. x 12"	1.12 each
3/4"	I.D. x 18"	.56 each
1"	I.D. x 18"	.78 each
1 1/2"	I.D. x 18"	1.20 each
2"	I.D. x 18"	1.52 each
3/4"	I.D. x 24"	.69 each
1"	I.D. x 24"	.97 each
1 1/2"	I.D. x 24"	1.51 each
2"	I.D. x 24"	1.91 each
3/4"	I.D. x 30"	.83 each
1"	I.D. x 30"	1.16 each
1 1/2"	I.D. x 30"	1.82 each
2"	I.D. x 30"	2.31 each



IMMEDIATE DELIVERY

PLEASE FEEL FREE TO CALL FOR PRICES ON ANY SIZE NOT LISTED ABOVE. WE CUT ANY SIZE AND LENGTH

(Ask for TOM)

YES! GALVANIZED PIPES AVAILABLE - CALL FOR QUOTES

INDUSTRIAL PIPE & STEEL CO.
9836 RUSH STREET SOUTH EL MONTE, CA 91733
(818) 443-9467



LOCAL NUMBERS
ORANGE COUNTY (714) 523-4191
SAN DIEGO (619) 579-4602
TOLL FREE NUMBERS
INDIA CALIFORNIA 800-242-4309
WEST CALIFORNIA 800-423-4981

ULTRA-SITE ADJUSTABLE TRIPOD

5 1/2 ft to 10 ft high
FLUORESCENT SURVEY EQUIPMENT
write or phone for details
(714 630-5060)

C&R MANUFACTURING
1189 N. KRAEMER BLVD.
ANAHEIM, CALIF. 92806

OWNED AND OPERATED BY HADCO INSTRUMENTS

HADCO INSTRUMENTS

SURVEY INSTRUMENTS
SALES & SERVICE

LIETZ DAVID WHITE NIKON
K&E ZEISS/EDM EQUIPMENT

FINEST REPAIRS AVAILABLE
RENTALS - FIELD SUPPLIES
714 630-5050

1189 N. KRAEMER BLVD.
ANAHEIM, CALIFORNIA 92806



CALIFORNIA LAND SURVEYORS ASSOCIATION

☆ 1990 PUBLICATIONS ☆
NOW AVAILABLE

Publication Order Form

PUBLICATIONS	CLSA Member Price	Non-member Price	Quantity	Total Amount
LS Roster with both alphabetical and numerical sections (1990 publication)	\$ 5.00	\$ 10.00		
LS Act and Board Rules (1990 publication)	\$ 5.00	\$ 10.00		
Subdivision Map Act (1990 publication)	\$ 6.00	\$ 12.00		
Binder with index tabs for LS Roster, LS Act & Board Rules, and Subdivision Map Act	\$ 6.00	\$ 6.00		
1990 Complete Package including LS Roster, LS Act & Rules, Subdivision Map Act, and Binder	\$ 18.50	\$ 32.50		
California Coordinate Projection Tables — NAD '83	\$ 6.00	\$ 12.00		
Right of Entry Cards (minimum order is two)	2 / \$ 3.00	2 / \$ 6.00		
Land Surveying Brochure (minimum order is 100)	100 / \$ 15.00	100 / \$ 30.00		
Standard Contract – Agreement for Prof. Services	\$5.50 / pad of 25	\$11.00 / pad of 25		
Land Surveying for the Land Owner and Real Estate Professional	\$ 3.00	\$ 6.00		
MEMBERSHIP ITEMS (not available to non-members)				
Lapel Pin with CLSA logo in white, gold, and black	\$ 6.00	not available		
Decal of CLSA logo (minimum order is two)	2 / \$1.50	not available		

SHIPPING CHARGES

Up to \$10.00	\$ 1.50	\$30.01 to \$40.00	\$ 4.50
\$10.01 to \$20.00	\$ 2.75	\$40.01 to \$50.00	\$ 5.00
\$20.01 to \$30.00	\$ 3.75	Over \$50.00	Add 10%

Subtotal	
6 1/4% CA Sales Tax	
Shipping Charge	
TOTAL	\$

- Make your check or money order payable to California Land Surveyors Association (CLSA).
- Mail your order form (or copy) and payment to:
CLSA Central Office
P.O. Box 9098
Santa Rosa, CA 95405-9990
Phone: (707) 578-6016
Fax: (707) 578-4406

- Minimum order for Master Card or Visa is \$20.00.
- If you are paying by Master Card or Visa, you may fax your order to (707) 578-4406 between the hours of 9:00 AM and 5:00 PM, Monday through Friday.
- Member prices are only available to members of the State California Land Surveyors Association.

NAME	METHOD OF PAYMENT: <input type="checkbox"/> CHECK ENCLOSED <input type="checkbox"/> MASTERCARD <input type="checkbox"/> VISA
COMPANY NAME (if company is mailing address below)	ACCOUNT NUMBER (minimum charge card order is \$20.00)
STREET ADDRESS (we cannot ship to P.O. box)	EXPIRATION DATE
CITY/STATE/ZIP CODE	NAME ON CARD
DAYTIME TELEPHONE	AUTHORIZED SIGNATURE

Do You Communicate Well?

HERE ARE SOME QUESTIONS to ask yourself to determine how well you communicate. They are based on an article by Ken Matejka of the School of Business Administration, Duquesne University.

1. Do you create an atmosphere that encourages people to ask questions when they are unsure of something?
2. Do you make an effort to become aware of "hidden agendas" that get in the way of open communication? If you fail to uncover and consider unresolved issues, you won't understand what a person meant by what he or she said.
3. When speaking, do you take into account the total impression you are creating? Do you consider inflection,

YES . . . There is a Difference Between a PLAT and a MAP

THE FOLLOWING is from *Mine Mapping and Layout*, by W. Randolph Williams, P.E.

PROPERTY (CADASTRAL) SURVEYS are used to establish and fix property boundaries, including ownership, leases, rights-of-way, and data needed for property assessment. These surveys are generally used in the construction of official plats of land ownership but are also used for general map construction. A plat differs from a map in that a plat shows dimensional information of boundaries of a parcel of land on the drawing, whereas a map relies solely upon the scaled representation of dimensions.

THE FOLLOWING is from *Evidence and Procedures for Boundary Location*, by Curtis M. Brown, Walter G. Robillard, and Donald A. Wilson.

A SURVEY PLAT is a surveyor's diagram showing land boundaries and/or a subdivision of land. A MAP, as contrasted with a plat, graphically represents to a scale the physical features of an area and may show some general land boundaries, especially political boundaries.

A plat is more restrictive in scope than is a map, and it has added features. As used by surveyors, a "plat" is a plan showing property lines and interrelationship of property lines with dimensional data on lines; it does not normally express relief. A map rarely has dimensional data; the quantities can only be determined by scaling. On a plat, dimensional data may eliminate the necessity of scaling, and the value of the plat is not dependent on the accuracy with which points are plotted.

THUS: Consider the type of drawing that you are making before you label it a plat or a map.

From *The 49th Parallel*, N.D., November 1988



tone, facial expression, gestures, etc.? Or do you focus only on the words?

4. Are you aware that people usually will not change their minds when told or threatened to do so — that you must make them see the situation in a different way?
5. Do you often prepare a rebuttal while a person is speaking — before trying to really understand what was said?
6. Do you really understand yourself — and how your attributes affect your communication attempts? For example, are you a "big-picture person" or a "detail person"? Are you rational or judgmental?

Answers:

The answers to these questions should be obvious. But even one wrong answer can impair your ability to communicate well. If you fall short in certain areas, you should work on them — or you won't be really effective as a communicator.

Source: *Management Solutions*, American Management Association, 135 W. 50th St., New York, NY 10020. Reprinted from *Communications Briefings*, March 1989. ⊕

Surveying Engineering Enters the 1990's

The 29th Annual CSU Fresno Surveying Engineering Conference January 25-27, 1990

- Boundary Determination in Metropolitan Areas
- The Surveying Engineer's Role in GIS for the 1990's
- The Land Surveyor, Research and Evidence
- Photogrammetric Digital Mapping and the Land Surveyor
- A "Go Ahead" Survey Control System for LIS
- The Land Surveyor and ALTA Surveys
- "User Friendly" Least Squares for Surveying Engineers
- Agreed Boundaries and the Surveyor: A Look at the Law
- Polynomial Method for State Plane Coordinates
- Boundary Determination on Sectionalized Land
- Workshops: GPS, HP-41, MS-DOS, and AutoCAD

For Registration Information Contact:

Department of Surveying Engineering
c/o Brett Jefferson, P.L.S., Conference Chair
California State University, Fresno
Fresno, CA 93704-0094



California Land Surveyors Association

NEW MEMBERS

CORPORATE

Michael J. Coady, LS, Sonoma, CA
 Judith G. Cunha, LS, Concord, CA
 Donald F. Dresselhaus, LS,
 Valley Center, CA
 David O. Knell, LS, Los Alamitos, CA
 Daniel G. MacLeod, LS, Fremont, CA
 James R. Maunder, LS, Eureka, CA
 Ragan O. Nelson, LS, Phoenix, AZ
 Douglas R. Owyang, LS, Santa Rosa, CA
 Dana S. Robie, LS, Redlands, CA
 W. James Silsbee, LS, Los Angeles, CA
 Gerald L. VanGompel, LS, Los Angeles, CA
 William J. Voge, LS, Leona Valley, CA

ASSOCIATE

Reed H. Bekins, Davis, CA
 Alan P. Fryer, Goleta, CA
 Matthew R. Gilligan, Bakersfield, CA
 Robert C. Grimm, Chico, CA
 Paul C. Hoover, San Leandro, CA
 Neil D. King, Ross, CA

Marshall L. Lancaster, Moreno Valley, CA
 Brad T. Mortensen, Buena Park, CA
 Mark S. Platt, Corona, CA
 Dale Ramsey, San Diego, CA
 Sundresan Sami, Redondo Beach, CA
 Thomas F. Slater, Santee, CA
 Timothy N. Treichelt, Sacramento, CA
 Clinton D. Whitehead, Eureka, CA

AFFILIATE

Ray T. Christensen, Redondo Beach, CA
 Sid J. Goldstien, Solvang, CA
 Donald C. Harris, San Luis Obispo, CA
 Ralph C. Kephart, Beverly Hills, CA
 Robert Leverington, Seaside, CA
 Carl A. Mastro, La Mirada, CA
 Phi T. Nguyen, Irvine, CA
 James M. Powell, Foster City, CA
 Michael P. Rhodes, Santa Barbara, CA
 Thomas N. Stephens, Garberville, CA
 Gary R. Stone, Moreno Valley, CA
 Douglas C. Wolfe, Arroyo Grande, CA

STUDENT

Connely M. Bourdon, Roseville, CA
 James W. Bowers, Antioch, CA
 John Cardarelli, South San Francisco, CA
 James B. Caughman, Camarillo, CA
 Katrina M. Creel, Fresno, CA
 Edroe Forbes, Madera, CA
 Robert L. Hagler, Fresno, CA
 Thomas W. Mayhew, Venice, CA
 Mark R. Meyer, Fresno, CA
 Carol Morales, Fresno, CA
 David A. Murtha, Fresno, CA
 Steven W. Schwarz, Truckee, CA
 Derek J. Taaning, Walnut Creek, CA
 William A. Tice, Riverside, CA
 Steven C. Vaughn, Clovis, CA

SUSTAINING MEMBER

Microsurvey Marketing Intl. Inc.,
 Newmarket, Ontario ⊕

California Land Surveyors Association and Nevada Association of Land Surveyors JOINT CONFERENCE '90*

***NEW DATE: April 6-8**
***NEW LOCATION: John Ascuaga's Nugget
 Sparks, Nevada**

FOR INFORMATION CONTACT:

Registration

CLSA/NALS Conference Office
 P.O. Box 2722
 Santa Rosa, CA 95405
 Telephone: (707) 578-6016

Exhibits

Michael K. Welch
 ☞Karen Welch
 4669 Paint Horse Trail
 Santa Maria, CA 93455
 Telephone: (805) 922-9527

Conference Room Rates

\$72.00
 Single or Double Occupancy

HISTORICAL SURVEYS


- Ancient Surveys
- Dyer Surveys
- Delta Surveys
- 19th Century Geographical Surveys

CALIFORNIA MAPPING PRACTICES

- Eight Common Map Act Problems
- Planning Process
- U.C.I. Record of Survey
- The Condominium Plan

G.P.S.

- Mt. McKinley G.P.S. Expedition
- G.P.S. User's Panel Discussion



STATION.
WITH 2

POINTS
C-6: E:+-

When A New Elta Guides You Through The Program...

... you can solve even the most complex surveying problems in no time at all: with the new Elta 3 or the new Elta 4.

You operate the total station with the three keys, assisted by the user guidance in the two four-line LCD displays. The integrated practice-oriented programs, including free stationing, ensure easy and fast operation and keep you up-to-date in the display. You concentrate on your surveying problems, the new high-speed microprocessor solves them for you.

Select single-axis compensation with the Elta 4 or dual-axis with the Elta 3; depending on your accuracy requirements.

The RS 232 C data port enables you to connect the REC 500 Intelligent Field Book or other peripheral equipment to provide a complete and inexpensive total system.

Performance Through Advanced Electronics

For full details, contact your Zeiss dealer, or call (914) 681-7304.

ZEISS

West Germany

THE SERIES

E

Carl Zeiss, Inc.

One Zeiss Drive
Thornwood, NY 10594
914 · 747 · 1800

ZEISS

West Germany

Sustaining Members



Carl Zeiss Inc.
Surveying Instrument Div.
One Zeiss Drive
Thornwood, NY 10594
(914) 747-1800
Paul Hahn
Regional Sales Mgr.
(714) 455-1724



SURVEYORS SERVICE CO.
800-432-8380
P.O. Box 1500 COSTA MESA, CA 92628



HASELBACH
SURVEYING
INSTRUMENTS

SALES • SERVICE • SUPPLIES • RENTALS



(415) 348-7247
1447 Rollins Road
Burlingame, CA 94010

"FIFTY YEARS OF SERVICE"



SALES - RENTALS - REPAIRS

13115 S. Broadway
Los Angeles, CA 90061

Jack C. Wilcox
ASSISTANT VICE PRESIDENT
REGIONAL ENGINEER

WTC WORLD TITLE COMPANY

1 CITY BLVD. WEST, SUITE 600, ORANGE, CA 92668
(714) 634-2273 (800) 228-0272



Nothing else quite measures up

Geotronics of No. America
55 Leveroni Ct.
Novato, CA 94949 415/883-2367

SALES • RENTALS • SERVICE



ENGINEERING SUPPLY COMPANY
Surveying Equipment and Supplies

5700 Imhoff Drive, Suite C
Concord, California 94520

(415) 680-4701
(800) 888-1175

LEWIS & LEWIS
surveying equipment

Ventura, California



1141-B Old County Road
Belmont, CA 94002 (415) 592-1341



LIETZ
Since 1882
Surveying Instruments
Engineering Supplies

Diane Vogt
Technical Sales Representative



LAND INNOVATION NORTHWEST, INC.
CONCEPTS IN SITE DEVELOPMENT

P.O. Box 44 • Santa Rosa, CA 95402
(707) 538-4652



CARTWRIGHT

Aerial Surveys Inc.

Executive Airport
Sacramento, CA 95822

(916) 421-3465

Consulting Photogrammetric Engineers
Serving Industry and Government Worldwide Since 1946

BELLECCI & ASSOCIATES
CIVIL ENGINEERING - SURVEYING

Frank C. Bellecci, R.C.E., L.S.

2552 STANWELL DRIVE, SUITE 201
CONCORD, CA 94520

(415) 685-4569

PENTAX

Pentax Instruments
A division of
Pentax Corporation
35 Inverness Drive East
Englewood, CO 80112
Tel: (303) 799-8000 Ext. 351
Home: (503) 760-7548

John Michieli
Western Territory Manager



TRIMBLE NAVIGATION

Robert A. Trimble

585 North Mary Avenue
Sunnyvale, California 94086
(408) 730-2916 Telex 6713973



CALIFORNIA SURVEYING & DRAFTING SUPPLY, INC.

4733 Auburn Boulevard
Sacramento, California 95841

(916) 344-0232
(800) 243-1414



Hunsaker & Associates
Riverside/San Bernardino, Inc.
Planning • Engineering • Surveying • GPS

Bruce F. Hunsaker
Vice President

732 East Carnegie Drive • San Bernardino, California 92408
(714) 889-2222, ext. 203 FAX: (714) 381-3590



Head Office
P.O. Box 112
Queensville, Ontario
L0G 1R0
(416) 853-6773

Software for Surveyors
and Civil Engineers

The California Surveyor

Published Quarterly by the
CALIFORNIA LAND SURVEYORS
ASSOCIATION
Post Office Box 9098
Santa Rosa, Ca 95405-9990

ADDRESS CORRECTION REQUESTED

BULK RATE
U.S. POSTAGE
PAID
Permit No. 635
Santa Rosa, CA