

HOOSIER SURVEYOR

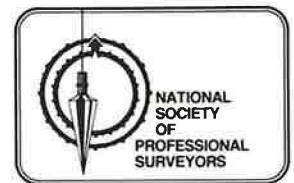


QUARTERLY PUBLICATION OF THE
INDIANA SOCIETY OF
PROFESSIONAL LAND SURVEYORS, INC.

VOLUME 20
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FALL 1993

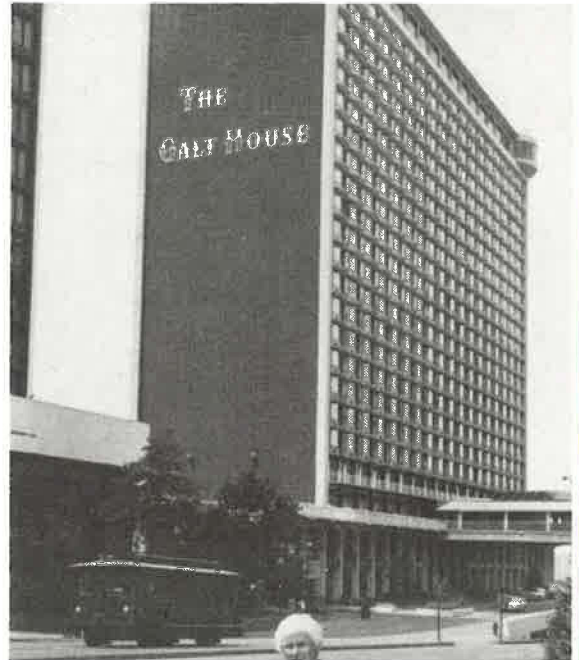


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Articles and columns appearing in this publication do not necessarily reflect the viewpoints of ISPLS or the Hoosier Surveyor staff, but are published as a service to its members, the general public and for the betterment of the surveying profession. No responsibility is assumed for errors, misquotes or deletions as to its contents.

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HOOSIER SURVEYOR

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PRESIDENT'S THOUGHTS

by Douglas Herendeen, PLS, New Palestine, IN



March 19, 1993 was a proud day in my life as I was installed as President of our great organization. On that day I pledged to you that I will do my utmost to serve our Association to the best of my ability in the coming year. Now it seems a little strange for me to be writing my final message as

president for the Hoosier Surveyor but all things must come to an end sooner or later. This past year I have seen a mixture of events; some difficulties to overcome, new programs begun and old programs given a new look.

During the year we held our first, and possibly not the last, Joint Society Governmental Affairs Convention at the Adams Mark Hotel in Indianapolis. From the various comments I have heard, a lot of people want to have another one in a few years. The decision to participate in that convention will be up to you the members.

As president I have also had to deal with our latest lawsuit from a person who has filed a complaint requesting damages "... for injury to his person, income, property, and reputation caused by the intentional tortious and illegal conduct of ISPLS in attempting to destroy the practice of a licensed professional surveyor".

We currently have won the case due to the Statue of Limitations and the fact that this case was not filed in a timely manner. However, this surveyor may amend his complaint and refile under a different manner such as Malicious Conduct. We will see where this case takes us and if we can get any of our money back trying to defend ISPLS.

I would like to express my appreciation to those members who took their time and energy to help work on the various committees that make up ISPLS. Without your help it would not have been possible. I would also like to thank Dianne Bennett, without her commitment to the Society many ideas and programs would not become a reality.

For those of you that have never had the opportunity to attend one of our annual conventions, do yourself a favor and start making plans to attend next year in Louisville. Become involved yourself, volunteer for a committee, remember without you the Volunteer many of our Committees do not function properly. The good feelings and friendships that you will find will more than repay the time you spend.

Finally, ask someone to join. It is an old but true statement, "If each member would only recruit one new member next month, we would double our organization's membership". Please try. Thanks!

In closing I will be the first to admit that I did not accomplish

all that I set out to do. This position requires a lot of planning, organization and being able to delegate that responsibility to the appropriate committee.

At this time I would like to pass the gavel over to Chris Marbach, whom I respect very much. Please give him the commitment you have given me.

Again, thank you for allowing me to serve you as president.

SO YOU THINK YOU GOT TROUBLES

Poor old Farmer Brown has had a hard life. This is his tale of woe.

"It all started back in 1966 when they changed to decimal currency and my overdraft was doubled".

"I was just getting used to this, when they brought in kilograms instead of pounds and my wool clip dropped by half".

"Then they changed the rainfall to millimeters and we haven't had an inch of rain since".

"So what do they do? They bring in a thing called Celsius and it never gets hotter than 40 degrees in summer. No wonder my wheat won't grow!"

"As if this wasn't enough, they had to change us from acres to hectares and I end up with half the land I had!"

"I bought a small car to beat the oil crisis but they changed from gallons to liters and I'm using four times as much fuel as before!"

"So one day I sat down and had a think, I reckoned that with daylight saving I was working seven extra hours a week for nothing. I decided to sell out."

"To cap it all off, just as I put the place in the agent's hands, they changed from miles to kilometers and now I find that I'm so far out of town, nobody wants to buy the blooming place!"

...printed from the *Queensland Surveyor's Bulletin*, October 1991

FEELING LEFT OUT?

It's not unusual for someone who's been in a job for a number of years to feel taken for granted and out-of-touch with superiors, subordinates, and co-workers. After all, you're experienced, dependable, and no longer in need of the constant direction and close supervision you required as a neophyte to the job.

If you feel left out, it's high time you made time to meet with co-workers. Talk with them and share ideas about what's important. Ask for advice in areas where others are more knowledgeable. Ask superiors to provide performance appraisals on a timely basis. And above all, be a nice person with whom to work. Your kindness will be returned.

...Adapted from *WINGS*, American Security Group, Atlanta, Georgia. Carol Stone, Editor.

ISPLS BOARD OF DIRECTORS MEETING

Summary by Rich Hudson, P.L.S., ISPLS Secretary

Minutes ISPLS Board of Directors Meeting - Highlights

May 22, 1993

1993-1994 Budget presented for review line by line. Regular membership dues raised by \$5.00 to \$180.00 with a \$20.00 voluntary scholarship contribution. Each category of firm membership to increase by \$5.00. Budget was approved.

Vincennes University - As the ISPLS Board acts as the advisory board to the surveying program, it was reported that the program has become more automated with the use of AUTOCAD and TOPCON. A new class, TCE 160 - Basic PC/CAD Systems will be the first class to start toward total automation. Recommendations for courses EPP200 and BML100 were made.

Wes Day proposed changes to the Registration Board's educational requirement rule for applicants without degrees.

ISPLS profit from 1993 Convention was \$6,863.56.

August 21, 1993

Treasurer's report dated June 30, 1993, shows end balance of \$866.14 for 1992-1993.

Accounting and name tag software are in the computer at headquarters.

Nominations for president-elect are E.R. Gray and Rich Hudson.

Education and Professional Development committees to be combined and called the Education Committee.

Wes Day reports on rule changes, Surveyors Registration Board disciplinary hearings, and corrections for existing Surveyors Registration Act.

September 18, 1993

Treasurer's report dated September 17, 1993, shows overall assets as \$183,118.47 with a total income/expense of \$42,486.69.

1994 Convention exhibitor contracts mailed out.


1993 convention account to be closed out.

Wes Day's name to be submitted to Governor's office to fill vacancy on Surveyors Registration Board.


Lawsuit continued till October 1, 1993 and could take until first of the year.

Remaining 1993 Board of Directors meetings changed to October 23rd and December 4th.

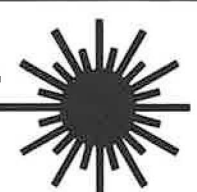
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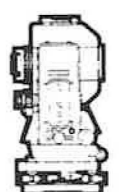
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BOARD OF REGISTRATION HAPPENINGS

BOARD MEMBER ACTIVITIES

Governor Evan Bayh has reappointed Rollyn Blankenbeker and Patrick N. Cunningham to four-year terms on the L.S. Registration Board. Their initial two-year appointments ended July 1, 1993. Original appointments to the new L.S. Board, in July 1991, were for staggered terms. John McNamara has been re-elected as the board chairman and Ruthann Sumpter as vice-chairman for the year. Michael Feldbusch, whose appointment was to end in July 1994, submitted a letter of resignation in August, 1993. At the time of this writing, a replacement has not been appointed by Governor Bayh.

Ruthann Sumpter was Indiana's representative (without expenses) at the NCEES Central Zone Meeting in St. Louis, April 22-24, 1993. She and Kenneth Curtis were Indiana's delegates (without expenses) to the 1993 National Council of Examiners for Engineering and Surveying (NCEES) Annual Meeting in Nashville, TN, August 11-15, 1993. Ms. Sumpter serves on the national NCEES Committee on Professionalism and Ethics (P&E) and Mr. Curtis serves on the national NCEES Committee on Examinations for Professional Surveyors (EPS).

The 1994 Central Zone Meeting will be hosted by the Indiana Boards of land surveyors and engineers in Indianapolis, May 5-7, 1994. The August 1994 NCEES Annual Meeting will be held in Rapid City, South Dakota.

The L.S. Registration Board, in concert with the Engineer's Registration Board, held its semi-annual certificate presentation for newly registered LS and PE on Friday, November 19, 1993, in the auditorium of the Government Center South, Indianapolis. A reception, sponsored by ISPLS and ISPE, was held in the atrium of the Conference Center after the ceremonies. Prior to this event, the Board had an informal "Dutch" luncheon with officers of ISPLS at the Hyatt Regency Hotel.

RECENT BOARD ACTIONS

A proposed rule (LSA Document #93-90) which amends 865 IAC 1-12-2 concerning the definition for route survey was approved at a public hearing on August 20, 1993. The amendment changes the definition of "route survey" to: "refers to surveys executed for the purpose of acquiring an interest in the tracts of land required for highways, railroads, waterways, pipelines, electric lines, or any other linear transportation or utility route. It does not include surveys executed for acquisition parcels that are of even width and immediately adjacent to an existing title, easement, or right-of-way line and do not require a property survey in order to prepare an accurate legal description for the parcel. Route surveys are not considered either original surveys or retracement surveys."

A proposed rule (LSA Document #93-129) which amends 865 IAC 1-11-1 concerning fees charged by the board was approved at a public hearing on October 15, 1993. The amendment concerned application fees that are increasing due to the cost of an examina-

tion charged by the examination provider.

In the case of William Harlos LS80040322, whose land surveyor's license was suspended indefinitely in August 1992 (see *Hoosier Surveyor*, Vol. 19, No. 2, p. 3), the Board acted on his petition for reinstatement and was reinstated on probation on May 3, 1993, with a requirement to submit monthly copies of all real property surveys to the Board. On August 20, 1993, after a show cause hearing, the Board revoked his land surveying license because he was not in compliance with his probation terms by failing to include the submission of a particular survey and by failing to do the survey in conformance with minimum standard for the competent practice of land surveying.

Some other disciplinary hearing cases have been heard by the Board and will be reported in the next issue of the *Hoosier Surveyor*.

RECENT INDIANA LAND SURVEYOR REGISTRANTS (1992-93)

The following have passed the Indiana land surveying registration examination (and associated educational and experience requirements) during the past two years and are fully registered as professional land surveyors in Indiana with all the rights, privileges, and responsibilities associated therewith. Recent statistics show: 1986-17; 1987-15; 1988-43; 1989-38; 1990-18; 1991-37; 1992-9; 1993-21. (Registrants' names have been published in the *Hoosier Surveyor* as follows: 1986-89 in Vol. 16, No.3, Winter 1990, page 9-11; and 1990-91 in Vol. 18, No. 4, Spring 1992, page 3-4.)

LS80920000 John Keller, 182 E. Rodighiero, Terre Haute, IN 47805
LS80920001 Bryan Foust, 6605 State Rd 28 East, Lafayette, IN 47905
LS80920002 David Gaston, R.R. 2, Box 171-58, Clayton, IN 46118
LS80920003 Tom Fidler, 419 Hidden Forest So., Longview, TX 75605
LS80920004 Jerry Newburn, 756 Sablecreek Ln., Greenwood, IN 46142
LS80920005 Rodney Neese, 2309 Mayhew Drive, Indianapolis, IN 46227
LS80920006 Gary Ahlberg, 1104 Gary Court, Wheaton, IL 60187
LS80920007 Stuart Hein, 1700 Walnut Lane, Evansville, IN 47714
LS80920013 James Hankins, 8319 Scott lane, Rockford, IL 61111

LS29300000 Theodore Cooley, 315 Hillcrest Ave., Batesville, IN 47006
LS29300001 Jeffrey Myers, 2719 Pawnee Drive, Indianapolis, IN 46229
LS29300002 Daniel Kovert, 7606 Iron Horse Lane, Indianapolis, IN 46256
LS29300003 William Finke, 1577 Garfield Park Blvd., Lebanon, OH 45036
LS29300004 Merton Lovell, 240 Cedar Hill Lane, Springsboro, OH 45066
LS29300005 Bruce Hagen, 8029 Vineyard Drive, Indianapolis, IN 46260
LS29300006 James Zimmer, 221 S. Maple Street, Bloomington, IN 47404
LS29300007 Lyle A. Branson, 6138 N. Hillside Ave., Indianapolis, IN 46220
LS29300008 Robert C. Griffin, 8465 Goldie Lane, Martinsville, IN 46151
LS29300009 V.J. Strebs, 516 Vine Street, St. Joseph, MI 49085

...continued page

VINCENNES UNIVERSITY SURVEYING SCHOLARSHIPS



Vincennes University senior Jeff Mortland (right), Sandborn, is the recipient of a \$750 scholarship from the Southwestern Indiana Chapter of the Indiana Society of Professional Land Surveyors. Congratulating Mortland is Art Haase, professor and chair of the V.U. Surveying Technology Department. Mortland began his senior year at V.U. on August 23. The Indiana Society of Professional Land Surveyors serves as the advisory committee for the V.U. program.



Vincennes University senior Craig Myers (right), Liberty, is the recipient of the \$1,000 Peggy Archer Memorial Scholarship Award, presented by the Indiana Society of Professional Land Surveyors. Myers also is the recipient of a \$300 scholarship presented by the Central Indiana Chapter of ISPLS. Congratulating Myers is Art Haase, professor and chair of V.U. Surveying Technology Department. Myers is a senior in the V.U. Surveying Technology program this fall.

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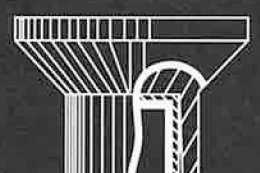
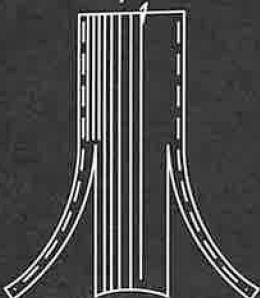
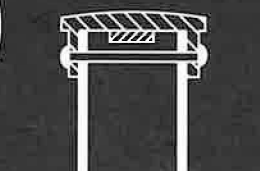
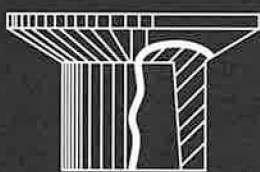
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...continued from page 4

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- LS29300011 Douglas E. Eck, 2700 Peachtree Drive, Vincennes, IN 47591
- LS29300012 Paul Marchese, 10 Monaco Drive, Roselle, IL 60172
- LS29300013 Kevin R. Chaffee, 1037 S. Park Acres Dr., Batesville, IN 47006
- LS29300014 Kenneth G. Garrison, 4463 North 55 West, Fairland, IN 46126
- LS29300015 Lee A. Russell, 1176 Wilmington Road, Lebanon, IN 45036
- LS29300016 Donald R. West, 17814 Eagletown Rd., Westfield, IN 46074
- LS29300017 Ernst W. Kohn, 40 W 683 S, Bridle Creek Dr., St. Charles, IL 60175
- LS29300018 C. Henry Aldridge, P.O. Box 305, Lebanon, IN 46052
- LS29300019 Jess A. Gwinn, R.R. 1 Box 285, Solsberry, IN 47459
- LS29300020 William C. Ruberry, 5431 Swisher Ave., Cleves, IN 45002

IDENTIFICATION NUMBERS FOR FIRMS/AGENCIES

During the past couple of years the Board has assigned identification numbers (according to 864 IAC 1.1-13-19 c) to several land surveying firms or government agencies who made the required formal written requests to the Board. These numbers are to be used on caps permanently affixed to monuments and are used by these agencies in lieu of individual land surveyor license numbers. (The first 14 number were published in the *Hoosier Surveyor*, Vol. 18, No. 4, Spring 1992)

- 0015 Beam, Longest, & Neff, Inc., Indianapolis
- 0016 Jacobi, Toombs, & Lanz, Inc., Clarksville
- 0017 Russell Engineering Associates, Inc., Fort Wayne
- 0018 United Surveying, Inc., Indianapolis
- 0019 Woolpert Associates, Inc., Indianapolis
- 0020 Z.K. Tazian Associates, Inc., Fort Wayne
- 0021 Indiana Dept. of Natural Resources, Indianapolis
- 0022 United Consulting Engineers & Associates, Indianapolis
- 0023 Morley & Associates, Evansville
- 0024 HNTB (Howard, Needles, Tammen, & Bergendoff), Indianapolis

STOLEN SURVEY EQUIPMENT

On August 8, 1993 between the hours of 10:00 p.m. and 5:30 a.m., August 9, 1993, Bartlett Consultants, Ltd. had several surveying instruments removed from their field vehicle which was parked in front of one of their employees townhouse in Warrenton, Virginia. The following is a list of the stolen equipment (including serial numbers):

- Topcon GTS 2-B Semi Total Station #J11581
- Pentax GT 4B Transit #312603
- Topcon ATF-6 Level #Q13936

If anyone comes across any of the above referenced instruments, please contact:

- Investigator Cabbage
- Town of Warrenton, Virginia
- (703) 347-1107

AN INTRODUCTION TO CIVIL PROCEDURE AND EVIDENCE FOR THE LAND SURVEYOR

by John Briscoe

The Course of a Lawsuit

1. The filing of a complaint begins a lawsuit. "Plaintiff" is the person or entity (partnership, corporation, state, federal government, etc.) who files the complaint. A "Defendant" is a party sued. In a dispute concerning land title or boundaries, the complaint alleges, in varying ways and degrees of particularness, that Plaintiff is the owner of the disputed land and Defendant is not. There are different forms of actions (lawsuits) in which the title to or boundaries of real property may be determined. Some of them are:
 - a) Quiet title: the most common form of title action. The action may be in personam (i.e., against named defendants only) or in rem (against all persons, known or unknown, claiming an interest in the real property). There are special kinds of quiet-title actions for suing government entities, because of the doctrine of sovereign immunity. See, e.g., 28 United States Code Sec 2409a (quiet title against United States)
 - b) Ejectment: essentially to recover possession of real property; title must necessarily be determined, for if Plaintiff cannot show title in himself, he is not entitled to possession.
 - c) Trespass: to recover money damages for injury to real property (e.g., flooding, removing coal, etc.). Title or boundaries may be placed in issue, since if Plaintiff does not own the land "trespassed" upon, he is entitled to nothing.
 - d) Injunction: may be used to prohibit defendants from doing some act, such as asserting title to the disputed land, removing timber or coal, etc.
 - e) Declaratory Relief: may be used in many kinds of controversies, including disputes over title or boundaries. In many states, one advantage of this form of action is priority in getting to trial.
2. Answer and Cross-Complaint: The answer is Defendant's reply to the complaint; in a title case, it consists principally of a denial that plaintiff owns the property in question. A cross-complaint is frequently filed, for without one Defendant may defeat Plaintiff's title but in many states cannot have title quieted in himself. (An exception exists in the case of a complaint for declaratory relief, for example).
3. Discovery: procedures whereby each party can learn (with many exceptions) the other party's contentions and knowledge of the facts of the case. Frequently used discovery procedures:
 - a) Interrogatories - written questions to other party, to be answered in writing, and under oath.
 - b) Depositions - the taking of the sworn oral testimony of a witness, without the presence of a judge.
 - c) Requests to Inspect Property - while not necessary for land surveyor in certain states (see, e.g., Calif. Civil Code Sec. 846.5), useful in cases of other experts who don't enjoy the special status of surveyors.
4. Trial: Some of the proceedings and concepts of trial:
 - a) Order of Proof (with vast discretion in judge): (1) Plaintiff

- presents his case first, then (2) Defendant, then (3) Plaintiff ("rebuttal"), then (4) Defendant ("surrebuttal"). Rebuttal and surrebuttal are limited to matters raised by opponent during immediately preceding phase of case.
 - b) Burden of Production - To be distinguished from burden of proof. In general, burden to introduce the minimum evidence necessary to avoid a finding against you on the issue. A somewhat technical concept.
 - c) Burden of Proof (or of Persuasion) An example: To have title quieted in himself, plaintiff must establish each element necessary to his title (e.g., Government patent and chain of title through to himself) by a "preponderance of the evidence." Similarly, to have title quieted in himself, a defendant who has filed a cross-complaint must also establish each element necessary to his case (e.g., five years' possession, payment of taxes, etc.) by a "preponderance of the evidence." The degree of proof required in most civil cases, a preponderance of the evidence, is to be distinguished from the degree required of the prosecution in criminal cases: proof "beyond a reasonable doubt". Some issues in civil cases require a degree of proof somewhere between these two, "clear and convincing evidence."
 - d) Examinations (questioning) of witnesses:
 - Direct examination: by attorney calling the witness. No "leading questions" allowed, unless the witness is "hostile", i.e. somehow affiliated with the opposing party.
 - Cross examination: by opposing attorney. Leading questions allowed. Limited to scope of direct examination.
 - Re-direct examination: like direct examination, limited to scope of cross-examination.
 - Re-cross examination: like cross-examination, limited to scope of re-direct examination.
 5. Appeal: After judgment in trial court, loser may appeal to higher court. Generally limited to questions of law, and no new facts may be introduced, with one major exception: facts which may "judicially noticed." Such "facts" include plats and field notes of government surveys, patents, etc.

General Comments for the Land Surveyor Preparing to Testify

1. Learn as much of the rules of evidence as possible. Your knowledge of these rules can help yourself as well as your attorney.
 - a) Hearsay - You contend the river cut through an oxbow during the 1860s, and you find a newspaper account of a devastating flood in 1865. How can this help you, if at all? On what matters may a surveyor reasonably rely in his profession? Definition of hearsay: Evidence of a statement made out of court, offered to prove the truth of the statement.
 - b) Best evidence rule - If a document you wish to introduce is a copy, where is the original? This rule prohibits the introduction of a copy of a document; it has several exceptions.

...continued Page 8

CIVIL PROCEDURE

...continued from Page 7

c) Authentication - How can you establish that a document is what you say it is (e.g., field notes of a particular survey)?

Whenever you wish to introduce into evidence a government document, obtain a certified copy. Certification obviates authentication, best-evidence-rule, and some hearsay problems.

2. Insist that your attorney depose the surveyor who will testify for the opponent. If you do not know the reasoning of your opponent, the results can be disastrous.
3. Do not let your attorney persuade you to testify beyond either your competence or your knowledge. Examples:
 - a) "My opinion is based in part on the instructions to the deputy surveyors" [which, not having been reviewed, turn out to have been burned in the San Francisco fire of 1906].
 - b) "My opinion is based in part on the Treaty of Guadalupe Hidalgo," etc.Aside from damaging your reputation, such forays can destroy the otherwise solid aspects of your presentation.
4. In giving your qualifications, emphasize those that pertain most directly to the testimony you are about to give. If your testimony relates to the recovery of a government corner, it is not particularly important that you have done 200 site surveys for construction projects.
5. If you feel someone else is better suited to the task, e.g., a geologist, an expert in monument recovery, say so. Your candor will do far more for your esteem in the community than undertaking a project that may be beyond your competence. Also, when you later assert that a task is within your ability, you will have the full confidence of your attorney and the other experts.
6. Perform the tasks requested, but don't hesitate to offer suggestions for investigation, argument, etc. The land surveyor's perspective can be extremely valuable to the attorney and to other experts.
7. When you are cross-examined, be direct. When appropriate, answer firmly, even when the answer may appear harmful to your position, "You are correct, sir," "Certainly," (That is not to say you shouldn't balk at a question which assumes something untrue: "Have you stopped beating your wife?") This kind of directness conveys your confidence in your position, and bolsters your credibility. In any event, thorough preparation should have disclosed any weaknesses in your position, and developed the best explanation for them.
8. Strive to be fully prepared on even picayune matters, but if your memory fails, admit it promptly. ("Sir, could you explain how mean sea level, Sea Level Datum 1929, and the National Geodetic Vertical Datum differ?")

(John Briscoe, 1981. This paper adapted from "An Introduction to Civil Procedure and Evidence for the Land Surveyor," by John Briscoe. ACSM Bulletin No 73 (May 1981). pp. 27-28)
John Briscoe is an attorney with Washburn, Kemp & Wagenselin San Francisco. (from The California Surveyor, Spring, 1993)

RULE 12 AND THE PREPARATION OF NEW LAND DESCRIPTIONS

by Gary Kent, PLS, Indianapolis, Indiana

Perhaps the most frequently repeated misinterpretation of Rule 12 is that, according to the Rule, a new description cannot be prepared without a survey. This is not true!

Since the preparation of a new description is normally related to the conduct of an original survey, we need to review the sections of the Rule addressing original surveys.

865 IAC 1-12-2(e) defines Original Survey as "a survey that is executed for the purpose of locating and describing real property which has not been previously described in documents conveying an interest in said real property."

The portion of the Rule related to descriptions and original surveys (865 IAC 1-12-17) states that "When conducting an original survey" ... the client must be furnished "with an accurate metes and bounds description calling for and accurately describing controlling physical monuments ... or natural or record monuments for each new unsubdivided parcel but including the perimeter of any new subdivision plat involved in the survey."

The operative words in Section 17 are "When conducting an original survey". Rule 12 was written to provide standards for the preparation of surveys. It does not address issues that do not spring from the preparation of surveys.

Therefore, nowhere in Rule 12 is there any standard regarding the preparation of new descriptions, except as related to the conduct of a survey.

When asked to prepare a description without benefit of a survey, the issues, then, are purely a matter of professional opinion.

First, ask yourself if the parent description is adequate to allow cut-outs to be prepared without a survey. If the parent description is vague or ambiguous or makes calls for certain physical features that cannot be ascertained without benefit of a survey, then perhaps you cannot write a proper cut-out without surveying at least a part of the parent tract.

The other question that needs to be asked is whether the cut-out itself can be accurately described without benefit of a survey. For example, if the client wants the north line of the new description to fall 150 feet north of a barn, or to follow a certain fence line, then you probably need to perform a survey in order to locate those features so the description can be accurately written.

The above discussion does not address the fact that in Indiana, County Auditors have the right to require a survey for any new cut-out. Hamilton County, in fact, is now requiring a survey for all new cut-outs. This issue, however, is separate and distinct from the requirements of Rule 12. If the local jurisdiction requires a survey, then a survey will have to be prepared - Rule 12 notwithstanding. However, lacking local regulations which require a survey, professional judgement should be the measure of whether one needs to be prepared or not.

PROTECT YOUR EMPLOYEES - PROTECT YOUR INVESTMENT

by Gary Kent, PLS, Indianapolis, Indiana

Earlier this summer, a Schneider Engineering survey vehicle was involved in a serious accident. Although the vehicle was totalled, amazingly the three field personnel were either not injured or only slightly injured, and there was very little damage to any equipment. It was felt that other companies could benefit from a review of the factors that contributed to this happy ending.

The Schneider vehicle, a one ton Ford van, was passing through an intersection at about 30 miles per hour, when a mid-sized automobile ran a stop sign at about 55 miles per hour and slammed into the middle of the right side of the van.

A major contributing factor to the lack of injury and damage was unquestionably the size and weight of the van. Parts, such as the leaf springs, were sent flying several hundred feet from the impact. All doors were jammed shut and there was substantial damage inside the van where equipment and supplies had slammed against the sides of the vehicle.

Other considerations, however, weighted just as importantly in the safety of the personnel in the van. Schneider installs metal cages in their vans to separate the passenger compartment from the equipment. It doesn't take much imagination to consider what a piece of equipment travelling through the air at 50 miles an hour might do to the back of your head. There is no question that a rebar, a tripod or a plumb bob flying around inside the vehicle could easily cause serious or fatal injuries, even in a not-so-serious accident.

Schneider Engineering feels that the installation of metal

Schneider also has a policy that all employees in a vehicle must be in a seat with a seat belt on.

cages in field vehicles is a must for the protection of employee.

Schneider also has a policy that all employees in a vehicle must be in a seat with a seat belt on. While the effect of this rule in a side impact is probably unknown, certainly in a head-on, rear-end or roll-over, seat belts will minimize injury.

Amazingly, the damage to equipment was minimal. The automatic level, a theodolite and several tribrachs required some repair and several metal sighting rods were damaged beyond repair. The Geodimeter 440 Electronic Total Station, however, which was situated virtually at the point of impact in the van, suffered no damage and was not even knocked out of adjustment according to Geodimeter service techs, although a compensator problem which occurred a couple of weeks after the accident may be attributed to the impact.

"WASH OUT" SURVEY ARRANGEMENTS WITH LENDERS

The following memo was sent to Jim Boyer, NSPS President, from Nancy Parke, ACSM/ASPRS Government Affairs Director in August 1993. When we receive more information on the "Wash Out", it will be published in the Hoosier Surveyor.

MEMORANDUM

Many surveyors have posed the question as to the legality of performing residential surveys for banks or mortgage firms under an agreement to waive a fee if the loan or transaction does not take place. This arrangement is commonly termed a "wash out".

In December, 1992, Nick Miller, President, Florida Society of Professional Land Surveyors, wrote a letter to Mr. Dave Williamson, Director of Enforcement for the Real Estate Settlement Procedures Act (RESPA) at the Department of Housing & Urban Development (HUD) in Washington, D.C. requesting a written reply to the legality of "wash-outs" under RESPA. He anticipated an official interpretation of the RESPA rule and "wash out" arrangements to be published in the Federal Register. To date, this has not occurred.

In addition, Mr. Williamson has been receiving requests from the states of Texas, Kansas and Florida on this matter.

Last week, I contacted Mr. Williamson at HUD to inquire when an official opinion would be made on the legality of "wash out" survey arrangements under RESPA.

Mr. Williamson indicated that he plans to put out an official notice letter on "wash out" or "bust out" surveys within the next two weeks. He noted that it was HUD's opinion that such arrangements were illegal under RESPA and that enforcement would take place on October 1, 1993 or shortly thereafter. **Under RESPA, punishment for violation includes fines and possible imprisonment.**

Williamson indicated there was no need for a further regulation in order for HUD to take action. He will furnish me with a copy of the HUD letter on this so we can inform our members. He did, however, indicate that this issue would be elaborated on in a subsequent rule or regulation that would be ultimately published in the Federal Register.

Please inform NSPS members that providing residential surveying services to banks or mortgage lenders and waiving fees in exchange for direct or referral business is in violation of RESPA and such arrangements will be legally enforced by HUD. I will forward Mr. Williamson's letter to you when it is received.

**1994 BI-STATE CONFERENCE
JANUARY 26-29, 1994
LOUISVILLE, KENTUCKY
THE GALT HOUSE
"SPANNING THE CENTURIES"**

SURVEYORS ON TRIAL II: COURAGE AND LOYALTY IN ARKANSAS

by Robert Foster, P.E., P.L.S., Surveying Engineering

Continuing the discussion about the Arkansas surveyors who ran afoul of the United States of America over price fixing, a few more ironies and thoughts are worth mentioning.

The first and most obvious of the ironies is the spectacle of the strong arm of our federal government raised in righteous wrath against a handful of struggling professionals (from the President's home state, no less) over their meager attempts to establish a modest fee for service.

No less a power than the United States Justice Department, armed with the Sherman Antitrust Act and assisted by the Federal Bureau of Investigation, has charged forth to protect an unsuspecting consumer public from the schemes of surveyors bent on establishing the outrageous fee *estimate* of \$300 to perform a lot survey.

Millions may be earned by manipulative stock dealers on Wall Street; hundreds of millions may be taken in by weapons dealers arming our potential enemies in the Middle East; billions may be the earnings of drug dealers working the urban streets and school yards of America. But a small pocket of surveyors in the northwest corner of Arkansas managed to catch the attention of zealous Justice Department junior attorneys and investigators, and the principles of a free market economy are safe once again.

With the threat of prison sentences hanging over the head of four of its survey members, the Northwest Chapter of the Arkansas Society of Professional Surveyors wisely pled guilty in the United States District Court of Arkansas to violating the Sherman Antitrust Act and, in doing so, accepted a negotiated fine of \$60,000. Compared to prison and fines up to a half-million dollars, it was a plea bargain that seems a *real* bargain. But in the context of a suggested estimate (not a mandatory minimum fee) of \$300 for a lot survey, this is a settlement comparable to the death penalty for shoplifting. By this standard some of our U.S. Senators and Congressmen should spend the rest of their lives in the slammer, and there is no penalty great enough for the white collar crimes that occur with predictable regularity on Wall Street.

We might also consider the position of surveying as a career in our free market economy. A basic concept is that every product and service is only worth as much as the market will pay for it. When there are plenty of butter and eggs on the market shelves, prices are low. If the condition persists, producers of butter and eggs cut back on production, perhaps by growing soybeans instead. If, in one particular region, the fee for the basic surveying service is so low as to make it impossible even to field a survey crew with a decent wage structure, surveyors in that region must find other services to deliver that are valued more highly by the purchasing public. Or perhaps there are just too many surveyors marketing services to too small a market. In any case, we know that we cannot depend on legislation (or the U.S. Justice Department) to broaden or increase our markets (see "What to do when the recession ends," *Civil Engineering News*, June 1993).

One encouraging development in this Arkansas episode is

evidence of real loyalty among professionals. The Northwest Chapter of Arkansas Association of Surveyors has shown an admirable solidarity, which could well be emulated by other groups. The Chapter, in accepting the fine of \$60,000, has removed the threat of jail and personal fines against four of its members.

A more selfish group might have washed its hands of the whole affair, leaving the individuals simply to fend for themselves. But recognizing that the members were attempting to serve the whole profession, the group accepted the financial burden in protection of the few.

It's a shame more surveyors don't recognize their responsibility of association participation; among the professions, surveyors are probably the least inclined to seek strength in numbers. The nay-sayers will use the Arkansas case as justification for *not* joining, on the grounds that as non-members they are free of the risks generated by the actions of a few. But as non-members, they are also unable to contribute their own efforts and talents to strengthening the profession.

In my travels around the country in the last two years, both on behalf of ACSM and in teaching a seminar on the ALTA/ACSM surveying standards, I have heard repeatedly a complaint from non-members (non-members of their own state associations as well as non-members of ACSM) that the associations "never do anything." If there is one explanation for the failure of the associations to impact the public image of surveying, or to enact favorable legislation, or to improve the business environment for surveying, it is the failure of professionals to participate in all these efforts through professional association activities.

In the months to come there will be plenty of articles and advisories regarding the activities of professional associations as a result of the Arkansas case. We will be told never to discuss fee arrangements among ourselves, even informally, in anything resembling official association functions - including committee meetings. We will do well to pay attention to this advice.

But as long as a minority of surveyors are left to do the work for the whole profession, not much will get done.

There may be criticism leveled at the four surveyors in Arkansas who tried to do something on their own, but *they tried to do something*. I applaud them for trying, even if their efforts were misguided. I regret that more surveyors are not involved with as much energy and determination. I also applaud their local association for accepting the financial responsibility for the well-intentioned efforts of its members.

...permission to reprint this article was given by the author and CIVIL ENGINEERING NEWS where it was originally published in the September 1993 issue.

"WHO OWNS THE RECORDS?"

by Knud E. Hermansen and Grace Wigal

At the termination of a surveyor's services, some clients demand that the surveyor turn over all work products, including plats, designs, reports, and descriptions. Most surveyors refuse to turn over their reproducible work products such as mylar or vellum plans, CAD data files, "hard copy" sketches, and original computer-generated reports. If a dispute ensues, the ultimate question is: Who has the right to retain possession of the reproducible work products?

The client believes he or she has the right to retain possession of all work products including the reproducible ones. After all, it was the client who asked and paid the surveyor to prepare the products. Furthermore, the documents sometimes contain sensitive information the client does not want published or made public. For example, to perfect title by adverse possession, a client might not want a neighbor to know that he or she is encroaching on the neighbor's property. The client might also point out that a builder does not have the right to retain possession of a house built at the request of and paid for by a home buyer. So why should the surveyor be treated differently?

The difference is that in dealing with a surveyor, the client has sought and paid for a professional service, not a product. The surveyor's work products are generated as part of his or her service, much as an attorney might prepare trial notes while representing a client or a doctor might complete a patient chart in caring for a patient. The surveyor's service is delivered in the form of an opinion or design concept. Thus, the client has a right to receive a defensible professional opinion communicated in a useful and understandable manner on the location of boundaries. In the case of a development design, the client has a right to receive a design prepared and communicated in a manner and form that uses good engineering and design principles, facilitates government approval, helps in the profitable sale of units, and is acceptable as a permanent public record.

These definitions support the surveyor's position that the client has not purchased a particular product, document, or result.¹ The surveyor is paid for services necessary to render and communicate the opinion; he or she is not paid for the documents themselves. Consequently, once the client has received a legible copy of the surveyor's opinion or design, the client has received what they paid for and the surveyor has met his or her professional obligation.

In most cases, the surveyor has a duty to retain possession of the originals to present fraudulent alterations. The surveyor may be required to give possession to a neutral third party such as a recorder of deeds as in the case where subdivision regulations require that the original development plan be recorded. Consequently, undetectable alterations may be made to the recorded document but not without a high risk of detection when the deceiving party is attempting to alter it.

Once the original has left the surveyor's possession and control, the risk that undetectable modifications or alterations will be made without benefit of proper professional supervision in-

creases substantially. The possibility of such changes, in turn, increases the risk of unwarranted liability for the surveyor as well as harm to third parties who in good faith rely on what appears to be the surveyor's original work and opinion. On the other hand, it is difficult, if not impossible, to make undetectable ink changes to a copy. Changes made to a copy that is subsequently copied would also be detectable assuming the surveyor takes other precautions.

Finally, the surveyor who does not retain control of the reproducible document makes it difficult to prove what was or was not done under his or her supervision and control. Without the reproducible document, it becomes difficult to prove the original contents of the work product when the surveyor's work and opinion are questioned. (It should be noted that widespread adoption of the discovery rule, coupled with rejection of the privity-of-contract defense in certain tort actions, requires long-term care and possession of all work products.)

Obviously, these reasons for retaining the reproducible document are not as critical as long as the surveyor has not signed or sealed the document. A document without any evidence of professional preparation or without the identity of the surveyor loses part or all of its value and poses little risk to the surveyor or wary member of the public. However, the reasons for retention continue to be valid when the document can be identified as originating in whole or in part from a particular licensed surveyor.

The surveyor can take several preventive measures to reduce the chance that there will be a dispute with the client or that undetectable alterations will be made to the work product. First and foremost, the agreement between the client and surveyor should make clear who retains possession of the originals. To allay the client's worry about confidentiality, the agreement could include provisions that any information will remain confidential.

Second, to prevent undetectable alterations, the surveyor should not seal and sign the reproducible document or digital media retained by the survey firm. (Some surveyors have their seal and signature scanned and place them on CAD files, thereby increasing the chance of mischief or deceit). An unsigned document reduces the harm an altered document can cause if it is stolen from the firm's record storage and ensures that the firm will not send out revisions of the plan without the surveyor reviewing and approving such revisions. This assumes the surveyor retains exclusive possession of the seal and has not authorized another person to sign for him or her.

Third, the surveyor should use a crimp seal on documents copied from the reproducible document and given to the client. As an alternative to the crimp seal, the surveyor could use a different color for the ink seal and signature. Both the signature and seal should be in an off color since a seal can be purchased from a manufacture without proof of licensure. A note that contains a warning about the document and that partially defaces the seal and signature should be included. For example, the note overprinted

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FLOOD PLAIN MAP AMENDMENTS

by Mark Deal, L.S.I.

One cannot deny the fact that flood zones are having an increasingly significant impact on land use and development, but this has also made it possible for surveyors to provide an additional service to their clients. Because Flood Insurance Rate Maps (FIRM's) are constantly being revised, many homeowners do not discover that their property has been included in a 100 year flood zone until they attempt to refinance their property. Invariably, some of these lots are at an elevation higher than the Base Flood Elevation (BFE), and their inclusion in the Special Flood Hazard Area (SFHA) is the result of an error or the inaccuracies resulting from the manner of producing the flood plain maps, or the scale of the maps. Under certain circumstances, however, a structure (or an entire parcel) can be removed from the SFHA, eliminating the requirement for flood insurance (which is usually in the neighborhood of \$600 annually). The Federal Emergency Management Agency (FEMA) has procedures in place to make more detailed determinations on a case by case basis. The procedure for doing so is to request a Letter of Map Amendment (LOMA) or a Letter of Map Revision (LOMR) from FEMA. Information included in such a request must be certified by a Professional Engineer or Land Surveyor.

Requests for determinations based on topographic conditions that existed on the effective date of the first NFIP map that showed the structure or parcel of land to be within the SFHA are done under the Map Amendment process. All other requests for determinations must be submitted as a Request for Letter of Map Revision. A Map Revision request requires much more information, such as statements attesting to the quality of, and the manner in which fill was placed.

When submitting a Request for Letter of Map Amendment, you will be required to furnish supporting data to FEMA. Basically, they want to look at your submittal, see where the property is in relation to the flood source and flood zone, elevations of the lowest finished floor, adjacent grades, and elevations around the perimeter of the property. You will usually be required to submit the following data with the your request:

1. A copy of the recorded deed with all signatures, seals and recording information;
2. If the property is in a platted subdivision, you must submit a copy of the recorded plat with all signatures, etc.;
3. A topographic map (such as a copy of part of a quad map) with the structure(s) and property lines plotted, ground elevations, lowest finished grades adjacent to the structures, and in the case of undeveloped land, the elevation of the lowest ground point, and the BFE shown;
4. A copy of the current FIRM panel with the subject properly located thereon.
5. Data to substantiate the BFE. If the subject property lies within an area in which a detailed study has been performed (such as a Zone AE) you can use the BFE from the FIRM panel. If the property lies within an area that has not had such a

detailed study (such as a Zone A) then you must determine the BFE. This can be done by a complete engineering analysis, which of course is probably the safest approach. However, in dealing with FEMA, I have been told that a number of other, less rigorous means can be used to determine the base flood elevation in an area in which a detailed study has not been done. FEMA will accept data from studies performed by other government agencies such as the Corps of Engineers. If you can find a resident who has lived on or near the subject property for the last 50 years or so and will show you where the high water mark was during the big flood 40 or so years ago, you can take an elevation shot and use it. You have to put your seal on it though. One of the engineers at the regional office in Denton sent me a disk with a program on it developed by the Corp of Engineers that is just for determining a BFE in an area without a detailed study. The package is called "SIMPLIFIED FLOOD HAZARD DETERMINATION". After taking a couple of cross sections, you can input a few parameters and it will give you a BFE. It's a nice little program you can get by asking for it.

6. Benchmark Information. Easiest course here is to use a benchmark shown on the FIRM. Problem is ~~that they~~ are seldom where you need it. They will take whatever you will certify to, but it must be referenced to the 1929 NGVD.

7. A signed and sealed statement asserting the accuracy of the information submitted.

FEMA may require you to submit additional data, but these are the basics.

FEMA has prepared a form known as an ELEVATION CERTIFICATE that merely requires you to fill out the appropriate blanks and can be used for the simplest of requests, but this does not have to be used, and in many cases it won't be feasible. If you have more than one structure on the subject property for example, it is easier just to put all of the data together without an Elevation Certificate form.

I've attempted to put together a few key elements of the LOMA request process for your information. Do not take this as a how-to manual, but it should give you some idea of the amount of work involved. One publication that you should obtain is titled - "APPEALS, REVISIONS, AND AMENDMENTS TO FLOOD INSURANCE MAPS - A GUIDE FOR COMMUNITY OFFICIALS". This and forms such as ELEVATION CERTIFICATES, and REQUEST FOR LETTER OF MAP AMENDMENT can be obtained by calling the FEMA order line at 1-800-638-6620.

Request for single structures should be addressed to:

Vicky Klater
FEMA - Natural and Technological Hazards Division
Federal Regional Center
800 North Loop 288
Denton, TX 76201-3698

Requests for parcels with multiple structures should be ser
...continued page 1.

PURDUE SENIORS TAKE ON CHALLENGING SEMESTER

by Jamie Gorski

Land Surveying seniors at Purdue University have undertaken many projects during the fall semester this year. The following students are currently enrolled in Legal Aspects of Land Surveying (LS 401), Geodetic Control Surveying (CE 500), and Urban Planning (CE 512). These students are all candidates for graduation in May 1994. The following list contains the student's name, major, hometown, and specific area of interest.

Scott Bordenet, CE/LSE; Indianapolis, Indiana; Subdivision design and layout.

Dean Coon, LSE; Weiser, Idaho; Subdivision layout, boundary or construction surveying.

Jamie Gorski, CE/LSE; Chesterton, Indiana; Transportation, hydrology, and subdivision design.

Bernie Guerrettaz, CE/LSE; Vincennes, Indiana; Design, layout, and project management of industrial, residential and commercial subdivisions.

Stephen Pratt, LSE; Fort Wayne, Indiana; Boundary, construction, and topographic surveying and subdivision design. Interested in utilizing global positioning system for control work.

Michael Salyers, CE/LSE; North Vernon, Indiana; Structures, project management, and subdivision design.

Brent Spencer, LSE; Centerville, Indiana; Geodetic control surveying and subdivision design.

Scott Whybrew, LSE; Swayzee, Indiana; All aspects of surveying, including subdivision design.

In the Legal Aspects course, students will be given a project simulating the process the Board of Registration must follow when reviewing a surveyor who has had a complaint filed against him. Students will be expected to review the provided material and decide the fate of the surveyor at hand. A report analyzing the case and a recommendation is requested.

These seniors are also involved in establishing coordinates of two new GPS antennas on the penthouse of the Civil Engineering building to be used as base stations. Horizontal and vertical control is currently being brought in from local control to be used as a check for a recent GPS survey ran to establish the stations' coordinates. A new quadrangle is being established north of Ross-Ade Stadium to be used for various projects, including astronomic observations and testing of mapping-grade GPS receivers. CE 500 students have been asked to run a GPS survey on the quadrangle to establish its position using GPS receivers of various accuracies. They are to be involved in all aspects of the GPS survey from planning the actual survey to learning how to use Ashtech and Trimble software to analyze the collected data.

Urban Planning students will be doing a short internship working with the Tippecanoe County Area Planning Commission to analyze current zoning in a section of Lafayette and make a recommendation to whether current zoning is necessary for the needs of the community. It has been suggested by residents of the area that the zoning is outdated. Students will also be examining land use patterns around the city's two major hospitals. Students

will be conducting statistical surveys and other studies while working directly with the public to determine if zoning changes are necessary.

Along with classes, these seniors are beginning to conduct job searches for permanent placement upon graduation. If you would like additional information regarding any of the above listed students, or have open positions you would like to post, please contact Professor Steve Johnson, Surveying Engineering, Civil Engineering Building, Purdue University, West Lafayette, IN, 47907 or call (317) 494-0786.

The student chapter of ISPLS will be attending the annual conference in Louisville, Kentucky in January of 1994 and look forward to meeting with you there.

FLOOD PLAIN MAP

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directly to Washington at the following address:

FEMA - Federal Insurance Administration
Office of Risk Assessment
Technical Operations Division
500 C Street, S.W., Room 422
Washington, DC 20472

...reprinted from the *Sooner Surveyor*, Vol. XXIV, No. III, September 1993.

RECORDS

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on the seal in this article states, "If the seal and signature are not violet colored, the plan is a copy that should be assumed to contain unauthorized alterations. The certification contained on this document shall not apply to any copies. The note might be difficult to read, but it will also be difficult to remove without clearly showing that the seal and signature have been altered.

In conclusion, the surveyor contracts to provide a service, not a product. By providing an opinion or design concept in a legible and useful format, the surveyor meets his or her obligation to the client. In many cases, the surveyor has a duty not to relinquish possession of his or her original manuscripts if they can be altered without detection. Unsupervised or fraudulent alterations that go undetected harm the public and increase the surveyor's liability.

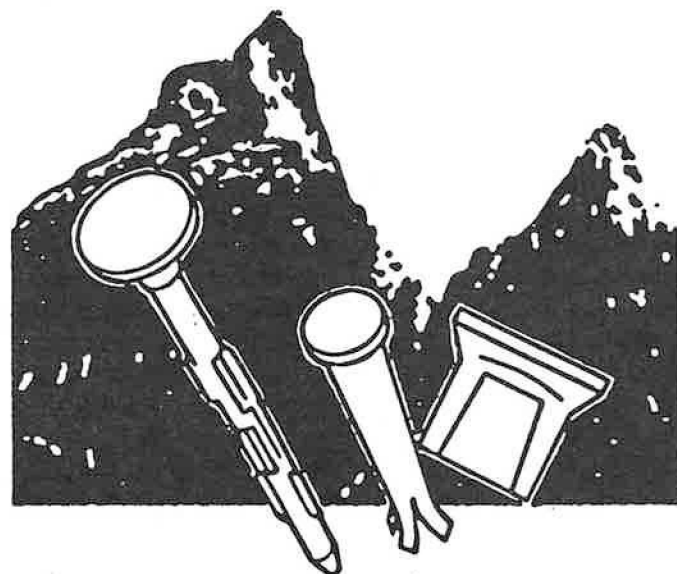
NOTES

1. This is supported by *Tennessee v. Watts*, 670 S.W.2d246 (Tenn. 1984). Furthermore, if the practitioner is selling a product, a sales tax should be charged (see *Timken Company v. Lindley*, 504 N.E.2nd 455, 29 O.B.R. 211, 29 Ohio App.3d 181[1985]).
Knud Hermansen, a licensed surveyor, engineer, and attorney, teaches Civil Engineering and Surveying at the University of Maine in Orono.
Grace Wigal is an attorney and lecturer at the West Virginia School of Law in Morgantown.

...printed from *ACSM Bulletin*, May/June 1993 issue.

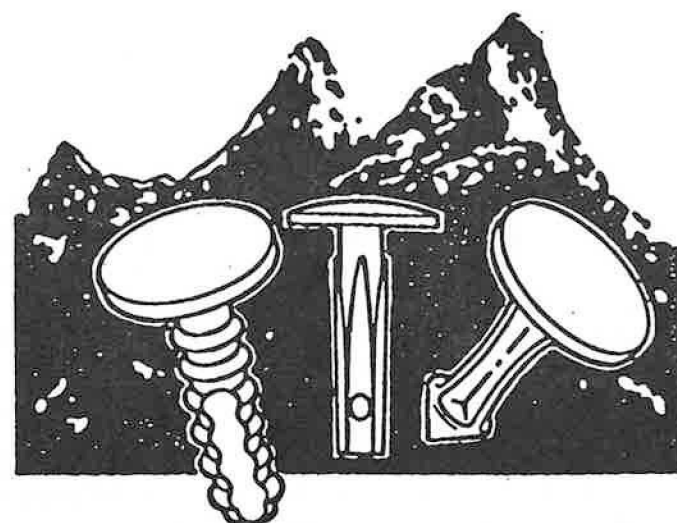
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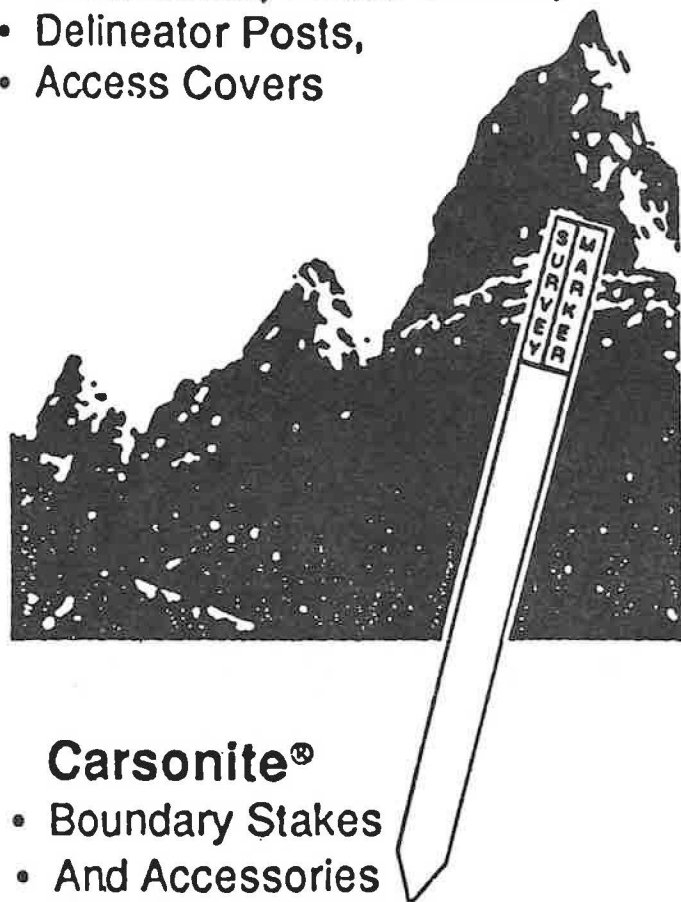
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SURVEY EVIDENCE

(WHAT LAND SURVEYING IS ALL ABOUT)

by H.C. Engler, ALS, CLS, BCLS

We, as aspiring land surveyors, were once all able to recite the 'rules of evidence'. However, how many of us really appreciated the importance of these rules?

How many land surveyors instill these rules in their party chiefs and pupils? Does the current practicing land surveyor understand the rules? Do they know why those rules were laid down in the first place?

I have come to believe that a simple answer to the above question is not possible. It should however be a simple unqualified YES.

Far too many surveys are carried out without a thorough search for each required corner and furthermore without a proper assessment of the results of such a search. This may seem like a pretty strong statement? A casting of doubt on the work of land surveyors as a whole. Maybe so, but how else do you explain the following:

- * A plan shows 'Fd.No.Mk'. Later you find a perfectly good iron post at that corner, counter sunk approximately 60 cm.
- * A plan shows 'Fd.No.Mk.Re-est Pl.I.'. Later you find 2 iron posts (or even more) near this corner only a few centimeters apart.

Several miles of section line were re-established. The plan shows 'Fd.No.Mk. Re-est Pl.I.', at all corners. There is a 10 m surplus/deficiency in the over-all distance. Later you come to do a survey of a quarter section affected by this re-establishment and find that all the 're-established' posts fall some 10m away from the fences. You research the re-establishment and discover that there is a very wide and deep ravine across the first quarter in the reestablished area. If the discrepancy in distance had been left in that quarter all the other posts would have fit the fences beautifully.

Plan shows 'Fd.I. NE X'. Later you find the following:

1. Four very good pits
2. A good mound
3. An iron post in the centre of the mound, sticking up some 15 cm (survey of township was 1907).
4. A brief search reveals an old iron post on the north side of the mound, counter sunk only 10 cm.
5. Measurements confirm the post in the centre of the mound was used to post a whole subdivision. These measurements also confirm that the post at the north edge of the mound fits adjacent posts, also on the north edge of the mound.

Plan shows 'Fd.No.Mk Re-est Pl.I.'. Later inspection reveals a reasonably good set of pits near by (less than one meter away).

Plan shows 'Fd.No.Mk' at a number of road posts on a widening, also at the section and quarter section corners, however one road post was found more or less in the middle of the stretch of missing posts. All road posts were reestablished (by proportion between the ends). The

middle found post is shown as 'off line'.

I could go on forever, but by now you should be getting the picture.

Did we spend all our money on total stations, electronic pin finders, and computers (hand-held and office) and therefore do not have any left to buy a shovel?

In this day and age most of the 'mystery' has been taken out of surveying. Almost anyone, with less than an hour's "training" can measure a perfectly good distance or angle. Does that make him a surveyor? Perhaps, but it does not make him a land surveyor.

It has been said that once the old evidence has been searched for, found, restored, or as a last resort re-established then the land surveyor is done. The rest is simply engineering.

I wonder if things would improve if instead of the current notations put on plans to describe the status of old survey evidence we were to use the following:

* 'Fd.I.' to read - Found original iron survey post, down 30 cm, in its original and undisturbed location. Also found fairly good pits and a trace of the old mound. A very old E/W fence lines up with the centre of the mound, while the north south fences line up on the post.

* 'Fd.No.Mk' to read - Only after an extensive and thorough search, including measurements from adjacent found posts, much digging, very careful use of a pin locator, a good look for all fence lines, both N/S and E/W, I have to admit that I could not find anything near this corner that would be useful in determining its original location. I trust that no one else could do better.

* 'Re-est' - to read -- Only after I have without doubt determined that "Fd.No.Mk" was in fact valid, this corner was re-posted from adjacent evidence by measurements in such a manner as to place the new post as near as possible to where the original was. No attempt was made to place it where it 'should be'.

I am not suggesting that these copious remarks be placed on survey plans. I am, however, suggesting that the land surveyor should be equating the notations on the plan with the real meaning behind the short form plan notation.

Surveying is a hi-tech pursuit these days. Land surveying however, has not changed over the decades of the 'technical revolution'. The object of the exercise is still the same as it always was; locate, re-locate and verify the true corners of the subject parcel. Then and only then can you begin to deal with the parcel, locate a new structure on the parcel or determine the location of an existing structure relative to the boundaries.

As a parting thought I would like to add this definition. **"Reestablish - to place the corner where it was, not necessarily where it 'should be'."**

...reprinted from "Alberta L.S. News", June 1993 issue.

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Student \$ 75.00

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27th & 28th

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Companion Program \$75.00
Thursday & Friday

Welcome Reception \$40.00
Wednesday evening

Star of Louisville Cruise \$30.00
Saturday evening

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Friday
January 28, 1994

Session One

"Metrication", Ken Curtis and representatives from Indiana and Kentucky Highway Departments

"Surveyors Education Forum"

Session Two

"GPS", Ray Leigh, P.L.S.

"Surveyors Historical Society"

Session Three

"Methods of Research", Milton Denny, P.L.S.

Saturday
January 29, 1994

Technical Sessions

Session One

"Business Seminar", Milton Denny, P.L.S.

Session Two

"Boundary Law, Professional Ethics & Minimum Standards"

STAR OF LOUISVILLE CRUISE (OPTIONAL)

Welcome Reception
7:00 p.m. Wednesday
January 26, 1994

Join in for a great start at the 94 conference, with heavy hors d'oeuvres, a Dixieland Band, a cash bar and the IMAX Theater overlooking the majestic Ohio River at the Museum of History and Science, just two and a half blocks west of the hotel.

Star of Louisville Cruise
Saturday evening
January 29, 1994

A relaxing dinner cruise up the Ohio River, see Louisville and Southern Indiana at night from the romantic Ohio River. At the Louisville wharf one block east of the hotel.

THE COMPANION AGENDA

The following tours are presented and made available for your enjoyment and relaxation while attending the seminar. Please make plans to include these in your itinerary.

Thursday, January 27, 1994
"Highlights of Louisville" Tour

This tour visits several places in and around downtown Louisville, such as Filbert and Bradley and Louisville Stonecare. Lunch is included.

Friday, January 28, 1994
"Horses and History" Tour

This tour includes a visit to the Kentucky Derby Museum and a drive-through of the Old Louisville area. Lunch is included.

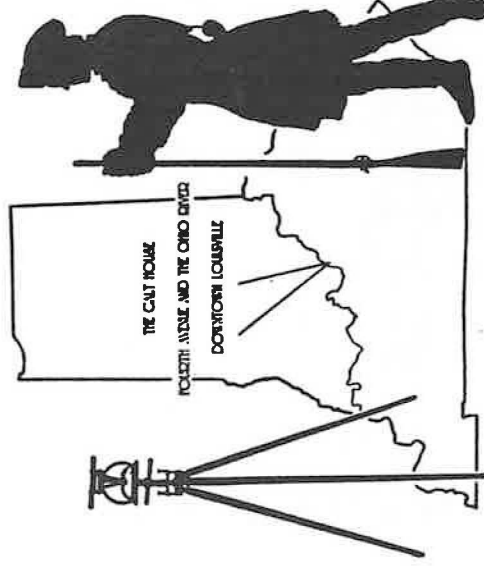


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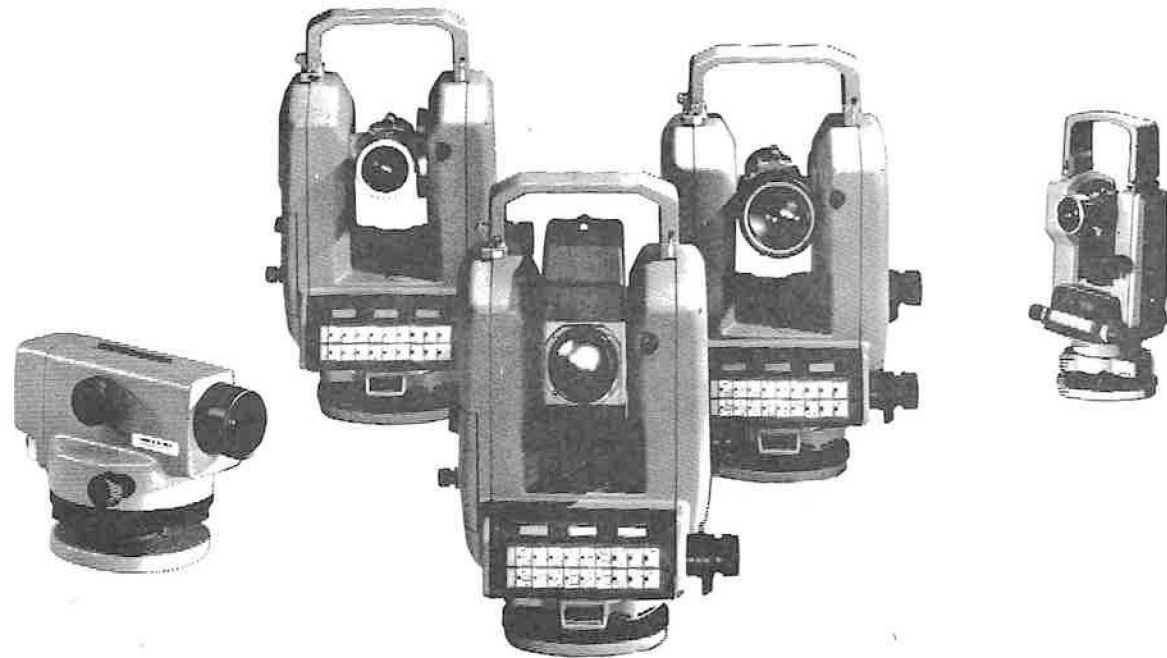
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SURVEYOR'S HISTORICAL SOCIETY NEWS

by Roger Woodfill, PLS, S.H.S. Chapter President, Lawrenceburg, Indiana

Recently, I purchased two reproductions of older surveying catalogs. I recommend both of the paperback issues for your personal libraries. They may be obtained from:

David Garcelon
 10 Hastings Avenue
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He wrote the following "Introduction" for the reprint of A Manual of American Engineers & Surveyors Instruments, a W. & L.E. Gurley catalog.

William and Lewis E. Gurley, sons of Ephraim and Clarissa Gurley of Troy, New York, were born in Troy on March 16, 1821, and December 30, 1826. Their father, Ephraim, had been involved in business in the Troy area with now-famous brass founders and instrument makers such as Julius and Truman Hanks, but he died in 1829 and would have had little or no opportunity to teach even his older son William any of the brass or instrument making business. However, by 1839, William, recently graduated from Rensselaer Institute, was making surveying instruments as an apprentice to Oscar Hanks. Five years later, in 1844, his brother Lewis became an apprentice to Jonas H. Phelps and apprenticed to Phelps until he went to college in 1847.

In February, 1845, one year after his brother began his apprenticeship with Jonas Phelps, William and Jonas formed the partnership "Phelps and Gurley". At that time Jonas Phelps had been in the Troy area for 12 years, making mathematical and philosophical (scientific) instruments. In September, 1851, two months after Lewis graduated from Union College in nearby Schenectady, New York, he was made a partner in the Phelps and Gurley firm. Just five months later, in February of 1852, William and Lewis purchased Jonas Phelps' interest in the firm and changed its name to W. & L.E. Gurley; the Gurley name continued for 115 years until the Teledyne Corporation bought the company and continued it as Teledyne Gurley.

The Gurley brothers' company became one of the leading companies in America producing surveying and engineering instruments; it played a major role in the large scale mapping projects that took place in the United States after the Civil War. It is claimed that W. & L.E. Gurley made more instruments during the decade from 1870 to 1880 than in any other decade in their history; I believe that makes the reprint of the 1874 *Gurley Manual* very appropriate.

The first *Gurley Manual* was published in 1855 by William and Lewis E. Gurley. By the time Lewis died in 1897, the W. & L.E. Gurley company had published 32 editions of the *Manual*, including its Semi-Centennial Edition (the 31st) in 1895.

This reprint is of the 21st edition, published and entered in the Office of the Librarian of Congress at Washington in 1874. The edition prior to this one, called the "20th Revised", was issued in

1873 but had been entered (copy-righted) 11 years earlier in 1862 during the Civil War and just before the disastrous fire of May 10, 1862, which destroyed the Gurleys' factory buildings and contents. The Gurleys quickly rebuilt, and the building they moved into in December of 1862 is still owned by Teledyne Gurley today.

The Gurley brothers published at least 15 editions of the 1862 copyright until finally revising the complete manual in 1874; this reprint is of that manual. It should be noted that the cover of the manual read "American Engineers & Surveyors Instruments Twenty First Edition". The title page read "A Manual of the Principal Instruments Used in American Engineering and Surveying"; then in smaller letters continued "Manufactured by W. & L.E. Gurley, Troy, N.Y." The way the cover and title page were structured was no accident and, in my opinion, a stroke of genius by the Gurleys; it led people to believe the manual was about all makes of American surveying and engineering instruments; of course it was not! It also led people to believe it was a manual, but lo and behold, 89 pages of the volume were titled "Supplement to Manual"; the Supplement was a full-fledged catalog advertising hundreds of Gurley products for sale!

When I started surveying in the late 1950's, I was encouraged to believe that every smart surveyor carried a Gurley *Manual* with him in the field because it told how to adjust and calibrate all American-made instruments ... you can imagine my chagrin and embarrassment when I had it pointed out to me years later that the *Manual* did not have anything in it about any American-made instruments other than Gurleys'.

Nevertheless the Gurley *Manuals* (over 50 editions were printed) have preserved for the student and collector of American scientific instruments an invaluable record of not only what kind of instruments existed but also how they were constructed and used. The *Manuals* also show how, over the 116 years that W. & L.E. Gurley made instruments, the instruments changed, and why. This reprint should be considered a must, not only to scientific instrument students and collectors, but also to "Americana" buffs.

E.R. GRAY ELECTED TO NATIONAL HISTORICAL SOCIETY

E.R. Gray, III, a member of the Indiana Chapter of the Surveyors Historical Society, will serve on the National board of directors for two years. At the recent meeting in Minneapolis he was elected as the new Chairman.

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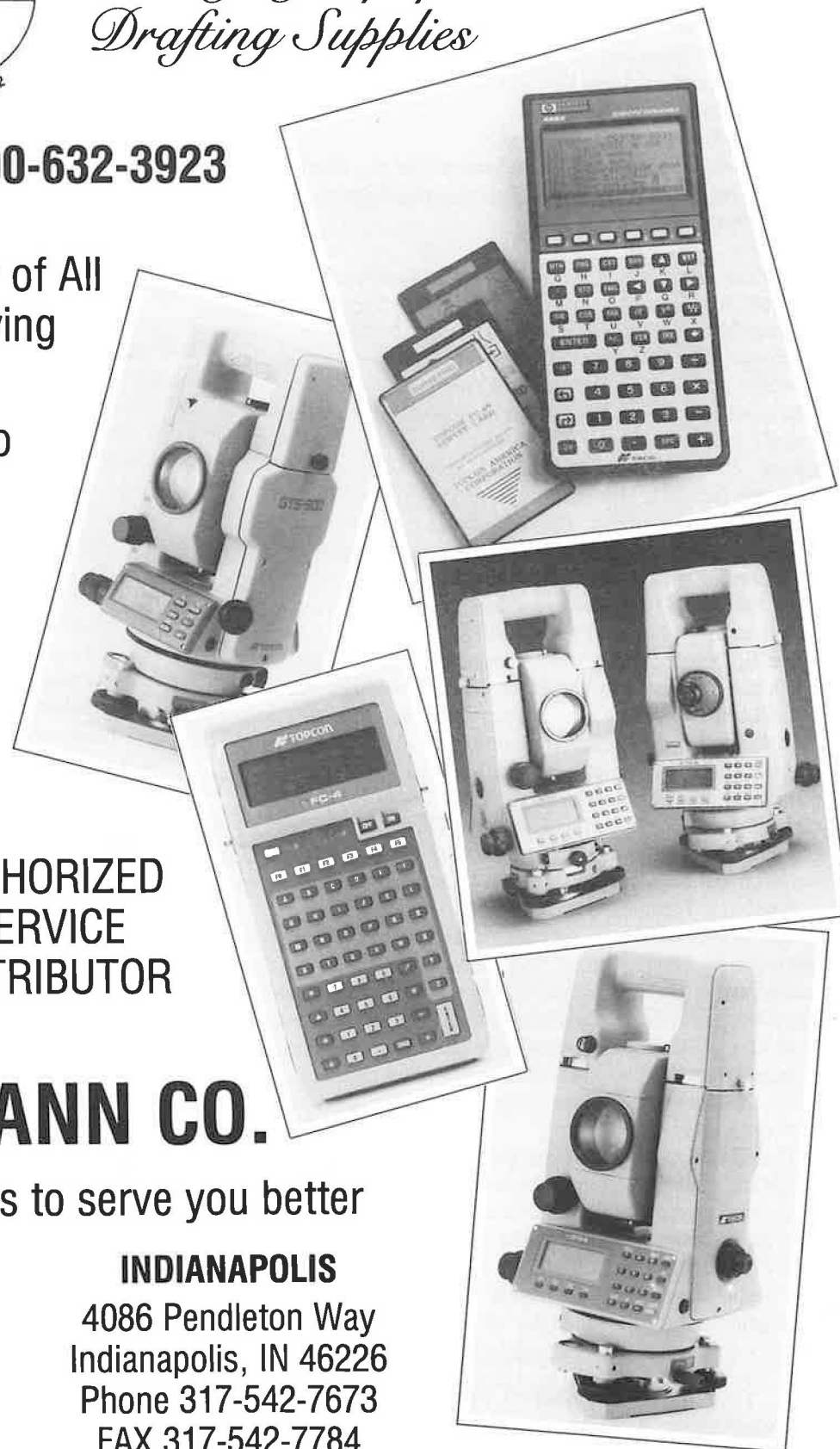
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ISPLS FALL WORKSHOP TURKEY RUN STATE PARK AND HOLIDAY INN, FORT WAYNE October 1, 1993 & October 15, 1993



MEYERROSE TO OVERSEE SITE DESIGN

Sol C. Miller, president and chief executive officer of MSE Corporation, a full-service engineering firm based in Indianapolis recently announced that Vice President Jeff A. Meyerrose, L.S. will be responsible for site design in addition to surveying operations. Mr. Meyerrose will oversee site design projects beginning with the permitting and approval phases and continuing through to actual site design and technical engineering aspects.

MSE Corporation, one of the largest full-service engineering firms in Indiana, was first organized in 1960. It was one of the first firms to integrate computer aided drafting and design (CADD) into its operations. Today, MSE Corporation provides digital mapping, surveying and engineering services to public and private sector clients throughout the US and Europe.



Jeff A. Meyerrose, P.L.S., MSE Corporation, Indianapolis, Indiana

NEW RTDGPS OPTION FOR WILD GPS - SYSTEM 200

Consistent with the Company policy of continuous product enhancement, Leica has introduced a Real Time Differential GPS option for System 200.

A new GPS Controller and a new version of SPCS (Sensor PC-Control) software support full RTCM corrections and NMEA-message output. System 200 can now provide Real Time Differential GPS at 1m to 3m accuracy levels for applications on land and water and even in the air.

The WILD CR244 is a new version of Leica's small, hand-held GPS Controller. It connects to WILD SR299 and SR299E GPS Sensors, to a radio communication link, to a PC with hydrographic-survey/navigation software, and even to an echo sounder. The new CR244 has all the surveying, recording and navigation features of the WILD CR233 GPS Controller plus full Real Time Differential GPS capability.

Rather than connecting a Controller to the GPS Sensor, it can be advantageous to use a PC with SPCS software, particularly if a large amount of data logging is required. As with the Controller, the SPCS software has been expanded to include a second version covering all aspects of GPS surveying plus full RTDGPS capability. RTCM input and output and NMEA-message output are fully supported.

THE INDIANA ARCHITECTURAL FOUNDATION PUBLISHES A NEW GUIDE TO INDIANAPOLIS

Indianapolis' skyline is constantly evolving. Since the seventies, Indy's cityscape has undergone major transformations, taking on a whole new look. Hundreds of new buildings have been constructed and many of the city's older historic structures have been renovated and restored.

In 1975, the Indiana Architectural Foundation (IAF) published the first comprehensive guide to the city's architecture. Today, eighteen years and hundreds of transformations later...there's a new story to be told and so, a sequel is born. *Indianapolis Architecture: Transformations Since 1975*, is a lively new guidebook that chronicles the dramatic architectural transformations that have occurred since 1975.

Compiled by the IAF and edited by *Mary Ellen Gadski, *Indianapolis Architecture: Transformations Since 1975* is an exploration of Indianapolis' built environment. The guidebook takes readers on a tour of Indianapolis...from high atop Indiana's tallest building, the new Bank One Tower, to the humblest carriage house in a historic district.

Indianapolis Architecture: Transformations Since 1975 is illustrated with 350 striking photographs. The foreword is written by former Indianapolis mayor, William Hudnut, whose mayoral terms coincided with the years covered by the book. Five critical essays provide insight into issues that affect urban life, such as: architectural design, planning and urban design and historic preservation. The traditional guidebook format enables readers to quickly locate the buildings they're most interested in seeing.

Indianapolis Architecture: Transformations Since 1975 is scheduled for release at local bookstores in November (paperback, \$19.95).

The four Keystone contributors are: Lilly Endowment Inc.; Associated General Contractors of Indiana, Inc.; Construction Advancement Program of Central Indiana; The Indian Arts Commission; and Carlstedt Dickman Inc./Citimark Development Company.

*Editor, Mary Ellen Gadski is available for interviews upon request.

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BUT MY EMPLOYEES DON'T DO ANYTHING DANGEROUS!

by Ron Koons, RoSaKo Enterprises, Middletown, Indiana

Those of you who were able to attend one of the ISPLS Fall Seminars were able to see actual IOSHA citations received by businesses in Indiana. For those of you who couldn't attend, be forewarned...OSHA is here to stay and the chances of your company receiving an inspection gets greater as time passes. Most surveyors have employees on construction sites quite frequently, if not everyday. This is probably your greatest exposure to receiving an inspection. Construction is one of the targeted industries due to it's high accident rate. When a compliance officer visits the jobsite he doesn't care if your employees are actually "hammering nails" or not. He is only concerned about the **exposure** your employees have to any violations. This is one of the most misunderstood areas of compliance. Let me give some situations that may help clarify this for you!

Construction is one of the targeted industries due to it's high accident rate.

#1 You have two employees checking grades on a jobsite that building construction is well under way. Your workers need to speak with the Construction Manager so they walk past the building to find him. There is scaffolding 50 feet tall, not tied anywhere, there are no toeboards, and guardrails are lacking. This is just an accident waiting to happen. They find the CM standing next to the scaffolding and a conversation ensues. Your employees **never touch the scaffolding, could you receive a citation?**

#2 Your company did a subdivision layout. Sewers are being installed and your employees need to check inverts on the piping. The trench is twelve feet deep, loose sandy soil, no shoring or cages present and the pipefitters ride the backhoe bucket to the bottom of the trench. Your employee **does not enter the trench**, but stands just at the edge to put his rod down to the pipe. Could you be cited for a trench violation?

The answer to both of these are **yes**, you could receive a citation. Would you receive a citation if the Compliance Officer was standing off at a distance watching what was happening? The chances of your employees getting injured or killed are just as great as the employees actually performing the work. There are several different regulations you could be cited under for each of the above situations. In both of the above situations it would probably be safe to assume that some type of a citation would be issued to everyone involved.

Both of these situations are real life possibilities. Your employees in both cases were not actually using the hazards, but there was **exposure** in both cases. Be aware of everything around you at all times. Even those areas that don't seem to directly involve your employees may pose tremendous life threatening situations. Your Safety Program Training should at least address these real life possibilities so your employees will know when not to enter a hazardous situation.

So, are your employees doing anything dangerous?

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CALENDAR

December 4, 1993
ISPLS Board of Directors Meeting, Headquarters

December 9, 1993
Northwest Chapter Christmas Party
ISPLS Board of Directors Meeting, Headquarters

December 14, 1993
Southwest Chapter Meeting

January 26, 1994
ISPLS Board of Directors Meeting, Louisville, Kentucky

January 26-28, 1994
ISPLS & KAPS Joint Society Convention, Galt House, Louisville, Kentucky

February 9-12, 1994
Illinois Professional Land Surveyors Association Annual Conference, Mt. Vernon, Illinois, contact Robert E. Church, (217) 498-8102

February 10-12, 1994
Professional Land Surveyors of Ohio Annual Conference, Miamisburg, Ohio, Contact William Petkewicz, (513) 436-2313

February 16-18, 1994
Michigan Society of Professional Surveyors Conference, Traverse City, Michigan, Contact Roland F. Self, (517) 484-2413

March 1994
ISPLS Spring Workshop, Topic: "Legal Descriptions", Purdue University, Lafayette, Indiana

April 23-28, 1994
ACSM/ASPRS Annual Convention, Reno, Nevada

August 15-19, 1994
Triennial U.S. Army Corps of Engineers surveying & mapping conference, Marriott Hotel, New Orleans, Louisiana

September 30, 1994
ISPLS Fall Workshop, Topic: "Environmental Risk Issues for Surveyors", Brown County State Park, Nashville, Indiana

CONTINUING PROFESSIONAL DEVELOPMENT COURSES

ISPLS Fall Workshops "Hazard Communications & Safety Standards" October 1st and October 15, 1993, approved for two (2) hours (Kentucky)


ISPLS/KAPS 1994 Convention (Kentucky) *
*Application for PDH required credit has been applied for

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