

HOOSIER SURVEYOR



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

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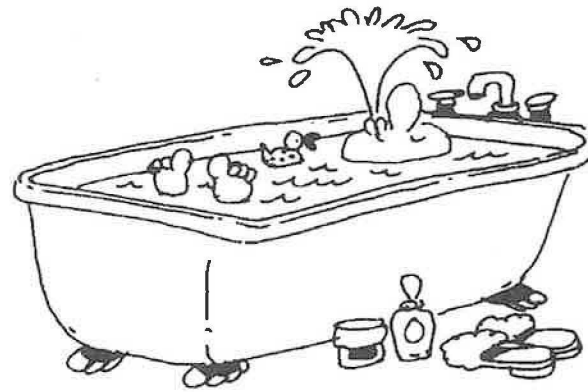
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Outgoing I.S.P.L.S. President Perry Cloyd (left), Edinburgh, receives the Past Presidents Gavel and Plaque from Incoming President, Richard Miller, Indianapolis. January, 1998 (See page 22 for 1998 Board of Directors)

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Deadlines for copy for various planned issues of the Hoosier Surveyor are as follows: Winter - December 31; Spring - March 31; Summer - June 30; Fall - September 30.

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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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Committee Assignments (1998)

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PRESIDENT'S THOUGHTS

by Richard H. Miller, PLS, Indianapolis, IN



We are standing at the threshold of great and exciting times for our Society and the Surveying Profession. Business is booming, the demand for Professional Land Surveying services is increasing, and most importantly the attitude of Surveyors has begun to change from "poor me" to "watch me".

Our recent annual convention in West Lafayette was by all measures a very successful event. The facility was at capacity with record attendance by our membership. There were more Exhibitors than space and several late comers had to be located outside of the main hall. The educational programs were diverse and interesting and the speakers were very knowledgeable and entertaining. The arrangements, accommodations, and banquet entertainment were excellent. All of this, and the weather cooperated too! Many thanks to the Tecumseh Chapter for hosting the Convention and especially to the Convention Committee members who work so hard to make it happen.

The accomplishments of the Tecumseh Chapter are an example as to what can be achieved with vision and hard work. Little more than three years ago they had virtually no members or activity and today they are an active, energized group with more than 63 members who hosted one of the most successful conventions in recent years.

Speaking of Vision, the ISPLS Board of Directors met last September for a day-long retreat to establish the goals and direction of the Society for the next two years. This is a biannual effort begun about eight years ago which has resulted in the many significant successes realized by our Society this decade. We are building the future of the Society on a solid foundation thanks to the leadership, diligence and hard work of past Presidents, Directors and Committees.

For the next two years the Board of Directors and the various Committees will focus on five major areas. The first of these include keeping our membership informed and involved with the direction of the Society and increasing member services. Secondly, is to push the Board of Registration and the Governor for enactment of mandatory continuing education for Land Surveyors in Indiana. This is a goal from past years that is carried forward. As most of you are aware we were only partially successful in making this happen by getting the enabling legislation on the books which allows the Board of Registration to require Continuing Education. Third, we will continue to support the Office of the State Geodetic Advisor with the completion of the Indiana HARN. Fourth, through our University Cooperation Committee we will work with Purdue, Vincennes, and IUPUI to extend educational opportunities for surveying students to obtain Associate and Bachelor Degrees from new programs around the state. Finally, we will assess the ramifications of creating an ISPLS Foundation to determine if this

is a course of action that will benefit our Society and the Surveying Profession.

As mentioned above, our goals include keeping the members informed and involved with the direction of the Society. There are already many opportunities for individual members to stay informed, some are passive such as simply reading the Hoosier Surveyor or the ISPLS web page, others are active such as serving on Committees and regularly attending Chapter meetings. A new avenue for becoming involved with the future of the Society will occur at the Chapter level.

The Board of Directors have seen the positive results of our goal setting retreats these past years and know that without taking the steps to create a common vision for the future and establishing a work plan to accomplish our goals we would not be where we are today. We have been aided in this effort for several years by having a professional facilitator guide us through the process. We believe that the individual Chapters can also benefit by taking similar actions and therefore, the Board has committed funds and resources to allow the Chapters to conduct their own vision and planning sessions. The ISPLS Chapters Committee will coordinate with your Chapter leadership to help make this happen. The Chapters have come a long way in recent years and I hope that your leaders will take advantage of this opportunity to further advance the Profession. You have the ability to accomplish great things if you have a vision and work hard at making your vision a reality.

I wish to welcome two new members to the Board of Directors. In addition to three incumbent Directors who were reelected, the Board appointed Bob Gross, Lafayette, to fulfill the unexpired term of E.R. Gray, III who resigned and John Stephens, Wabash, to fill a vacancy created as Dan Woo assumes the office of President-Elect.

I am proud to be associated with this organization and look forward to each Chapter Meeting, Seminar, Golf Outing, Picnic and Convention because it affords me the opportunity to learn more about my profession and share experiences with other surveyors. I am equally proud to serve as your President this year and I am excited about the future of this Society. I am confident that the Board of Directors and our 24 Committees which include more than 90 of our fellow members, will serve you well. What is asked of you is your ideas, active participation and support.

Professionally Yours,

Rick Miller, PLS, President ISPLS

Board of Directors 1998 Meeting Schedule

Date	Location	Time	Comments
February 28th	Headquarters	10:00 a.m.	
March 28th	Headquarters	10:00 a.m.	VU Program Review
April 25th	Headquarters	10:00 a.m.	
June 6th	Headquarters	10:00 a.m.	
July 11th	Headquarters	10:00 a.m.	
August 15th	Headquarters	10:00 a.m.	
September 26th	Nashville, IN	10:00 a.m.	Picnic
October 24th	Headquarters	10:00 a.m.	
December 5th	Headquarters	10:00 a.m.	

ISPLS GOALS ESTABLISHED OCTOBER 24, 1997

GOALS FOR THE NEXT TWO YEARS

GOAL #1

Get the message out about what the Society is doing.

1) Start a newsletter by December 15, 1997

A) Paper Mailing

B) Web Site

2) Value Added

3) Membership Survey by December 1998

4) Market Study by December 6, 1997

5) Chapter Planning Assistance by December 1998

GOAL #2

Continuing Education

1) Obtain Governor's Approval

A) Letter to Board of Registration by December 15, 1997

cc: Licensing Agency and Governor's Office

GOAL #3

HARN

1) Support Office of Geodetic Advisor

2) Keep Board of Directors informed

3) What are other State Advisors doing by August 1998.

GOAL #4

University Cooperation

1) Extend V.U./I.U.P.U.I. Program to Purdue Calumet by December 1999

2) Associate Degree at Purdue Calumet

3) Practical Experience

A) Course Evaluation by December 1999

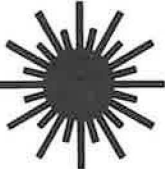
GOAL #5

Foundation

1) Model & By-Laws approved by Board of Directors by Dec. 6, 1997

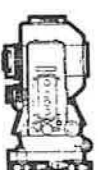
2) Model & By-Laws to Membership by December 15, 1997

3) Model & By-Laws approved at Annual Meeting - January 1998



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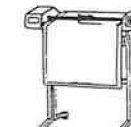
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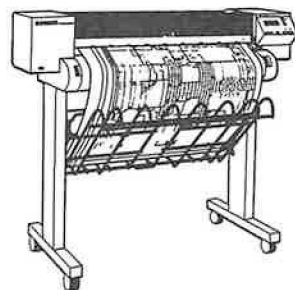
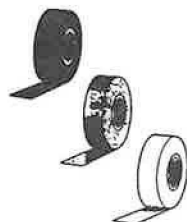
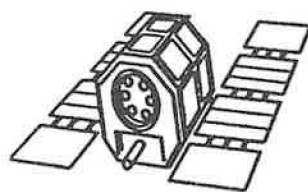
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ISPLS BOARD OF DIRECTORS MEETING HIGHLIGHTS

by Dianne Bennett, Executive Director

October 24, 1997

The ISPLS Board of Directors held a meeting on Friday, October 24, at the Holiday Inn Southeast, Indianapolis at 4:25 p.m. President Cloyd called the meeting to order. The minutes and treasurer's report were reviewed and approved.

Staff Activity Report - A written report was submitted and reviewed. The report is stated under individual topics listed below.

Chapters - The Northwest Chapter held a joint meeting in October with the Northwest Branch of A.S.C.E. Charles Scholer with H.E.R.P.I.C.C. spoke at the meeting on "Right of Ways on Indiana County Roads".

Hoosier Hills Chapter had election of officers at the last meeting. They also discussed the 2000 convention.

Central Indiana Chapter raised \$550 for the chapter's scholarship fund at the first annual golf outing held on October 3, 1997. Fifty-two players were in attendance. Ballots have gone out for the 1998 Chapter officers. Results will be announced at the November 18th meeting.

No reports were received from Wabash Valley, Initial Point, St. Joseph, Northeast, Southwest and Tecumseh Chapter.

Convention 1998 - The speakers and meetings are being set up.

Education - The September 26 workshop on "Deed Analysis and Boundary Resolution in the Public Land" in Pokagon State Park had 46 in attendance. Income was \$4,080 - expense was \$2,229 - Profit was \$1851.

Tony Gregory submitted a letter recommending PDH value for three seminars:

PDH value of 6 for "Theory of Location" - Pat Cunningham - Indiana University S.E.

PDH value of 6 for "Theory of Location" - Pat Cunningham - Purdue, W. Lafayette.

PDH value of 6 for "Deed Analysis and Boundary Resolution in the Public Lands" - Gary Kent & Tony Gregory - Pokagon State Park.

A motion to approve 6 PDH's for each seminar as recommended by the Education Committee was made and passed.

Government Affairs - Gary Kent and Wes Day are working on the situation of Improvement Location Reports being prepared by non-registered individuals.

Decatur County is requiring surveyors to submit surveys to the planning commission for approval at a public meeting, before recording. It appears that the county may be trying to adopt a plat ordinance. This law currently is affecting all surveys. It is unsure what the county's attempt may be. A copy of the Decatur County Plat Review will be sent to Ron Hansel for review and comment.

It was brought to the boards attention that the State of Iowa has a law that allows for the prosecution of individuals that practice land surveying without a license. Copies of the Iowa law will be sent to all board members and will be discussed at the next board meeting.

Hoosier Surveyor - UPS asked to insert a flyer in the Hoosier Surveyor. They would pay for any extra cost. A motion was made and passed to allow UPS to insert a flyer in the Hoosier Surveyors.

Membership - A motion was made and passed to accept the

new applicants: Member - Albert McConahay, Donald Shapiro (reinstate); Junior - Penny Narum, Jon Martin, Craig Williams, Michelle Slack, Kevin Johnson, Donald Smith, Andrew Cochrane (SIT); Student to Junior - David Meier, Curtis Candler, Thomas Ackerman, Craig Rodarmel; Student - Erica Pugh, Calvin Cash, III, Steve Koehne; Associate (Tech 1) - Matthew Badger, Craig Beck, Kelly Ferguson, Shane Haller, Don Bishop, Jason Their, David Wooley.

Nominations & Elections - Perry Cloyd accepted Rick Miller's request to serve as Chairman of the Nominations & Elections Committee left vacant with the resignation of Don Bengel. Ballots for the Office of President Elect will be sent to Rick Miller for a tally of the vote.

Scholarship - If an ISPLS Chapter wants to have their scholarship recipient announced at the convention, someone from that chapter must do it.

Standards - A copy of the revisions to 865 has been submitted to the board for review. All board members are to review and respond by the next board meeting. All questions and comments are to be directed to Wes Day.

Technicians - Tony Gregory, Bill Clark and Rich Hudson are working on a program to evaluate technicians so that they may possibly be credited with college credit from V.U. or other universities for on-the-job training or work experience. They hope to have it completed in 1999.

County Surveyors - Jeff Souder reported the county surveyors are proposing an increase in the fee to record documents that goes to the section corner perpetuation fund. The current fee is \$1.00 per document, the county surveyors will be asking for \$5.00. The county surveyors would like to have the support of ISPLS.

GIS/LIS - A H.A.R.N. meeting is scheduled for November 5, 1997 at ISPLS headquarters.

Old Business - The board needs to look at the proposed by-laws for the ISPLS Foundation and report at the next meeting.

New Business - A letter from the Ridge Chapter of the Florida Surveying and Mapping Society are trying to locate or identify the first woman surveyor in the United States.

December 6, 1997

The ISPLS Board of Directors held a meeting on Saturday, December 6, at ISPLS headquarters at 10:05 a.m. President Cloyd called the meeting to order. Guests present were Ron Wharry, John Stephens and Randy Miller. The minutes and treasurers report were reviewed and approved after revisions.

Staff Activity Report - a written report was submitted and reviewed. The report is stated under individual topics listed below.

Chapters - The Northwest Chapter will be voting for new officers at their annual Christmas gathering.

The Wabash Valley Chapter had discussion at their last meeting on the sanction of a couple of its members by the Registration Board. Randy Miller stated that these two individuals felt that they had nowhere to turn for support and that they were kept in the dark by the Registration Board as to the status of their case.

...continued Page 7



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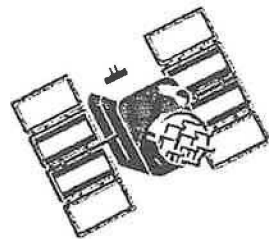
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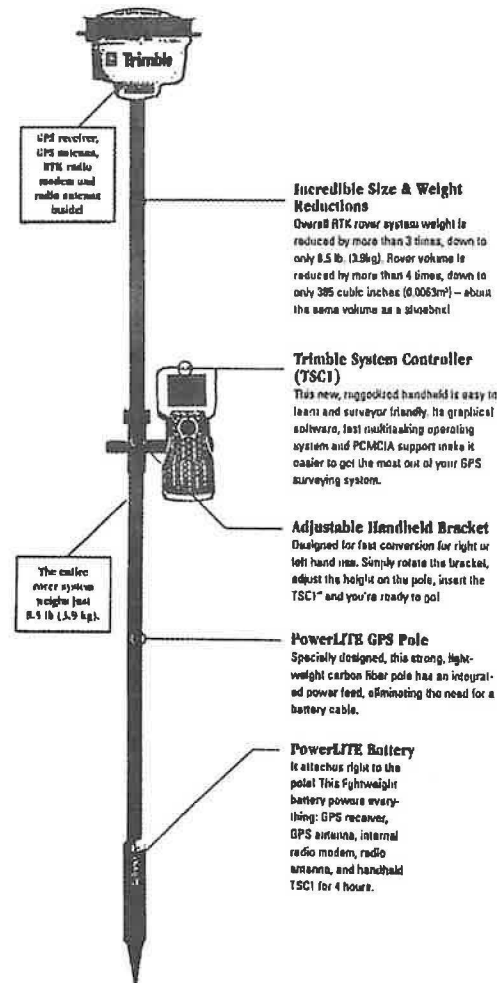
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MINUTES

...Continued from Page 5

Hoosier Hills Chapter - At their last meeting, Jon Monies was elected President.

Central Indiana Chapter - The chapter had a meeting on Nov. 1997 at American Consulting Engineers. The new officers were announced. Wes Day was the speaker. The topic was "Proposed Rule 12 Changes".

St. Joseph Chapter - The chapter will meet December 11, 1997.

Southwest Chapter - The chapter will meet December 9, 1997.

No reports were received from Initial Point, Northeast, Tecumseh and P.U. & V.U. Student Chapters.

Adjustments to the Agenda - Marshall Molchan, Professor of U of I Marketing Department addressed the board on marketing a not-for-profit corporation. Mr. Molchan explained that the students in his department will take information from ISPLS as to our goals and objectives and work with ISPLS to setup a marketing plan. There will be no cost to ISPLS and the students will be doing this as a class assignment to receive a grade. Mr. Molchan needs to know by the first of January if ISPLS wants to pursue this. The project would end in March. The board will contact Mr. Molchan by the first of January as to direction. A motion was made and passed that Doug Herendeen will act as the ISPLS contact and to put together the information needed by Mr. Molchan for the market study.

Ron Hansell submitted a draft copy of the Articles of Incorporation of the ISPLS Foundation. The BOD is currently set at twenty and this can change in the articles or through by-laws. It was asked that if ISPLS was to give a set dollar amount to the foundation could the foundation return any of that money back to ISPLS if needed? Ron felt that would be inconsistent with the foundation. It may be to only donate the interest the investments make and for ISPLS to keep the investments. Possible board members could be 4 ISPLS board members and one from each chapter. It was stated that the reasons for forming a foundation was to a) increase participation by the chapter in ISPLS affairs. b) To protect ISPLS from any possible tax liability by accumulating funds. c) To possibly allow for tax relief to those wishing to make donations or gifts to ISPLS. Some concern was expressed over possibly creating an entity that may further complicate things if ISPLS is currently doing those things that a foundation would do. It was proposed that the benefits for establishing a foundation be explored in more detail. Ron Hansell will make contact with some individuals knowledgeable with foundation makeup and tax benefits. A copy of the draft will be sent to the membership with the plat contest notice. The number of board members will be changed to 15 from 20 on the draft copy.

Ron Hansell submitted a letter to the board reporting on the Decatur County Plat Ordinance establishing recording requirements, in addition to the recording requirement contained in Rule 12 (865 IAC), for land surveyors and owners to have surveys approved by the Greensburg Planning Commission and to issue a Certificate of Compliance before surveys can be recorded. Ron is not sure by what authority the County Commissioners can direct a city planning commission to provide a Certificate of Compliance but the city is complying and the Recorder's and Auditor's Offices are refusing to accept document without this certification. This additional review could slow the recording process down. It was stated that those doing the review may not be qualified to review

surveys in accordance with any local or state standards. It appears that this was to be a plat ordinance that has extended to the boundary surveys. Ron Hansell will check with the county attorney and others in Decatur County to obtain additional information about this plat ordinance and report back to the board.

Convention Coordinating - Approximately eleven exhibitors have signed up taking 18 spaces for the 1998 convention.

1999 Convention, Evansville - The contract has been received from the Radisson. Some changes will be asked and it should be ready to sign by the end of December.

2001 Convention - A letter was received from Ohio about a possible joint convention with Indiana, Ohio, & Kentucky in Covington, Kentucky. A letter will be sent back expressing interest.

2002 or 2003 Convention - Information about a possible cruise will be given out at the Lafayette convention.

Education - Tony Gregory submitted a letter recommending PDH value for the spring workshop "Land Surveying in Indiana" by the Central Indiana Chapter. A motion was made and passed to approve 6 PDH's for the seminar.

Ethics - The committee has been collecting surveys prepared by a non-registered person in the northwest part of the state. A motion was made and passed to send the collected information to the Attorney Generals Office for action.

Business Management - The phone company is having a special on business services. After discussion it was decided a second phone line will not be installed at this time.

Government Affairs - The committee met on November 13th to discuss next years legislation.

Membership - A motion was made and passed to accept the new applicants: Junior - Terry Kendall, Michael Rozycki, Diane Hadley, Jeffrey Trout, Michael Sheehan; Student - Stephen Hurst, Jeffrey Knarr; Associate - Terry Parker, Lance Martin.

A copy of the membership survey was submitted for review.

Nominations & Elections - The ballots for board of directors went out Friday, Dec. 5th. The nominees were Don Bengel, Robert Gross, Doug Herendeen, Rich Hudson, William Pettitt, Ken Russell, John Stephens, and Ron Wharry.

Public Relations - New Jersey has put together a 10 minute video focusing on the work of professional surveyors. The filming has been completed. Ron Wharry will get a copy with the ISPLS Logo and address on it. The cost for the video is \$500. The tape will be used for public relations. We may have a copy ready to show at the 1998 convention.

Scholarship - The scholarship committee met on the campus of Purdue University to interview 6 students for the John McEntyre Scholarship. The committee has elected to give the award to Randy S. Peterson.

Indiana State Board of Registration - The board has not acted on continuing education at this time. It will be discussed at the board's December meeting.

GIS/LIS - A H.A.R.N. meeting was held Nov. 5, 1997 at ISPLS headquarters. Over 100 stations have been observed. NGS is in the process of evaluating the information. A second phase may start in the spring on approximately 20 points.

ACSM and ALTA Adopt New Standards

by Gary Kent, PLS (Co-Chair, NSPS-ALTA Liaison Committee)

In April of 1997, the American Congress on Surveying and Mapping and the National Society of Professional Surveyors, Inc. adopted the 1997 Minimum Standard Detail Requirements for ALTA-ACSM Land Title Surveys. The American Land Title Association followed suit in September.

The new standards are the culmination of several years of work involving numerous members of the three societies together with several employees of the United States Department of Housing and Urban Development.

The new standards reflect a number of fairly minor changes in the cadastral portion of the standards, there are however, significant changes to Table A and to the so-called "Accuracy Standards."

The new Accuracy Standards allow for the use of Positional Uncertainty/Positional Tolerance in evaluating the precision and resulting accuracy of a survey. This will address the concerns of those who want to use GPS on ALTA surveys, but who cannot reconcile its use with the 1992 standards.

Using the Positional Uncertainty/Positional Tolerance option of the 1997 standards also provides another avenue for those who found the existing table of "Minimum Angle, Distance and Closure Requirements" to be too restricting and, in some cases, impractical.

Regarding additions to Table A - the wording of new items 14, 15 and 16 was negotiated with and added at the request of representatives of the U.S. Department of Housing and Urban Development.

There is an initiative within HUD to attempt to utilize industry-recognized standards when possible and appropriate, in lieu of continuing to develop and maintain their own esoteric requirements. These new items are essentially the same as those that any surveyor who perform surveys for HUD are used to dealing with.

The ACSM/NSPS committee members representing the surveying profession's interest felt it was a very positive development that HUD contacted ALTA and ACSM regarding utilization of the Land Title Survey standards and all attempts were made to arrive at mutually acceptable wording.

Unfortunately, I recently received a call from the HUD representative. He expressed some concern that the wording adopted may not meet the Department's needs because it does not put enough burden on the Surveyor. Although I disagreed with his assessment of the wording in light of the requirements contained in the rest of the standards, this just goes to show that it is not an easy task to find common ground on standards. The committee will continue to discuss this.

In reviewing the new ALTA/ACSM standards -- or any set of standards for that matter -- Surveyors should remember that no set of standards can adequately define every word and phrase. Part of being a professional is understanding the clients' needs and finding a congruence between those needs and one's ability to meet them.

The paragraph at the top of Table A was written specifically to put the client on notice and to burden the surveyor with

discussing the Table A items and negotiating acceptable ways, dealing with any items checked.

New Table A item 16 gave the committee the most concern. However, this is not an attempt by the title companies to ask surveyors to evaluate sites for hazardous wastes. Neither is it an attempt by HUD to do the same. As surveyors, we all recognize that properties are bought and sold, and money lent on property that neither the buyer, seller nor lender will ever see. We are merely being asked to report if we see something suspicious.

Having said that, it should be acknowledged that surveyors must individually find some comfort level between what this item asks for and what they are licensed, qualified and experienced in. Some states have, much to their credit, prohibited Surveyors from issuing opinions regarding hazardous sites. This does not, however, prevent us from noting, for example, that "a green liquid was observed oozing from the side of the hill."

The writing of standards is an inexact art that requires the various interested parties to find common ground that addresses their various concerns, needs and abilities. The surveyor, as user of the standards, must participate in this process each time the standards are called for.

The NSPS-ALTA Committee is always interested in comments regarding the standards. Their existence is an educational and developmental process that never ends. Comments may be sent directly to the undersigned or to NSPS. The Committee will also monitor comments published in the various surveying-related publications.

INDIANA STATE BOARD OF REGISTRATION FOR LAND SURVEYORS SCHEDULED MEETINGS

(Subject to Change)

All held in Indianapolis at the
Government Center South

March 20, 1998
April 17, 1998
May 14 & 15 1998
June 19, 1998
July 17, 1998
August 21, 1998
September 18, 1998
October 16, 1998
November 20, 1998
December 18, 1998

Minimum Standard
Detail Requirements

for

ALTA/ACSM
Land Title Surveys

as adopted by

American Land Title Association

American Congress on Surveying & Mapping

National Society of Professional Surveyors

1997



Minimum Standard Detail Requirements
for ALTA/ACSM Land Title Surveys
as adopted by
American Land Title Association
American Congress on Surveying & Mapping
and
National Society of Professional Surveyors



It is recognized that members of the American Land Title Association (ALTA) have specific needs, peculiar to title insurance matters, which require particular information for acceptance by title insurance companies when said companies are asked to insure title to land without exceptions as to the many matters which might be discoverable from survey and inspection and not be evidenced by the public records. In the general interest of the public, the surveying profession, title insurers and abstracters, ALTA, the American Congress on Surveying and Mapping (ACSM) and the National Society of Professional Surveyors, Inc. (NSPS) jointly promulgate and set forth such details and criteria for standards. It is understood that local variations may require local adjustments to suit local situations, and often must be applied. It is recognized that title insurance companies are entitled to rely on the survey furnished to them being of the appropriate professional quality, both as to completeness and as to accuracy. It is equally recognized that for the performance of a survey, the surveyor will be provided with appropriate data which can be relied upon in the preparation of the survey.

For a survey of real property and the plat or map of the survey to be acceptable to a title insurance company for purposes of insuring title to said real property free and clear of survey matters (except those matters disclosed by the survey and indicated on the plat or map), certain specific and pertinent information shall be presented for the distinct and clear understanding between the client (insured), the title insurance company (insurer), and the surveyor (the person professionally responsible for the survey).

These requirements are:

1. The client shall request the survey or arrange for the survey to be requested and shall provide a written authorization to proceed with the survey from the person responsible for paying for the survey. Unless specifically authorized in writing by the insured, the insurer shall in no event be responsible for any costs associated with the preparation of the survey. The request shall specify that an Urban, Suburban, Rural or Mountain and Marshland "ALTA/ACSM LAND TITLE SURVEY" is required, meeting the then-current accuracy standards jointly adopted by ALTA and ACSM. The request shall also designate which of the optional items listed in Table A are to be incorporated. The request shall set forth the record description of the property. Complete copies of the record description of the property, any record easements benefiting the property, the record easements or servitudes and covenants affecting the property ("Record Documents"), documents of record referred to in the Record Documents, and any other documents containing desired appropriate information affecting the property being surveyed and to which the survey shall make reference shall be provided to the surveyor for notation on the plat or map of survey.

2. The plat or map of such survey shall bear the name, address, telephone number, and signature of the professional land surveyor who made the survey, his or her official seal and registration number, the date the survey was completed and the dates of all revisions, and the caption "ALTA/ACSM Land Title Survey" with the certification set forth in paragraph 8.

3. An "ALTA/ACSM Land Title Survey" shall be an Urban, Suburban, Rural or Mountain and Marshland Survey in accordance with the then-current "Classifications" of ALTA/ACSM Land Title Surveys" ("Accuracy Standards") as adopted, from time to time, by the American Congress on Surveying and Mapping and the American Land Title Association and incorporated herein by reference.

4. On the plat or map of an "ALTA/ACSM LAND TITLE SURVEY," the survey boundary shall be drawn to a convenient scale, with that scale clearly indicated. A graphic scale, shown in feet or meters or both, shall be included. A north arrow shall be shown and when practicable, the plat or map of survey shall be oriented so that north is at the top of the drawing. Symbols or abbreviations used shall be identified on the face of the plat or map by use of a legend or other means. If necessary for clarity, supplementary or exaggerated diagrams shall be presented accurately on the plat or map. The plat or map shall be a minimum size of 8 1/2 by 11 inches.

5. The survey shall be performed on the ground and the plat or map of an "ALTA/ACSM LAND TITLE SURVEY" shall contain, in addition to the required items already specified above, the following applicable information:

(a) All data necessary to indicate the mathematical dimensions and relationships of the boundary represented, with angles given directly or by bearings, and with the length and radius of each curve, together with elements necessary to mathematically define each curve. The point of beginning of the surveyor's description shall be shown as well as the remote point of beginning if different. A bearing base shall refer to some well-fixed bearing line, so that the bearings may be easily re-established. All bearings around the boundary shall read in a clockwise direction wherever possible. The North arrow shall be referenced to its bearing base and should that bearing base differ

from record title, that difference shall be noted.

(b) When record bearings or angles or distances differ from measured bearings, angles or distances, both the record and measured bearings, angles, and distances shall be clearly indicated. If the record description fails to form a mathematically closed figure, the surveyor shall so indicate.

(c) Measured and record distances from corners of parcels surveyed to the nearest right-of-way lines of streets in urban or suburban areas, together with recovered lot corners and evidence of lot corners, shall be noted. The distances to the nearest intersecting street shall be indicated and verified. Names and widths of streets and highways abutting the property surveyed and widths of rights of way shall be given. Any use contrary to the above shall be noted. Observable evidence of access (or lack thereof) to such abutting streets or highways shall be indicated. Observable evidence of private roads shall be so indicated. Streets abutting the premises, which have been described in Record Documents, but not physically opened, shall be shown and so noted.

(d) The identifying titles of all recorded plats, filed maps, right of way maps, or similar documents which the survey represents, wholly or in part, shall be shown with their appropriate recording data, filing dates and map numbers, and the lot, block, and section numbers or letters of the surveyed premises. Names of adjoining owners as they appear of record and recorded lot or parcel numbers, recording information identifying the current description of record and similar information, where appropriate, shall be shown. The survey shall indicate platted setback or building restriction lines which have been recorded in subdivision plats or which appear in a Record Document which has been delivered to the surveyor. Parcel lines shall clearly indicate contiguity, gores, and overlaps. Where

plat:

To (name of client), (name of lender, if known), (name of title insurance company, if known), (name of others as instructed by client):

This is to certify that this map or plat and the survey on which it is based were made (i) in accordance with "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," jointly established and adopted by ALTA, ACSM and NSPS in 1997, and includes items ____ of Table A thereof, and (ii) pursuant to the Accuracy Standards (as adopted by ALTA and ACSM and in effect on the date of this certification) of a(n) [insert "Urban," "Suburban," "Rural," or "Mountain/Marshland" here] ____ Survey.

Date: _____
(signed) _____ Registration No. _____ (seal)

Adopted by the American Land Title Association on September 27, 1997.

Adopted by the Board of Direction, American Congress on Surveying and Mapping on April 10, 1997.

Adopted by the Board of Directors, National Society of Professional Surveyors on April 8, 1997.

American Land Title Association, 1828 L St., N.W., Suite 705, Washington, D.C. 20036.
American Congress on Surveying and Mapping, 5410 Grosvenor Lane, Bethesda, MD 20814
National Society of Professional Surveyors, 5410 Grosvenor Lane, Bethesda, MD 20814

only a part of a recorded lot or parcel is included in the survey, the balance of the lot or parcel shall be indicated.

(e) All evidence of monuments shall be shown and noted to indicate which were found and which were placed. All evidence of monuments found beyond the surveyed premises on which establishment of the corners of the surveyed premises are dependent, and their application related to the survey shall be indicated.

(f) The character of any and all evidence of possession shall be stated and the location of such evidence carefully given in relation to both the measured boundary lines and those established by the record. An absence of notation on the survey shall be presumptive of no observable evidence of possession.

(g) The location of all buildings upon the plot or parcel shall be shown and their locations defined by measurements perpendicular to the boundaries. If there are no buildings erected on the property being surveyed, the plat or map shall bear the statement, "No buildings." Proper street numbers shall be shown where available.

(h) All easements evidenced by a Record Document which have been delivered to the surveyor shall be shown, both those burdening and those benefitting the property surveyed, indicating recording information. If such an easement cannot be located, a note to this effect shall be included. Observable evidence of easements and/or servitudes of all kinds, such as those created by roads; rights-of-way; water courses; drains; telephone, telegraph, or electric lines; water, sewer, oil or gas pipelines on or across the surveyed property and on adjoining properties if they appear to affect the surveyed property, shall be located and noted. If the surveyor has knowledge of any such easements and/or servitudes, not observable at the time the present survey is made, such lack of observable evidence shall be noted. Surface indications, if any,

of underground easements and/or servitudes shall also be shown.

(i) The character and location of all walls, buildings, fences, and other visible improvements within five feet of each side of the boundary lines shall be noted. Physical evidence of all encroaching structural appurtenances and projections, such as fire escapes, bay windows, windows and doors that open out, flue pipes, stoops, eaves, cornices, areaways, steps, trim, etc., by or on adjoining property or on abutting streets, on any easement or over setback lines shall be indicated with the extent of such encroachment or projection. If the client wishes to have additional information with regard to appurtenances such as whether or not such appurtenances are independent, division, or party walls and are plumb, the client will assume the responsibility of obtaining such permissions as are necessary for the surveyor to enter upon the properties to make such determinations.

(j) Driveways and alleys on or crossing the property must be shown. Where there is evidence of use by other than the occupants of the property, the surveyor must so indicate on the plat or map. Where driveways or alleys on adjoining properties encroach, in whole or in part, on the property being surveyed, the surveyor must so indicate on the plat or map with appropriate measurements.

(k) As accurately as the evidence permits, the location of cemeteries and burial grounds

(i) disclosed in the process of researching title to the premises or
(ii) observed in the process of performing the field work for the survey, shall be shown.

(l) Ponds, lakes, springs, or rivers bordering on or running through the premises being surveyed shall be shown.

6. As a minimum requirement, the surveyor shall furnish two sets of prints of

TABLE A
OPTIONAL SURVEY RESPONSIBILITIES AND SPECIFICATIONS

NOTE: The items of Table A 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 6, there may be a need for an interpretation of a restriction. The surveyor cannot make a certification on the basis of an interpretation.

If checked, the following optional items are to be included in the ALTA/ACSM LAND TITLE SURVEY:

- ____ Monuments placed (or a reference monument or witness to the corner) at all major corners of the boundary of the property, unless already marked or referenced by an existing monument or witness to the corner.
- ____ Vicinity map showing the property surveyed in reference to nearby highway(s) or major street intersection(s).
- ____ Flood zone designation (with proper annotation based on Federal Flood Insurance Rate Maps or the state or local equivalent, by scaled map location and graphic plotting only.)
- ____ Land area as specified by the client.
- ____ Contours and the datum of the elevations.
- ____ Identify, and show if possible, 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.
- ____ (a) Exterior dimensions of all buildings at ground level
____ (b) Square footage of:
____ (1) exterior footprint of all buildings, or gross floor area of all buildings, at ground level;
____ (2) other areas to be defined by the client
____ (c) Height of all buildings above grade at a defined location.
- ____ Substantial, visible improvements (in addition to buildings) such as signs, parking areas or structures, swimming pools, etc.
- ____ Parking areas and, if striped, the striping and the type (eg. handicapped, motorcycle, regular, etc.) and number of parking spaces.
- ____ Indication of access to a public way such as curb cuts, driveways marked.
- ____ Location of utilities serving or existing on the property as evidenced by on-site observation or as determined by records provided by client, utility companies and other appropriate sources (with reference as to the source of information) (for example):
(a) railroad tracks and sidings;
(b) manholes, catch basins, valve vaults or other surface indications of subterranean uses;
(c) 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 crosswires or overhangs affecting the surveyed premises; and
(d) utility company installations on the surveyed premises.
- ____ Governmental Agency survey-related requirements as specified by the client.
- ____ Significant observations not otherwise disclosed.
- ____ Observable evidence of earth moving work, building construction or building additions within recent months.
- ____ Any changes in street right of way lines either completed or proposed, and available from the controlling jurisdiction. Observable evidence of recent street or sidewalk construction or repairs.
- ____ Observable evidence of site use as a solid waste dump, sump or sanitary landfill.
- ____
- ____
- ____



American Land Title Association
and
American Congress on Surveying & Mapping

as adopted by

1997

Classifications of ALTA-ACSM Land Title Surveys

for

ALTA/ACSM
Land Title Surveys



Introduction

These Accuracy Standards address Positional Uncertainty and Minimum Angle, Distance and Closure Requirements for ALTA-ACSM Land Title Surveys. In order to meet these standards, the Surveyor may either: (1) Apply the within table of "Minimum Angle, Distance and Closure Requirements for Survey Measurements Which Control Land Boundaries for ALTA-ACSM Land Title Surveys" to the measurements made on the survey or (2) Compute the Positional Uncertainty for the physical points on the survey to assure that those uncertainties do not exceed the Positional Tolerance for the specified Class of Survey.

The lines and corners on any property survey have uncertainty in location which is the result of (1) availability and condition of reference monuments, (2) occupation or possession lines as they may differ from record lines, (3) clarity or ambiguity of the record descriptions or plats of the surveyed tracts and its adjoiners and (4) Positional Uncertainty.

The first three sources of uncertainty must be weighed as evidence in the determination of where, in the professional surveyor's opinion, the boundary liens and corners should be placed. Positional Uncertainty is related to how accurately the surveyor is able to monument or report those positions.

Of these four sources of uncertainty, only Positional Uncertainty is controllable, although due to the inherent error in any measurement, it cannot be eliminated. The first three can be estimated based on evidence; Positional Uncertainty can be estimated using statistical means.

The surveyor should, to the extent necessary to achieve the standards contained herein, compensate or correct for systematic errors, including those associated with instrument calibration. The surveyor shall use appropriate error propagation and other measurement design theory to select the proper instruments, field procedures, geometric layouts and computational procedures to control and adjust random errors in order to achieve the allowable Positional Tolerance or required traverse closure.

If radial survey methods are used to locate or establish points on the survey, the surveyor shall apply appropriate procedures in order to assure that the allowable Positional Tolerance of such points is not exceeded.

Definitions:
"Positional Uncertainty" is the uncertainty in location, due to random errors in measurement, of any physical point on a property survey, based on the 95% confidence level.

"Positional Tolerance" for a specified Class of Survey is the maximum acceptable amount of Positional Uncertainty for any physical point on a property survey relative to any other physical point on the survey, including lead-in courses.

Survey Classes by Land Use
The degree of precision and accuracy necessary for a particular property survey shall be based on the intended use of the land. If the client does not provide information regarding the intended use, it shall be based on the present use of the land.

The following four survey classes for ALTA-ACSM Land Title Surveys are defined using land use classifications:

Classifications of ALTA-ACSM Land Title Surveys

Urban Surveys - Surveys of land lying within or adjoining a city or town, and including commercial and industrial properties, condominiums, townhouses, apartments and other multi-unit developments, regardless of geographic location.

Suburban Surveys - Surveys of land lying outside urban areas and developed for single family residential use.

Rural Surveys - Surveys of land such as farms and other undeveloped land outside urban and suburban areas which may have a potential for future development.

Mountain and Marshland Surveys - Surveys of land normally lying in remote areas with difficult terrain and normally having a limited potential for development.

Computation of Positional Uncertainty

The Positional Uncertainty of any physical survey monument on a survey, whether the location of that point was established using GPS or conventional surveying methods, may be computed using a minimally constrained, correctly weighted least squares adjustment of the points on the survey.

Positional Tolerances for Classes of Survey

Urban Surveys	0.07 feet (or 20mm) + 50ppm
Suburban Surveys	0.13 feet (or 40mm) + 100ppm
Rural Surveys	0.26 feet (or 80mm) + 200ppm
Mountain/Marshland Surveys	0.66 feet (or 200mm) + 200 ppm

Application of Minimum Angle, Distance and Closure Requirements
The combined precision of a survey can be statistically assured by dictating a combination of survey closure and specified procedures for a particular class of survey. ACSM, NSPS and ALTA have adopted specific procedures in order to assure the combined precision of a particular survey class. The statistical base for these specifications is on file at ACSM and available for inspection. The surveyor shall employ, in his or her judgement, proper field procedures, instrumentation and adequate survey personnel in order to achieve accuracies comparable to those adopted for a designated class of survey.

American Congress on Surveying and Mapping Minimum Angle, Distance and Closure Requirements for Survey Measurements Which Control Land Boundaries for ALTA-ACSM Land Title Surveys

Survey Class	Dir. Reading of Instrument	Instrument Reading Estimated	Number of Observations Per Station	Spread From Mean D&R Not To Exceed	Angle Closure Where No. of Stations Not To Exceed	Linear Closure	Distance Measurement	Minimum Length of Measurements
Urban	20" < 1" > 10"	5" < 0.1" > N.A.	2 D&R	5" < 0.1" > 5"	10" < 15"	1:15,000	EDM or Doubletape with Steel tape	(8) 81m, (9) 153m, (10) 20 m
Suburban	20" < 1" > 10"	10" < 0.1" > N.A.	2 D&R	10" < 0.2" > 10"	15" < 20"	1:10,000	EDM or steel tape	(8) 54m, (9) 102m, (10) 14m
Rural	20" < 1" > 20"	N.A.	1 D&R	20" < 0.3" > 20"	20" < 30"	1:7,500	EDM or steel tape	(8) 40m, (9) 76m, (10) 10m
Mountain/Marshland	1" < 1" > 1"	N.A.	1 D&R	30" < 0.5" > 30"	30" < 45"	1:5,000	EDM or steel tape	(8) 27m, (9) 51m, (10) 7m

Note (1) All requirements of each class must be satisfied in order to qualify for that particular class of survey. The use of a more precise instrument does not change the other requirements, such as number of angles turned, etc.
Note (2) Instrument must have a direct reading of at least the amount specified (not an estimated reading). i.e.: 10" = Micrometer reading theodolite, or a vernier reading transit.
Note (3) Instrument must have the capability of allowing an estimated reading below the direct reading to the specified reading.

Note (4) D & R means the Direct and Reverse positions of the instrument telescope, i.e., Urban Surveys require that two angles in the direct and two angles in the reverse position be measured and meaned.

Note (5) Any angle measured that exceeds the specified amount from the mean must be rejected and the set of angles re-measured.

Note (6) Ratio of closure after angles are balanced and closure calculated.

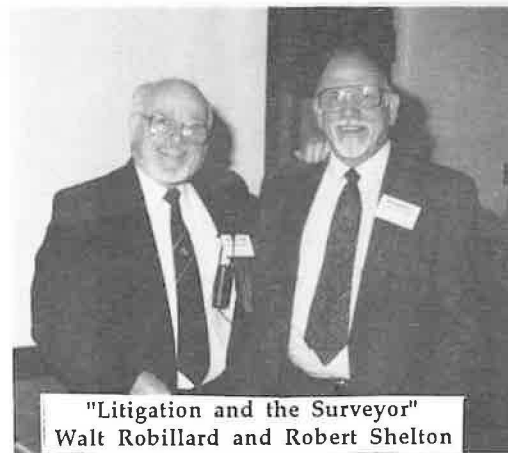
Note (7) All distance measurements must be made with a properly calibrated EDM or Steel tape, applying atmospheric, temperature, sag, tension, slope, scale factor and sea level corrections as necessary.

Note (8) EDM having an error of 5mm, independent of distance measured (Manufacturer's specifications).

Note (9) EDM having an error of 10mm, independent of distance measured (Manufacturer's specifications).

Note (10) Calibrated steel tape.

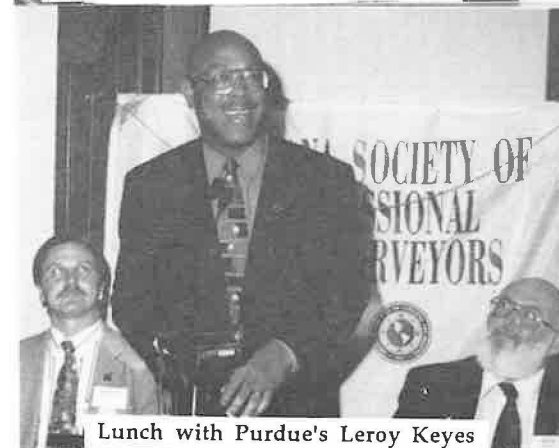
I.S.P.L.S. CONVENTION HIGHLIGHTS



"Litigation and the Surveyor"
Walt Robillard and Robert Shelton



ISPLS 46TH ANNUAL CONVENTION
West Lafayette, January 14-16, 1998
(Hosted by the Tecumseh Chapter)



Lunch with Purdue's Leroy Keyes



Twenty-four commercial and non-commercial exhibitors, such as Don Waechter & Joel Frost, displayed their wares or activities



"Tippecanoe County GIS and Perpetuation Programs" Dale Grimes & Mike Spencer



"Land Title Surveys" Tim Warner



"H.A.R.N." B. vanGelder and Tom Mahon



"Debt Collection" Jeff Newell



"GPS Community Base Station" George Machlan



"Subsurface Utility Design" Jeff Lew



"Equipment Calibration and Field Notes" Al McConahay



"ACSM Technician Program" Art Haase



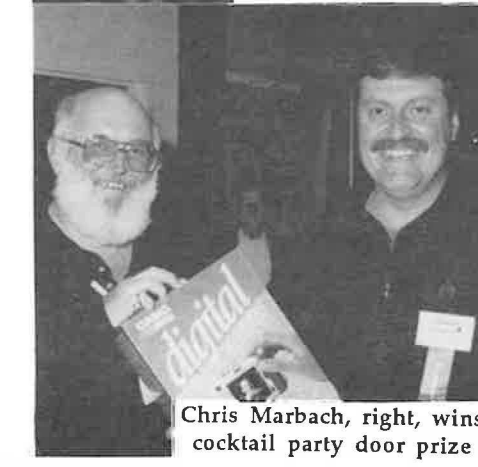
A local spouses committee, headed by Jeanna Gross, made and filled "theme" baskets and conducted a silent auction fund-raiser in support of a new Margaret Cunningham Memorial Scholarship at Purdue Univ. (about \$1800). Pat Cunningham, left, and Robert Gross, right, look on as Jeanna presents Prof. Steve Johnson, the new scholarship. Della Grimes, left, announces the winners of baskets.



The Indiana Historical Society's traveling exhibit, "Indiana Through the Mapmakers Eye" was on display, as was Roger Woodfill's personal display of "Surveying Artworks"



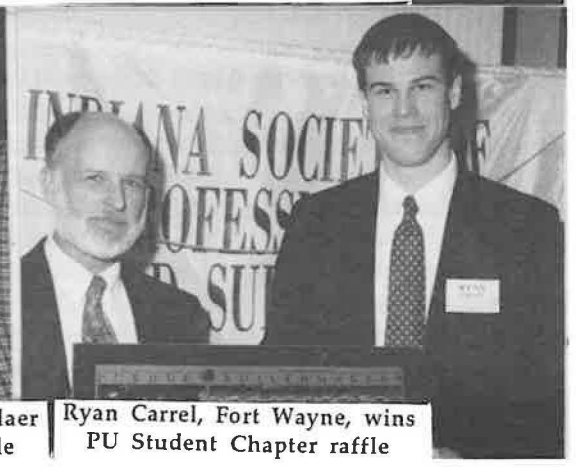
The Purdue Musical Organization's "PMO Express" provides banquet entertainment



Chris Marbach, right, wins cocktail party door prize



Craig Steffensmeier, Rensselaer wins Historical Society raffle



Ryan Carrel, Fort Wayne, wins PU Student Chapter raffle

THE BUFFALO TRAIL: INDIANA'S 18TH CENTURY ROUTE TO THE WEST

by David B.H. Best, P.L.S., Indianapolis, Indiana

In these days of superhighways and supersonic jets it's difficult to conceive that before 1816 only trails criss-crossed the Indiana Territory. These trails, some made by the feet of humans and others beaten down by the rumbling hooves of animals, were the only means of access from one place to another.

One such trail was the Buffalo Trail which entered Indiana at the Falls of the Ohio where we now find Jeffersonville and Louisville. It then extended northwesterly to Vincennes. A detailed description of the Buffalo Trail and its importance to the development of southern Indiana can be found in the Indiana Historical Publication titled "Early Indiana Trails and Surveys" by George R. Wilson, C.E., L.L.B., and published in 1919.

Not only was the Buffalo Trail a major artery, it also served to determine the northerly boundary of the land contained in the Treaty at Vincennes which was executed on August 18 and 27, 1804. The Buffalo Trail was also known as the "Kentucky Road", "Vincennes Trace", "Clarksville Trace", "Harrison Road", and by the Indian name of "Lan-an-zo-ki-mi-wi".

The buffalo roamed southern Indiana and northern Kentucky in great numbers during the 18th and early 19th centuries. Their pounding hooves kept the trail open to a width of twenty feet in many places. The Buffalo Trail represented the one big overland highway in southern Indiana and was spacious enough for two wagons to go abreast at the same time. It coursed through what are now the counties of Floyd, Harrison, Crawford, Orange, DuBois, Pike, and Knox for a distance of 103 miles. The buffalo wallowed in the mud in DuBois County at what was known as the "Mudhole". Two miles north-east of Jasper they found water and gorged on cane at the Buffalo pond.

In his treatise George Wilson describes the buffalo as a large, heavy animal with comparatively small feet. Because their feet were small the buffalo could not cross low, swampy, marshy land. They ranged together by the thousands. They moved frequently because they denuded the land where they grazed. Since their small hooves could not negotiate wet, marshy land they followed ridges and watersheds, thus establishing trails which were then used by the Indians and later the settlers and soldiers coming from the east. Two-thirds of all the early settlers who came to southern Indiana came by way of the Buffalo Trail.

Because of its importance as a route of travel the Buffalo Trail

was used as the basis to locate a treaty line between General William Henry Harrison and the Indians in 1804. Originally the Trail was to be used as the boundary line. However, its use as a major means of travel deemed it inconvenient as a treaty line. Therefore the treaty was revised to read: "And as it is the intention of the parties to these presents that the whole of the said road shall be within the tract ceded to the United States, it is agreed that the boundary in that quarter shall be a straight line, to be drawn parallel to the course of the said road, from the easterly boundary of the tract ceded by the treaty of Fort Wayne, to Clark's Grant, but the said line is not to pass at a greater distance than half a mile from the most northerly bend in said road."



Map of the south half of the Indiana Territory showing treaty lines, trails and traces. The dashed lines represent trails and traces located by government surveyors. The Buffalo Trail is designated by the heavy dashed line.

To determine the treaty line which was to be a straight line and located northerly from the Buffalo Trail, a survey of the Trail must first be made. Surveyor William Rector began the survey on July 11, 1805. It was executed by chain and compass for a distance of 41 miles. Rector began his survey about one and one-half miles from the Ohio River at what was known as "Parker Improvements" on the west line of Clark's Grant. Rector marked trees at each mile along the Trail in the following manner: "To C.G. 26mi.", meaning to Clark's Grant, 26 miles.

Since the portion of the Buffalo Trail, also known as the Buffalo Trace, within the Vincennes Tract which was ceded to the United States on June 7, 1803 by the Treaty at Fort Wayne, was on federal land, and the remaining portion was on Indiana land, General

William Henry Harrison worded the Treaty of 1804 as noted above to include the Trail wholly within the treaty lands. Thus the Buffalo Trail for its entire length resided on United States land. The final measured distance of the Buffalo Trail from Clark's Grant at the Ohio River to the easterly line of the Vincennes Tract was 40 miles and 42 chains. William Rector who surveyed the Trail in 1805 was later appointed surveyor-general of Illinois, Missouri, and Arkansas, serving as such from 1814 to 1824.

The Indiana Historical Society Publication from which this information was abstracted is Volume 6, Number 3. Its title and author are noted above. It contains information on virtually all of the recognized trails in Indiana Territory, including the Vallo-

...continued Page 17

WHEN IS ENOUGH, ENOUGH?

by George A. Twiss, P.L.S.

Having been a licensed land surveyor for almost 20 years as well as the supervisor of all investigations for the Washington board for the last 10 years, I have found that most of the enforcement actions taken against land surveyors could have been avoided if the land surveyors had made the effort to detail and clarify what decisions they made and how those decisions they made were developed.

As most surveyors will attest, there frequently surfaces a dilemma when they are in the process of making the final map or plat; that is, how much documentation and detail are needed? Many states have published standards pertaining to the information on maps and plats. But even compliance with such standards may not always bring the subject document to the level of understanding that is most useful.

Whether strict use of standards alone is good or bad is not the purpose of this article. The fact that various interpretations are applied is somewhat the nature of the beast. Surveyors are an independent group and work in a profession that requires they exercise independent judgment. And no two surveys (or surveyors) are alike. Vive la difference.

Actually, the dilemma is not as problematic as one would think. After all, the purpose of the survey map (plat or record of survey) is to provide both a graphic and a narrative report of the history, existing conditions, analysis, and professional judgment of the surveyor.

What does develop as the problem is that surveyors tend to assume that everyone who will use the survey map knows what is meant by "conc mon, i.p. and find." Also, surveyors tend to draw lines on paper that lack defining characteristics such as adjoiner calls, indicators of occupation, and apparent conflicts of ownership.

When the user of the map information is a professional land surveyor, cryptic terms and defects such as those mentioned can usually be overcome because of the expertise involved. However, the surveying community is not the exclusive user of survey

BUFFALO TRAIL

...continued from Page 16

Trace, the Blue River Trace, the Yellow Banks Trail, and the Red Banks Trail. It contains detailed information about pioneer surveying in Indiana including the Clark's Grant Survey, Re-survey of the Greenville Treaty Line in 1800, survey of the Vincennes Tract, the Freeman Lines, Buckingham's Base Line, and the Second Principal Meridian. There are brief biographical sketches of surveyors Thomas Freeman and Ebenezer Buckingham, Jr. For those interested in the first surveys conducted in the Indiana Territory this publication is recommended.

Editors Note: The above referenced article by George Wilson (1919) has been republished as a separate 114-page booklet and has been a popular publication available for sale from the ISPLS headquarters office for \$7.95 (plus \$2.50 postage and handling). It is on the recommended reference list for preparation for the Indiana land surveyor exam.

documents. The individual property owner, the neighbors, and the support professionals that rely on the work the surveyors perform expect to have materials that are understood. In their view, they would like to know that the survey is more than "smoke and mirrors" and that they do not need to hire another surveyor to interpret the meaning of what was done.

So where does that put us? How much is enough? Perhaps the best way to sort through this sea of uncertainty is to develop the plat or survey map with the following conditions in mind. It may not result in perfection, but it will result in clarity.

If the monuments I set today were removed and I was not available to resurvey the parcel, is there enough information on my map for another surveyor to retrace my work exactly the way I did it? Would the surveyor's reset monuments be in exactly the same place as my originals, if he could not reach me to have questions answered?

In the event that all my records (field notes, calculation, etc.) were unavailable, and I were asked to resurvey a parcel I staked a couple of years ago, is there enough information on my plat so that I can understand (and recall) what I did and why, or do I have to do the control work all over again?

Is it possible for a non-surveyor to look at my map and be able to understand what parcel was surveyed, where the parcel is located, where I set my corners, what I set as corners, and where those corners are in respect to lines of occupation? Have I included nomenclature, abbreviations, or local jargon that has not been fully defined in the legend, or should I be prepared to answer those questions after the survey is recorded?

Various states may have laws or rules that recommend or require the use of a survey narrative. For those states that do not, such as Washington, the use of such a narrative is the most practical way to achieve the explanations that are necessary to enhance the graphic information. The decisions made can be outlined in clear and understandable terms that most everyone can understand, including another surveyor. Narratives could include identifying why certain control monuments were used (and why some were not) as well as revealing those pesky ambiguities within the deeds and survey records.

Finally, it needs to be stressed that differences between surveyors are almost always likely to occur. Uniformity and consistency are terms of art, not standards of practice. Those persons using survey documents need to recognize that fact and not draw critical judgment on the work performed merely because it does not agree with another information on record. The variations need to be illustrated and discussed by the surveyor, not necessarily reconciled.

Simple enough? Sure

This article was written by: George A. Twiss, PLS, Chair, NCEES Committee on Law Enforcement, Washington Board of Registration for Professional Engineers and Land Surveyors.

This article was included in the "Licensure Exchange" April, 1997 issue, by the National Council of Examiners for Engineering & Surveying, Clemson, S.C.

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ISPLS 3rd ANNUAL MAP/PLAT COMPETITION

This year ISPLS held its third Map/Plat competition. Ron Wharry coordinated this event. All entries were judged on adherence to the minimum standards as set forth by the State of Indiana and NSPS. The winners of the contest were displayed at the Annual Convention in West Lafayette. The winners are as follows:

Type of Entry: Subdivision Plats
Sponsor: Gordon Bell
Entrant's Name: Gordon Bell
Company: Bell Surveying & Mapping
French Lick, Indiana

Type of Entry: Boundary/Cadastral Maps
Sponsor: Emil Beeg, Jr.
Entrant's Name: Eric Bansbach
Company: Emil Beeg Land Surveyor, Inc.
Valparaiso, Indiana

Type of Entry: ALTA/NSPS Survey Maps
Sponsor: Alan Cleveland
Entrant's Name: Scott Cannon
Company: MTA, Inc., Indianapolis, Indiana

Type of Entry: ILTA/Miscellaneous Maps
Sponsor: Jeff Bislich
Entrant's Name: William Richter
Company: Certified Engineering, Inc.
Indianapolis, Indiana

NEW REGISTERED LAND SURVEYORS IN INDIANA

The Indiana State Board of Registration for Land Surveyors held the certificate presentation for new Professional Land Surveyors on Friday, November 14, 1997. The ceremonies were held at the Government Center South Auditorium, Indianapolis. The following land surveyors were awarded certificates:

Vincent Barr	Franklin, IN	29700015
James Butcher	W. Lafayette, IN	29700005
Whitney Carlin	Jamestown, IN	29700017
Richard Durham	Anderson, IN	29700006
Stephan Fischer	Cincinnati, OH	29700014
Albert Haeger	Arlington Heights, IL	29700022
Gregg Heinzman	Crown Point, IN	29700020
John Huseman	Freeport, IL	29700009
Beryl Jones, Jr.	Allegan, MI	29700019
Anthony Kollak	Cedar Lake, IN	29700021
Edward Lazar	Belding, MI	29700010
Richard McPhail	Fisher, IN	29700008
Donna Metz	Wanatah, IN	29700016
Donald Plumb	Merrillville, IN	29700018
Gerald Teders	Cicero, IN	29700007
John Varner	Greenfield, IN	29700011
White	Indianapolis, IN	29700012
Terry Wright	Indianapolis, IN	29700013

On-Line and/or Video Education for Land Surveyors

Under the direction of Dr. Steve Frank, the Surveying Department and Philosophy Department at New Mexico State University in cooperation with the Spatial Information Engineering Department at the University of Maine is preparing an ethics course for professional land surveyors and those individuals that aspire to become professional land surveyors. Funding for the project has been provided by a grant from NCEES. Current planning is for the course to be offered as both a lecture based video course and web based course. As audio-visual capabilities expand, the course may be offered through other media combinations.

The University of Maine

Current plans are for the web-based course to be on-line and open for enrollment starting in January 1998. The course will be listed as a one credit course (14 semester hours). Enrollment for the course will be done on the Internet. (See e.g., <http://www.eece.maine.edu/ced>) Once an enrollment form is completed on the Internet, a copy is sent to the continuing education department and the instructor. The continuing education department will bill the student. The current costs for a one-credit course at the University of Maine (regardless of residency) is \$129.00 plus a \$3.00 technology fee for a total of \$132.00. Upon receipt of payment, an ID and password is issued to the student. The student may start the course immediately after receiving the ID and password.

The web course at the University of Maine is asynchronous. In other words, enrollment is continuous and not dependent on a semester or term schedule. Students are given three months from registration to complete the course.

New Mexico State University

The course will run as a regular one-unit short course through the Internet and/or videotape. The course will run from March 9 to May 15. It is expected to be offered twice in the Fall 1998 semester. First time New Mexico University (NMSU) students will have to pay a \$15 Admission application fee which will be good for any future coursework from NMSU. Course cost is \$125 plus an optional \$75 for video, which includes shipping. If the Internet option is not taken, the video must be purchased. Registration can be completed by mail, telephone, on-site, or over the Internet (<http://www.nmsu.edu>). The mail address is: Office of Distance Education, MSC 3 WEC, PO Box 30001, Las Cruces, NM 88003-8001. New Mexico residents can call 1-800-821-1574. Others must call 1-505-646-5837.

The course is an ethics intensive course. It begins by exploring ethics theory and the foundation of professional ethics. The contents go on to explore ethics within the realm of surveying practice. One chapter is devoted to an extensive collection of ethical codes. A second chapter provides advice on identifying, analyzing, and handling ethical problems. The course emphasizes handling practical and common ethical situations confronting professional surveyors. Numerous problems and practical situations are presented to test the student's knowledge and learning. For homework, students will be expected to respond in writing to ethical situations posed in a work environment using standard and common business forms of written communication. At the completion of the course, a final exam is given.

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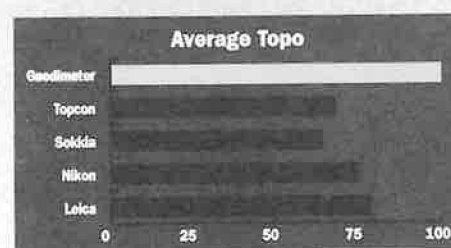
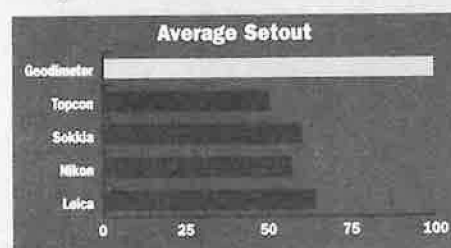
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OH NO!...WHAT SHOULD I DO?

by Ron Koons, RoSaKo Enterprises
Safety Consultants, Middletown, Indiana

During times of extreme emotional turmoil all of us may have trouble functioning. This turmoil can originate from many different sources, but let's concentrate on just one unthinkable scenario...the injury of several employees or even a fatality. If any of you have been through the workplace death or serious injury of an employee you have a feeling for what I am saying. As a human being you are saddened and even horrified that one of your employees is either hurting or has died. As a business owner it is only natural to be concerned for the well being of your business. Will OSHA make a visit? Will OSHA issue large fines? Will there be lawsuits? Let's look at some of the OSHA related concerns in this area.

One of the common questions I receive is "Do I have to notify OSHA if an employee is injured?" The simple answer is maybe yes...maybe no. For most normal single person injuries the answer would be no. You simply need to fill out the appropriate paperwork (OSHA 101 or State WC first injury report) and then complete the form 200 data if the injury is recordable. There are some situations where you must notify OSHA.

A **Catastrophe** is defined by OSHA as the admittance of three or more employees to the hospital as the result of a single work related incident. All of the employees do not have to be employed by the same company. In fact, if each of the employees is from a different company, it is still considered a catastrophe.

A **Fatality** is defined as the work related death of an employee. The fatality definition also covers deaths due to work related stresses, not just trauma.

All catastrophes and fatalities must be reported to your nearest OSHA office within 8 business hours. (OSHA business hours, not yours.) If the incident happens at noon on Tuesday, you must report by noon on Wednesday, if it is noon on Friday, you have until noon on Monday. In Indiana you would call IOSHA in Indianapolis. In any Federal OSHA state the closest OSHA office should be notified.

Any of these definitions can be confusing if you also don't understand whether the incident is work related. If the incident happens at your business or in the direct line of an employees job, you would probably consider it work related. But...if employees are in a vehicle driving to a seminar or work related meeting, even though not on your property and maybe even in the evening, the incident would still be reportable if the above definitions are met. (I won't get into all of the potential situations because recordkeeping is a topic of it's own).

Why is the reporting of a fatality or catastrophe so important? Money is a simple answer. Under the OSHA Penalty Structure you can be fined up to \$5,000 per day for each day a fatality or catastrophe goes unreported. That is why it is important to understand these sometime confusing regulations.

What will happen when you report the incident? You will get an immediate visit from a compliance officer. In most situations this visit will occur as soon as possible. I have heard of situations where the compliance officer was there within an hour. It can even be several days, but one thing is for sure...they will investigate.

OSHA internal guidelines require an investigation of fatalities and catastrophes.

When the compliance officer makes their visit your entire facility or jobsite will probably be inspected. I know of one situation where an initial penalty of over \$40,000 was given for a fatality and just a small portion of the total was directly related to the death. Not only did the owners have to deal with the death of an employee, but the resultant fines from OSHA became a major problem.

Solving your safety problems today should always be a top priority just because it may prevent an employee from being injured, but when dealing with the aftermath of a fatality or catastrophe the results could be a catastrophe to your business.



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RECOGNITIONS & SCHOLARSHIPS



The 1998 Board of Directors of ISPLS include: front row, l to r, Perry Cloyd, Edinburgh; William Clark, Vincennes; Richard Miller, Indianapolis; Dan Woo, New Palestine; John Stephens, Wabash; John Bauer, New Castle; second row, Robert Gross, Lafayette; Rich Hudson, Valparaiso; Doug Herendeen, New Palestine; Chris Marbach, Elkhart; Don Bengel, Valparaiso. Absent was: Jeff Souder, Pekin.

Photos by Henry Aldridge



Art Haase receives the ISPLS Different Drummer Award



B. vanGelder receives President's Appreciation Award



Donald Bishop, Patoka, receives ISPLS Peggy Archer Memorial Scholarship



Randy Peterson, DeMotte, receives John McEntyre Scholarship



Andrew Scholle, Osgood, receives Initial Point Chapter Scholarship



Jud Rouch
Arkansas
Pres., ACSM

William Soderberg
Michigan
Area 5 Dir., NSPS

SURVEYORS HISTORICAL SOCIETY HOLDS FIRST ANNUAL "SURVEYORS RENDEZVOUS"

by Roger Woodfill, PLS, Lawrenceburg, Indiana

On May 4, 1796 Andrew Ellicott was chosen as an American representative to the commission to monument the boundary line between the United States and Spain as described in the Pinckney Treaty (1795). Most of this work was accomplished along the 31st parallel in the southeastern United States during the last two years of the four year project, but his expedition had some secondary goals. One was to obtain a more accurate longitude and latitude for the confluence of the Ohio and Mississippi Rivers. In September 1997 the Surveyors Historical Society (SHS) conducted a search for the celestial observation station that Ellicott used when he was determining that secondary point.

Details of Ellicott's expedition are interesting reading, and they can be found in The Journal of Andrew Ellicott reprinted by Arno Press in 1980 and Andrew Ellicott, His Life and Letters reprinted by World Comm in 1997. As it affects this story, it is sufficient to say that Ellicott departed overland from Philadelphia September 16, 1796: and he returned by sea May 18, 1800. The first twelve days travel took him to Pittsburgh where he secured four boats for the expedition's transport down the Ohio River. As they proceeded, they took a latitude observation at Wheeling, visited Marietta, Point Pleasant, the French at Gallipolis, and took another celestial observation in Cincinnati. The weather situation deteriorated, and the Ohio River was almost dry.

The men poled and pulled their crafts over the shoals, and river ice developed. They reached Louisville December 8th, but the group pushed on hoping for warmer weather. Part of the expedition sought shelter from the ice up the Wabash River. Ellicott's boat reached the mouth of the Ohio River December 18, 1796. They were also forced to lay over because of ice jams in the Mississippi. By the twenty-second, ice had clogged the Ohio River, too.

It was bitterly cold, and it was also obvious that the expedition would have to stay awhile. Ellicott set up his clock and zenith sector, and he began taking observations for the longitude and latitude of that place. His field notes between December 18, 1796 and January 5, 1797 can be found in his journal. They were the basis for the Surveyors Historical Society's 1997 research project called "Surveyors Rendezvous". Ellicott's entry on January 30, 1797, "On the top of the stump of a large tree, to which the zenith sector was fixed a lead plate was laid, containing the latitude, and longitude of that place". "The stump was then covered by a mound of earth of considerable magnitude," and no one has seen it since. Could it still be there despite river inundations, and two hundred years of mankind poking around?

Curiosity was the excuse that the Surveyors Historical Society used to create the first "Surveyors Rendezvous". The event provided the surveying community with an opportunity to re-live, study, and experience a part of history. Surveyors from Alabama, California, Florida, Illinois, Indiana, Iowa, Kentucky, Maryland, Missouri, Nebraska, New Jersey, North Dakota, Ohio, Pennsylvania, Tennessee, Virginia, and Ontario, Canada had traveled across the nation to search for Andrew Ellicott's lead plate survey marker.

Friday morning, September 26th, Roger Woodfill, a registered surveyor and administrator of the Surveyors Historical Society,

welcomed the "rendezvousers" to Wickliffe-Paducah, Kentucky. After reviewing the program of events he introduced Andrew Ellicott, portrayed by Milton Denny of Tuscaloosa, Alabama. Denny as a registered surveyor and president of C.E.D. Technical Services. Mr. Denny, dressed in the fashion of the 1800's, took us back in time to the late 1700's and the early settlement along the western frontier of our young nation. He discussed the life of Andrew Ellicott and emphasized Ellicott's 1796-1800 surveying expedition to establish the United States and Spanish boundary.

Second on the program was Dr. Joseph Senne, a retired chairman of the Department of Civil Engineering, Missouri School of Mines. Dr. Senne had reviewed Ellicott's journal containing the Major's contemporaneous notes, observation data, and calculations. Senne had analyzed these notes and observation reductions, and then he recomputed Ellicott's position, considering possible error sources. Dr. Senne outlined a probable search area, being a rectangle of 400 feet north-south by 1000 feet east-west.

The final speaker for the morning session was Gregory Spies of Mobile, Alabama. Mr. Spies is an archaeologist and surveyor for the office of the County Engineer in Mobile County, Alabama. Gregg has spent several years retracing Ellicott's survey of the United States-Spain boundary, and he has restored some of Ellicott's positions along that line. He reviewed information needed in performing an archaeological study of a historical site.

After lunch the Rendezvous attendees reconvened in the Wickliffe Town Park where Milton Denny presented a topographic print depicting the search site for the Ellicott survey monument to the Wickliffe Mayor, Silvio Mayola. Mr. Denny, who was on the Rendezvous Planning Committee, conveyed the historical society's appreciation to the mayor for the town's hospitality. The "rendezvousers" then proceeded to the projected archaeological site. The site was on property owned by Westvaco, a paper manufacturing company with a major plant near Wickliffe. Westvaco had granted Surveyors Historical Society permission to enter onto their lands.

At the site, Mr. Spies divided the attendees into reconnaissance, grid layout, and excavation parties. The reconnaissance party was to walk throughout the study area and flag those areas where visual metal or other artifacts were found. The grid layout party was to lay the study area out in a fifty foot grid pattern. The excavation party was to auger the grid points in search of evidence of an encampment -- possibly reducing the area to be searched. The afternoon was spent in the field looking for anything which might better define the Ellicott's 1797 camp site. Various artifacts were found, but no lead survey plate was discovered.

Friday evening, the "rendezvousers" regrouped at the Wickliffe Town Park. David Ingram of Mount Crawford, Virginia, had prepared appetizing barbecued chicken over an open charcoal pit. The barbecue was co-hosted by Crain Enterprises, makers of Mound City level rods, who supplied all the trimmings. The park also served as the camping area for a few brave surveyors who had come dressed in period clothing.

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SURVEYORS RENDEZVOUS

...continued from page 23

Saturday morning the group heard a talk by Dr. Richard Elgin of Rolla, Missouri about his extensive collection (450 plus pieces) of early American surveying equipment. Dr. Elgin is a registered surveyor and president/owner of Elgin Surveying and Engineering, Inc. He presented a slide show of his antique surveying instruments and discussed the development of early surveying instruments. Elgin also provided tips on buying, selling and preserving antique surveying instruments.

He was followed by Dr Andrew Kellie, a registered surveyor and professor of Industrial and Engineering Technology at Murray State University. Professor Kellie discussed the early surveying history of the Jackson Purchase area including the public land system in the area, and particularly William Clark's 38,000 acre grant at the mouth of the Tennessee River. This area became Paducah, Kentucky.

Saturday afternoon a swap meet featuring surveying instruments, surveying memorabilia, and surveying books was held at the Wickliffe Town Park. SHS members displaying items for sale or trade included Mickey Shackelford, Milt Denny, Dale Beeks, Ron Bolser, Charlie Sampson, Bob and Dick Elgin and Lyle Kruger. Simultaneously the Society's "True Believers" continued their search for Ellicott's elusive lead plate.

Saturday night the "Surveyors Rendezvous" was capped with a fish fry and a blue grass band entertainment hosted by local Chapters of the Kentucky Society of Professional Surveyors. KAPS president, Bob Rogers awarded two door prizes, and recognized David Dummer, local contact person for the rendezvous. The attendees were advised that some additional artifacts had been found, but that they could not yet be confirmed as those of Ellicott's 7 encampment.

The first "Surveyors Rendezvous" was an educational experience that had been pre-approved for ten Kentucky Professional Development Units; but it was more. Using Ellicott's observations as the center-piece, the table was completely full: very knowledgeable expert speakers; informed participants, each with their area of expertise or knowledge about surveying history; a successful swap meet; great Midwestern fall weather; good food; and best of all, the camaraderie of those interested in preserving the surveyors' heritage.

The Surveyors Historical Society Board of Directors has approved September 18-19, 1998 for the second "Surveyor Rendezvous" to be held primarily to complete the research project started at the first one. SHS had used part of Scoonover painting "George Washington, County Surveyor," dressed in buckskins, advertising the first "Surveyors Rendezvous" in "Professional Surveyor". As a result of these ads the society received several requests for reprints of the picture. 11" x 14" color photographic reprints have been made, and they are available to the public for \$45 + \$5 shipping and handling. The same framed reprints are \$90 + \$10 shipping and handling. If you are interested in a reprint, joining the society, sponsoring a rendezvous; or if you just wish to attend the second "Surveyors Rendezvous", contact: Surveyors Historical Society at their administrative headquarters, 300 West High Street, Suite #2, Lawrenceburg, Indiana 47025-1912; 812-537-2000.

COMPLETED CAREER

Paul I. Cripe, PE-PLS (94)
Indianapolis, ISPLS Life Member

Paul I. Cripe (94), Indianapolis, whose engineering company had a hand in developing many of the city's biggest residential, commercial and public projects, died December 30, 1997.

Mr. Cripe started Paul I. Cripe Inc. 60 years ago on such a shoestring that he sometimes had to pawn his gold watch to keep it afloat.

As it grew the company expanded beyond its original mission - surveying land for home mortgages - to also provide architectural services, land engineering, environmental engineering and transportation engineering. The company employs 85 and has annual revenue of \$6 million.

Mr. Cripe retired and sold his ownership in the company 20 years ago. But he remained closely associated with the firm and helped operate the Paul I. Cripe Charitable Foundation, which supports mentoring and other educational efforts.

"He was a fighter to the very last," said Lacy Johnson, a partner at Ice Miller Donadio & Ryan who sits on the company's board. "That is what has carried the company through - that attitude of can-do".

Mr. Cripe, a licensed civil engineer and surveyor, died at Marquette Manor, a retirement community on the Northwestside. His health had deteriorated rapidly in the last few weeks.

Mr. Cripe was born in Miami County and graduated from Peru High School. He went to Purdue University in 1923 but dropped out two years later when he ran out of money. From 1933 to 1937, he was in charge of construction and engineering for Indianapolis Public Schools.

During World War II, he served in the U.S. Army Air Forces. When the war ended the company began to grow rapidly as the return of veterans and a population explosion spawned a housing boom.

Mr. Cripe planned, platted, surveyed and engineered dozens of Indianapolis neighborhoods and had a hand in developing hundreds of shopping centers, office buildings, apartment complexes and public projects.

Friends recalled Mr. Cripe as a strong-willed owner. He hired good people and let them do their jobs without interference. But he also didn't want them interfering with his job.

"If you told him how to run the business, you would no longer work there, said Bill Dankert, who was a partner in the company before selling to current owner Al Oak five years ago.

Mr. Cripe was a member of Pentalpha Masonic Lodge.

Memorial contributions may be made to the Paul I Cripe Charitable Foundation.

Services were held January 5, 1998 in the Flanner & Buchanan Broad Ripple Mortuary. Entombment was in the Washington Park North Cemetery.

CALENDAR

February 18-21, 1998

Illinois Professional Land Surveyors Association Annual Conference, Clock Tower Resort and Conference Center, Rockford, Illinois.

February 25-28, 1998

ACSM Annual Convention and Exhibition. Contact: ACSM, 301-493-0200.

February 28, 1998

ISPLS Board of Directors Meeting, Headquarters, 10:00 a.m.

March 2-5, 1998

ACSM Annual Convention & Exhibition, Baltimore Convention Center, Baltimore, Maryland: Contact ACSM HQ at (301) 493-0200.

March 28, 1998

ISPLS Board of Directors Meeting, Headquarters, 10:00 a.m.

April 3, 1998

Purdue Student Banquet, Holiday Inn, I-65 & SR 43, Lafayette, Indiana.

April 15, 1998

Central Indiana Seminar, "History of Land Surveying in Indiana", by John McEntyre, PhD, PLS, PE; Stanley Shartle, PLS, PE; & Ken Curtis, PLS, Ramada Inn (Indpls Airport), Contact Brad Ott (317) 736-0264.

April 26, 1998

ISPLS Board of Directors Meeting, Headquarters

May 15, 1998

ISPLS Seminar, "Surveying in the Floodplains" by Joe Cummings, Holiday Inn Conference Center, Columbus, Indiana.

June 2-5, 1998

A/E/C SYSTEMS '98, McCormick Place Chicago, Contact Pat Smith (800) 451-1196.

September 18-19, 1998

2nd Surveyors Historical Society Rendezvous, Paducah, Kentucky, Contact SHS, 300 W High Street, Ste 2, Lawrenceburg, Indiana 47025-1912, Phone: (812) 537-2000

September 26, 1998

ISPLS Picnic, Brown County State Park, Nashville, Indiana

October 2, 1998

ISPLS Seminar, Topic to be announced, Abe Martin Lodge, Brown County State Park, Nashville, IN.

January 13,14,15, 1999

ISPLS Annual Convention, Radisson Hotel, Evansville, IN

NEW ISPLS MEMBERS

as of October 24, 1997

Donald A. Shapiro - Member (Reinstate)
Albert McConahay - Member
Penny Narum - Junior
Jon Martin - Junior
William Craig - Junior
Michelle Slack - Junior
Kevin Johnson - Junior
Donald Smith - Junior
Andrew Cochrane - Junior (SIT)
David Meier - Junior (Reinstate)
Curtis Candler - Junior (Reinstate)
Thomas Ackerman - Student to Junior
Craig Rodarmel - Student to Junior
Erica Pugh - Student
Calvin Cash, III - Student
Steve Koehne - Student
Matthew Badger - Associate (Tech I)
Craig Beck - Associate (Tech I)
Kelly Ferguson - Associate (Tech I)
Shane Haller - Associate (Tech I)
Don Bishop - Associate (Tech I)
Jason Their - Associate (Tech I)
David Wooley - Associate (Tech I)

as of December 6, 1997

Diane Hadley - Junior
TerryKendall - Junior
Michael Rozycki - Junior
Michael Sheehan - Junior
Jeffrey Trout - Junior
Lance Martin - Associate
Terry Parker - Associate
Stephen Hurst - Student
Jeffrey Knarr - Student

SPECIAL THANKS TO 1998 CONVENTION COMMITTEE

A special thanks you to members of the Tecumseh Chapter for the great convention this January in West Lafayette. Although many were involved in leading to the success of the project, the following should be cited for their contributions:

Robert Gross, Co-chair	Roger Fine
Dale Grimes, Co-chair	Lee Bender
Ted Darnall, Co-chair	Boudewijn van Gelder
Dan Pusey, Exhibits	Steve Johnson
Ron Wharry	Ken Curtis
Rex Bowman	James White
Craig Rodarmel	Ken Smith
Allen Jacobsen	Scott Sumerford
Mark Weston	

Spouses Program:

Jeanna Gross	Della Grimes
Donna Pusey	Mary Lou Curtis
Connie Bender	Analeis van Gelder

..and several Purdue land surveying students who helped with moving, set-up, & ticket collection and Doug Herendeen of state committee and Dianne Bennett, state executive director.

SUSTAINING MEMBERS

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