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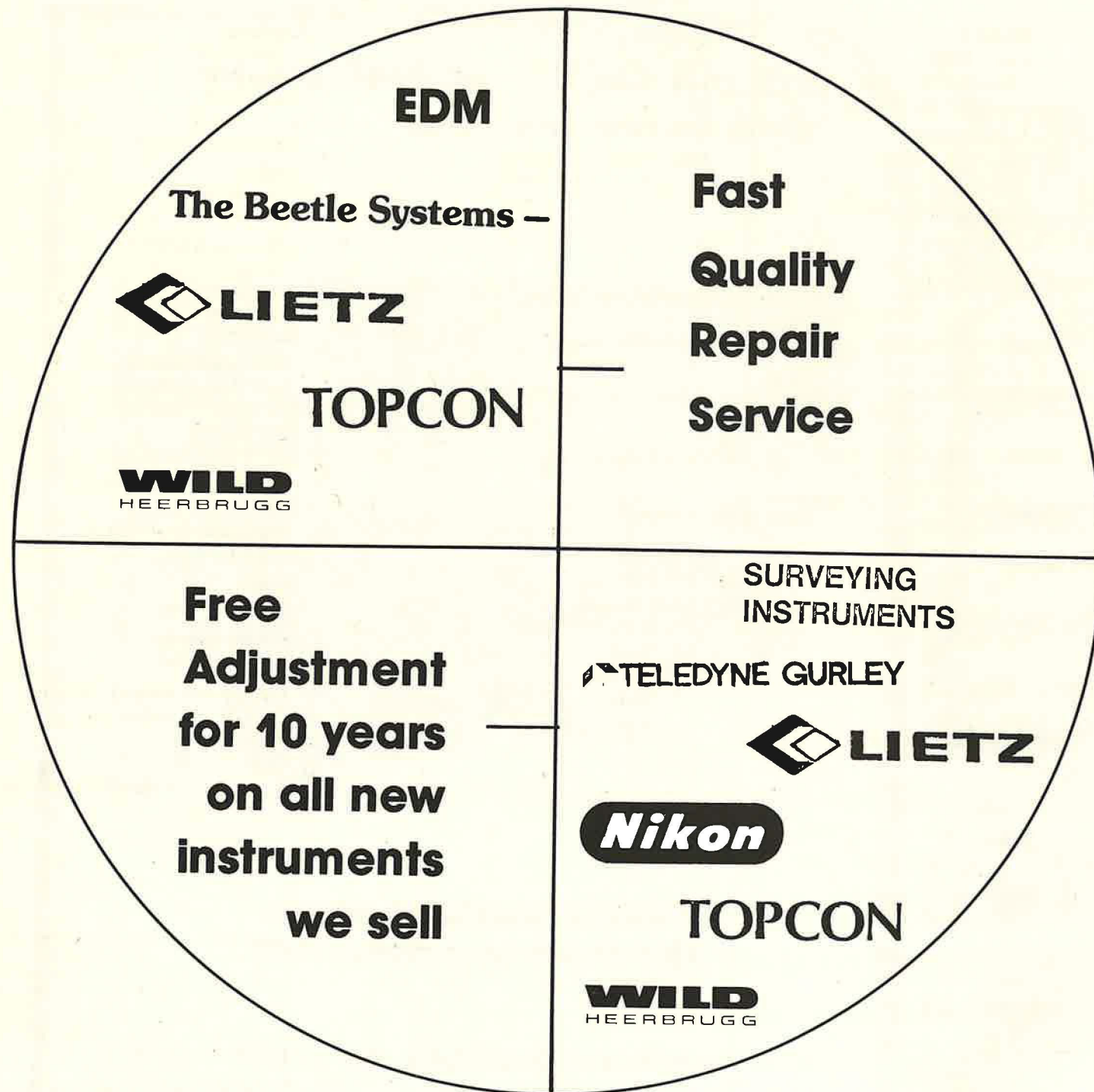
VOLUME 6
NUMBERS 1 & 2
WINTER &
SPRING 1979



NEW 1979 OFFICERS, DIRECTORS, AND BUDGET • ANNUAL
CONVENTION PHOTO-STORY • COLLECTION SERVICE
PAST PRESIDENT'S REPORT • LSD-ACSM REPORT • COUNTY
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HOOSIER SURVEYOR

VOLUME 6, NOS. 1 + 2, WINTER + SPRING 1979

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Editor's Note: The tardiness of this issue is the fault of the editor and not the printer!

COVER: At the Thursday noon luncheon (February 15, 1979), Otis R. Bowen, M.D., the Governor of the State of Indiana, addressed the annual convention of Indiana land surveyors. Left to right are, Byron Brady, John McEntyre, Jon Leverenz-ACSM president, Roger Woodfill-ISPLS president, Dr. Bowen, and William Kreisle.

EDITOR'S NOTE

Deadlines for copy for various planned issues of the HOOSIER SURVEYOR are as follows:

Winter issue - January 31
Spring issue - April 30
Summer issue - July 31
Fall issue - October 31

The HOOSIER SURVEYOR is reproduced by the Printing Department of Marbaugh Engineering Supply Co., Inc., Indianapolis, Indiana.

The Hoosier Surveyor is published quarterly by the Indiana Society of Professional Land Surveyors, to inform land surveyors and related professions, government officials, educational institutions, libraries, contractors, suppliers, and associated businesses and industries about land surveying affairs.

Editorial/Advertising offices: 3919 Meadows Drive, Suite 103, Indianapolis, IN 46205 (Telephone: 317/545-8907). Advertising rates, closing dates, circulation data on request. Contributed articles, photographs subject to space limitations.

Kenneth S. Curtis
Editor

Gary Kent
Associate Editor

THE PRESIDENT'S PAGE

PRESIDENT'S MESSAGE

By: Orwic Johnson

My predecessor felt that a picture of a modern theodolite to head this column might tend to upgrade the image of surveying. I would tend to agree with him. However, my spring has been characterized as one mad race and I frequently feel that my car and I are inseparable. Therefore, I feel it too deserves some of the limelight.

I am humbled when I stop to think that I am addressing some 250 of my peers, many of whom were in practice long before I could spell the word surveyor, and I thank you for placing me in this position of responsibility and leadership. However, the fact that only some 250 surveyors are reading this column is of major concern to me. There are nearly 1,000 Land Surveyors licensed and residing in the State of Indiana and on this basis, I assume are practicing in Indiana and earning their living from this practice. This means that only 25 per cent of our Indiana surveyors care what takes place in regard to registration in Indiana. It also means that the burden of defending, yes, I said defending, our registration and our livelihood falls on that 25 per cent. Are you aware that as things now stand in the State Capitol, that our registration Board will cease to exist in 1981? This is the result of the Sunset Law which effects all State Boards and Agencies. As President, I have already assisted our Registration Board in executing the first report to justify their existence and have instructed our Legislative Committees to begin preparing for a battle to reinstate our registration if need be. In the meantime, why don't each of you members attempt to obtain one surveyor in your local as a new member. Then, at least, the Society could speak for 50 per cent of the Indiana Surveyors.



Orwic Johnson
President

If any of you have called our State Headquarters since last December, you may have experienced some difficulty in either having the phone answered or in getting a reply to your question. Hang in there. We have problems with Headquarters and, as the Board of Directors, are working toward their solution and expect to have the Headquarters fully functional very soon. Meanwhile, if you have any problems, don't hesitate to call me and I will return your call.

See you at the summer Workshop August 10th and 11th at Kokomo.



IMPORTANT DATES TO REMEMBER

- | | |
|-------------------------------|---|
| August 10-11, 1979 | ISPLS Summer Seminar/Workshop on "Understanding Surveying Measurement" by Prof. Ben Buckner, Ohio State University. To be held at Kings Crown Inn, Kokomo, Indiana. |
| August 10, 1979 | Special ISPLS Membership Meeting at 7:00 pm at Kings Crown Inn, Kokomo, Indiana. |
| September 17-21, 1979 | Fall Convention of American Congress on Surveying and Mapping, Sioux Falls, South Dakota. |
| January 31 - February 2, 1980 | 1980 Annual Convention of Indiana Society of Professional Land Surveyors, Holiday Inn-North (I-465 and US 421) Indianapolis. |
| March 10 - 14, 1980 | Annual Convention of American Congress on Surveying and Mapping, St. Louis, Missouri. |



1979 ISPLS board of directors, front row, left to right, Charles budnick, Orwic Johnson, albert McConahay, David Wolf; second row, Kenneth Curtis, Emil Beeg, Stanley Shartle, Gene O'Brien, Byron Brady, Don shapiro, and Roger Woodfill.

GOVERNOR BOWEN OF INDIANA ADDRESSES INDIANA SOCIETY OF PROFESSIONAL LAND SURVEYORS CONVENTION INDIANAPOLIS AIRPORT HILTON — FEBRUARY 15, 1979

As Governor of Indiana, I am pleased to welcome members of your small but important profession to Indiana's Capital City, and to express the hope that your two-day convention here will be successful and productive.

Land surveyors, as almost anyone with some basic knowledge of history knows, have been an important profession in this country since American History began.

This is particularly true west of the Allegheny's in what was once called the Ohio country and which included the present State of Indiana.

Your professional "ancestors" included George Washington, who handled surveying equipment in the rough valleys of Western Pennsylvania before going on to later successes in war and politics, and Abraham Lincoln, who once helped run section lines in Illinois.

To most historians the early history of this section of the country focuses on the pioneers -- that hardy band of semi-adventurers who braved the hostile environment of the then-west to establish homes in the wilderness.

Some historians ignore the fact that these settlers were preceded by men who followed the needles of their compasses, patiently awaiting a glimpse of the stars in order to clinch a meridian or run lines, calculate elevations and set benchmarks.

They too braved the threats of sometimes hostile Indians and wild animals. They also experienced the difficulty of penetrating the near-impenetrable wilderness to accumulate the field notes which were to be the basis of the future civilization.

Land identification practices prior to 1785 were systemless and irregular. These practices still exist to some extent east of the Alleghenies. They use impermanent benchmarks such as trees, which might be cut down; or streams which might change their courses; or boulders, which might be moved. The land surveyor using the congressional township system of survey, changed all of that, and for the better!

Only after the land surveyors had done their job was there a basis on which the boundaries of land could be accurately described and ownership of land transferred from the state to individuals and from one individual to another. Then, and only then, did the pioneers flood into the Ohio Valley and create the civilization we know today.

The surveyor's six mile square congressional townships became a unit of local government. As townships were ganged together to make counties, we thus had the basic components of local government -- given to us by land surveyors.

The lines which land surveyors ran in these parts in those very early days are still the lines with which you deal as modern-day land surveyors.

Despite the passage of time, your professional responsibility still remains that of running the good and true lines between neighbors which enables each to say to the other: "Here is where my rights end and yours begin."

I understand your conference will be dealing with new surveying techniques and with conversion of land measurements to the metric system.

I confess that it will be difficult for me to describe my small tract of land near Bremen as being somewhat more than one hectare, instead of three acres, in size! But change is a constant condition of life, and I suppose that I will eventually accept the change to the metric system no matter how strange the terms may sound.

Thank you for inviting me today -- I have enjoyed it!

Otis R. Bowen, M.D.
Governor, State of Indiana

INDIANA SOCIETY OF PROFESSIONAL LAND SURVEYORS
PROPOSED 1979 BUDGET

INCOME		1978 BUDGET	PROPOSED 1979 BUDGET
I-10	Regular Members	\$11,500.00	\$11,500.00
I-11	Associate Members	650.00	660.00
I-12	Junior Members	1,400.00	2,000.00
I-13	Student Members	150.00	175.00
I-20	Hoosier Surveyor	1,000.00	1,500.00
I-30	Annual Conference (79)	8,500.00	8,500.00
I-31	Manuals	2,000.00	3,500.00
I-32	Workshops	5,000.00	7,000.00
I-33	Firm Memberships	2,300.00	1,500.00
I-34	Sustaining Members	900.00	900.00
I-40	Interest	600.00	1,000.00
I-50	I. C. Systems Income		250.00
		<u>\$34,000.00</u>	<u>\$38,485.00</u>
EXPENSES			
P-40	Accounting Service	\$ 250.00	\$ 250.00
S-10	Office Expense "ISPE"	4,500.00	6,000.00
S-20	Telephone	1,000.00	1,000.00
S-30	Office Supplies	700.00	700.00
S-40	Postage	1,500.00	1,500.00
S-50	Secretarial (Part-time)	500.00	500.00
S-60	Sales Tax	80.00	100.00
		<u>\$ 8,530.00</u>	<u>\$10,050.00</u>
G-10	Hoosier Surveyor	\$ 4,000.00	\$ 6,000.00
G-30	President's Contingency	200.00	300.00
G-50	ACSM Delegate	1,000.00	1,000.00
G-60	ACSM Committee	500.00	500.00
G-70	Travel, PR, Legislative	2,500.00	2,000.00
G-90	Insurance	300.00	175.00
G-110	Annual Conference	6,500.00	7,000.00
G-111	Workshops	4,000.00	4,500.00
G-112	Manuals	2,000.00	2,500.00
		<u>\$21,000.00</u>	<u>\$23,975.00</u>
C-60	Awards	\$ 100.00	\$ 100.00
C-80	Committee Expenses	300.00	300.00
C-81	Membership Development	1,000.00	1,000.00
C-82	Scholarship Fund	1,040.00	1,040.00
C-83	Safety Deposit Box	10.00	10.00
C-84	Newsletter Editor	1,000.00	1,000.00
C-85	Accumulative Fund "A"	100.00	100.00
MS-10	Misc. State Expense	920.00	910.00
		<u>\$ 4,470.00</u>	<u>\$ 4,460.00</u>
TOTAL EXPENSES		<u>\$34,000.00</u>	<u>\$38,485.00</u>

COLLECTION SERVICES NOW AVAILABLE TO ALL LAND SURVEYORS

During the past few years the collection services available through I.C. Systems, Inc. has been a part of the benefit package of ISPLS Member Firms. The Board of Directors at their meeting February 14, 1979 voted to make the system available to all members of the Society as well as to all registered land surveyors in Indiana. Contact Society headquarters for information.

CREDITOR IS OWN WORST ENEMY IN COLLECTION PROCESS

Debtors are less of a problem than you might think. Collection people know how to deal persuasively with them. More often than not, it's the creditor's collection procedures rather than the debtor's cunning that thwarts the collection process.

The association's endorsed collection service offered by I.C. System, Inc., has an answer. It comes in the form of a free pre-collection system that includes a rubber stamp to use on 60 or 90 day statements. It says: IF THIS ACCOUNT IS NOT PAID BY

IT WILL BE REFERRED TO THE CREDIT PROTECTIVE SERVICE OF I.C. SYSTEM, INC. It's just a simple thing, but is a powerhouse when used regularly as part of a total billing and collection system.

The company has stacks of testimonial letters telling how this stamp has brought in hundreds, even thousands of dollars from slow-pay accounts, without the creditor ever having to submit them for collection. That's good! But even better is the effect the use of this stamp has on the creditor's over-all billing and collection system.

What good is a collection service that collected for you last year? Last year is history. What you need is a service that helps you today and next month and next year. That's why the creditor should consider the rubber stamp as part of an on-going system.

Once a creditor has resolved a bad past-due account situation one way or another, it's easy for him to fall back into the same habits that built up his receivables in the first place. Soon he may even forget that he has a collection service to help him and go back to sending out four, five, six or even more statements on grossly over-due accounts.

Use of the rubber stamp keeps this from happening by reminding the creditor to submit accounts for collection on a systematic basis. And it reminds him to do so before the debtor moves, dies, incurs additional debts from people who DO push for payment, files bankruptcy, or forgets that your statement balance represents benefits received. In other words, the stamp's real benefit lies in its power to motivate the creditor to do what he knows should be done with past-due receivables--but too often lets slide.

Last year I.C. System collected an all-time record of \$28.8 million for creditors all across the nation. That does not include many millions more brought in by the no cost pre-collection system. Contact the Society office to learn more about what this system can do for you.

NEWSNOTES

Approximately twenty-five people are reported to have attended the Indianapolis Seminar on "The Business of Land Surveying" conducted by T.S. Madson II of Gainesville, Florida, on April 6-7, 1979. The Seminar was endorsed by the Indiana Society of Professional Land Surveyors, but was not sponsored by them. Madson is a registered land surveyor and a practicing attorney.

Approximately twelve land surveyors were among the attendees of a short course on "Urban Drainage Planning and Design" sponsored by the Purdue University Water Resources Research Center and held on the Purdue campus, June 4-6, 1979. Those attending the three-day course were exposed to many aspects of the urban drainage problem.

Albert McConahay, chairman of the 1980 Convention, reports that it will be held at the Holiday Inn-North at I-465 and U.S. highway 421 in Indianapolis. This is in the College Park Complex next to Beef and Boards Dinner-Theatre. The dates are January 31st, February 1st and 2nd, 1980.

Albert McConahay has reported that 156 people attended the technical sessions at the 1979 Indianapolis Annual Convention, 44 attended the women's program, and there were 23 exhibitors. The Convention Committee composed of Al McConahay, Charles Budnick, Dallas Montgomery, and Jud Rouch are to be congratulated on a job well done.

If for some reason one cannot attend the ISPLS Summer Seminar/Workshop on "Understanding Surveying Measurement" to be taught by Dr. Ben Buckner in Kokomo on August 10-11, 1979, the same program will be presented at Elgin, Illinois, for Illinois surveyors on August 17-18, 1979 at a considerably higher cost. Contact John Avampato, IRLSA, 386 E. Chicago St., elgin, Illinois, 60120.

New from Hewlett-Packard — Survey System One — boosts productivity from field to finish.

Introducing Hewlett-Packard's Survey System One.

A system designed to let you do more work in less time, and with much less chance for error. In brief, the system transfers all of your measurement data from the field to the office *electronically*, with speed and accuracy. In the office, your field data is reduced in a fraction of the time it would take using conventional methods, and you get answers while the job is still fresh in your crew's mind. Time savings are substantial, and the potential for error is all but eliminated.

Four key components make up the HP Survey System One. For field work, measurements are made electronically with the **HP 3810A Total Station**, a dependable easy-to-use instrument combining angle and horizontal distance measurements. The **HP 3851A Data Collector** is the link between field and office. Readings displayed by the Total Station are stored in the Data Collector's solid-state memory. Back at the office, the Data Collector transfers your field data to the **HP 9815 Surveying Calculator** for processing. This transfer is accomplished automatically, error free, and in a fraction of the time you now spend on the same task. The fourth

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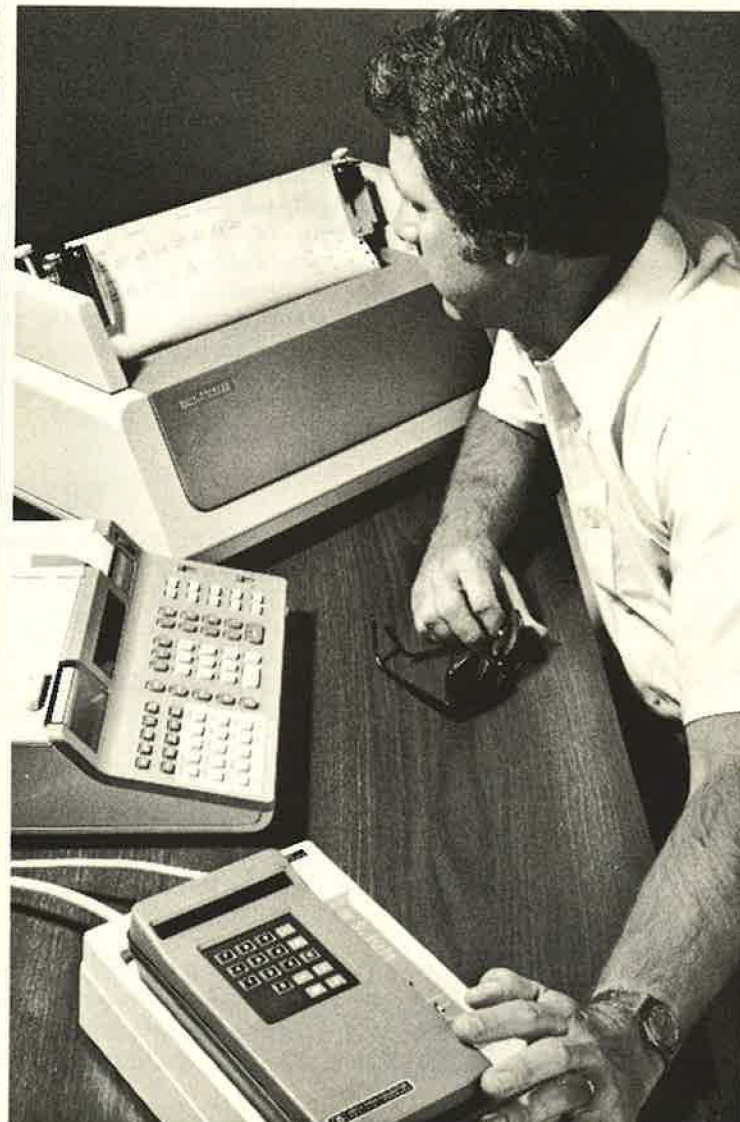
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1979 OFFICERS OF INDIANA COUNTY SURVEYORS ASSOCIATION
are, left to right, Kenton Ward, Leslie Weber, John McNamara, and Jack Irwin.

INDIANA COUNTY SURVEYORS ASSOCIATION

County surveyors representing thirty-two Indiana counties attended the County Surveyor Sessions held in conjunction with the Purdue Road School on March 6-8, 1979 in West Lafayette. Highlights of the two half-day sessions were a panel discussion on "The county Surveyor in Private Practice - Can It Work?," two discussions on "Section Corner Perpetuation by Contract" and "Flood-Plain Mapping by Contract," and an election of officers for 1979. Officers elected were:

President — Jack Irwin, Indianapolis-Marion County Surveyor
Vice-President — Leslie Weber, Albion - Noble County Surveyor
Vice-President — Kenton Ward, Noblesville - Hamilton County Surveyor
Sec.-Treas. — John McNamara, South Bend - St. Joseph County Surveyor

1979 LEGISLATURE SENATE ENROLLED ACT No. 264

AN ACT to amend IC 17-3-64 concerning corner monuments.

Be it enacted by the General Assembly of the State of Indiana:

SECTION 1. IC 17-3-64 is amended by adding a NEW section 7.5 to read as follows: Sec. 7.5. A person may, for excavation, mineral extraction, or other purposes related to his business, remove a monument marking a corner. The person must notify in writing the county surveyor before removing the monument, and he must replace the monument at his expense under the supervision of the county surveyor or his designee within a reasonable time. The surveyor shall file a copy of the notice in the corner record book.

I.S.P.L.S. - A.C.S.M. DELEGATES COLUMN

(Editor's Note: In each issue of the Hoosier Surveyor we intend to publish a column which might keep Hoosier land surveyors better informed of national happenings. This year's delegate is Roger Woodfill of Lawrenceburg and he wants LSD chairman James Donahue's memo printed in this issue.)

April 6, 1979

TO: ALL LSD/ACSM SECTIONS AND AFFILIATES

FROM: LSD/ACSM CHAIRMAN, JAMES G. DONAHUE

The LSD Board at its recent meetings in Washington, D.C., has established certain Priority Projects as needing immediate attention and funding. A management study has been completed which dictated new organization and management. Much of the office work has been computerized and Mr. William A. Radlinski has been hired as our new Executive Director beginning May 7, 1979.

We have classified "Communications" as the first priority item to better keep our members informed of what is being done by their National Organization on their behalf. The second priority is that of Legislative Activity at the national level. The third item is that of Education.

In the area of "Communications" it is our intent to send out more update type newsletters and bulletins in addition to our regular quarterly publications. Also, our LSD Board Members will be in direct personal contact with members through attendance at all State and Regional Surveyors Meetings throughout the year. (You will receive a request from your Area Director for meeting dates.)

Our present Legislative Program is in full swing as evidenced by our recent successes on "the Surface Mining Act," "the Brooks Bill," the ABA "Model Procurement Code," and obtaining professional stature in the Department of Labor's Directory of Occupational Titles. Continuing efforts by surveyors in the area of national legislation is of paramount importance in helping to advance and keep the surveying profession on a par with Engineers and Architects.

In the area of education we are being asked to sponsor more Workshops and Seminars. Also, we must develop a full and ongoing program for professional development and continuing education. Aiding our colleges and universities in establishing degree programs is a prime responsibility. All of our educational goals can only be achieved through the hiring of a qualified Education Director. This position is now available to any qualified candidate. It is felt that the formation of an Independent Accrediting Agency run by ACSM might be a worthwhile objective for the proper accreditation of all Surveying related curricula.

All of the above Priority Projects require funding this year. The ACSM Board of Direction has approved deficit funding of these projects on the basis of recovering the advanced funds from members and Affiliated Societies through a temporary "Special Dues" for all LSD Corporate Members (\$20.00 additional on the next dues billing only) and contributions from affiliated State Societies. As you may already know, the "\$5.00 per Non-ACSM Member" amendment to the ACSM constitution was not ratified by the membership. Therefore, these anticipated funds will not be available. Therefore, until an acceptable method is found we are asking all state affiliated organizations to contribute voluntarily this year whatever funds they deem appropriate to support the LSD Priority Projects mentioned above.

Some State Societies have increased their own membership dues by \$5.00 so as to be able to send ACSM a \$5.00 per member contribution. Others have agreed on amounts ranging from \$1.00 per member to \$10.00 per member depending on the size of their membership. Whatever amount you deem reasonable for your specific membership is urgently needed to fund projects our membership has requested.

ACSM will be undergoing a complete restructuring of its Constitution during this next year. This will mean that the LSD will be a separate and distinct National Surveyors Organization under the "umbrella" of ACSM. This will mean "autonomy" for Land Surveyors nationally. We can then structure ourselves to provide for membership dues that are needed to pursue our own programs.

It is our hope that all affiliated State Societies will respond directly and positively to this request. Professional stature must be earned and guarded. It is time Professional Surveyors started to be professional at the national level as are Engineers and Architects.

DUTIES OF LAND SURVEYORS IN THE INDIANA COAL MINING INDUSTRY

By Gordon W. Curtis, LS, Oakland City, Indiana

In the surface mines of Indiana the duties delegated to the surveyor have been extensive.

When parcels of land are acquired, leased or proposed to be mined the surveyor makes "property surveys" of the parcels establishing boundaries of ownership. Then when exploration core holes are drilled to determine reserves, the surveyor locates the holes and establishes the sea level elevation of each.

When it is ascertained that the reserves are there, the surveyor then makes a topographic survey of the property and makes a contour map, usually at a scale of 1 inch equals 100 feet with a 5 foot contour interval. These maps are used to plan and project the mining of the properties considering yards of overburden, tons of coal, drainage, pit configuration, and other operation details. In the last few years these maps have been drafted using aerial photogrammetry but this requires a control survey by the surveyor with elevations on the control points.

The surveyor makes route surveys, including cross-sections and profiles, for roads, ditches, railroads, etc. and then carries through with construction surveys of these projects. Also construction surveys are necessary for buildings and other structures, including the giant mining machines.

The surveyor also makes hydrographic surveys for the construction of water impoundments for, a water supply for the coal washing plant, water treatment before discharge into a public stream, or a water supply for road sprinkling and other uses. The surveyor must then make a construction survey for the impounding structure.

The mine surveyor also makes topographic surveys to determine the yards of overburden moved and tons of coal loaded from the properties on either a daily or monthly basis.

After mining the surveyor establishes the boundaries and maps the areas reclaimed to different uses. He also re-establishes the property boundaries after reclamation.

Under Indiana law regulating surface mining, the surveyor has been responsible to prepare maps for submission with permit applications showing the areas to be affected. He also prepared and certified maps showing areas graded, areas affected, and areas reclaimed. The Indiana law requires these maps to be certified by a surveyor registered in the State of Indiana.

Many of the duties delegated to the surveyor for Indiana deep mines are the same as for surface mines. The deep mine surveyor must make property surveys of all properties acquired, leased, or projected to be mined. He must also locate exploration core holes that are drilled on properties to be mined. For deep mines the accuracy of these locations is critical and must be re-located underground to avoid water problems and leave a pillar at that location.

All oil wells, etc., that might penetrate and obstruct the mining of the coal seam must be located on the properties and then re-located underground.

Construction surveys must be made for the shaft or slope layout and construction.

Route surveys of pre-determined entries as well as room and pillar layouts are also part of the surveyors duties.

Operators of deep mines in Indiana are required to keep an up-to-date map showing area mined, haulage roads, air courses, breakthroughs, brattices air bridges or overcasts, doors used in air control, property lines, and complete workings of the mine which must be certified by a qualified land surveyor or professional engineer registered in the State of Indiana. (Senate Enrolled Act. No. 145 as amended by Senate Enrolled Act No. 547 Section 8.)

Any time a deep mine is closed out a Closing map must be prepared and filed with the Indiana Bureau of Mines and Mining by a qualified land surveyor or professional engineer.

The major coal companies usually have surveyors on their staffs to accomplish these duties that have been enumerated but the many small operators in the state have hired survey firms or surveyors in private practice for these duties.

In Indiana prior to July 9, 1961 a registered professional engineer was considered qualified as a surveyor. Since then only those who qualify by 12 years combined education and experience in land surveying and pass a 16 hour test can be registered. Under present Indiana law today registered land surveyors are the only ones qualified and competent to accomplish the above duties.

The preparation of maps according to Article 779.23 in the Proposed Permanent Regulatory Programs of O.S.M. by "professional engineers or professional geologists" is a direct violation of Indiana State Law. (Indiana Code 1971, 25-31-1, Chapter 148, Section 2 (h) as amended, Act 1969, Chapter 179).

The following ISPLS items are available for purchase from Society Headquarters in Indianapolis:

Public Relations Brochures (20 for \$1.00)

Careers in Surveying and Mapping booklet (\$.50 each)

1978 Roster of ISPLS Members (\$1.00 members/\$5.00 non-members)

Past issues of the Hoosier Surveyor newsletter (\$1.00 each)

HP 67/97
SURVEYING PROGRAMS

Write for abstracts:

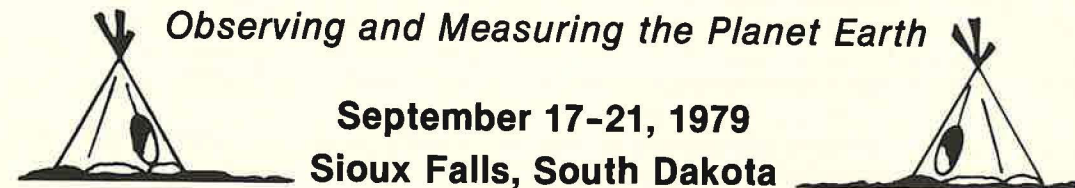
Charles C. Campbell

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Indianapolis, IN. 46229

ACSM-ASP

1979 FALL CONVENTION AND EXHIBIT



Observing and Measuring the Planet Earth

September 17-21, 1979
Sioux Falls, South Dakota
Convention Center

TECHNICAL PROGRAM

Plenary Session: Convention Theme –

“Observing and Measuring the Planet Earth”

General Sessions:

Data Acquisition and Information Extraction

Surveying and Remote Sensing in:

- Energy and Mineral Resource Production
- Management and Use of Water Resources
- Land Use Planning and Change Detection
- Food and Fiber Production and Management of Natural Vegetation

Poster Sessions:

A forum for informal exchange of information

Special Events:

- ✓ Tours of the USGS EROS Data Center
- ✓ An old fashioned western barbeque in a replica pioneer town
- ✓ President's banquet and dance
- ✓ Activities for members' wives

Exhibits:

Commercial and educational exhibits will feature the latest developments in surveying and remote sensing technology

For further information, contact:

- Fredericka A. Simon, Convention Director
 - H. E. Lockwood, Exhibits Director
- 1979 ACSM-ASP Fall Meeting, P.O. Box 1837
Sioux Falls, South Dakota 57101

UNDERSTANDING SURVEYING MEASUREMENT

A Summer Seminar/Workshop for surveyors and surveying technicians sponsored by the Indiana Society of Professional Land Surveyors and taught by Professor Ben Buckner, Ohio State University, will be held on August 10 and 11, 1979 at the Kings Crown Inn, Kokomo, Indiana.

GOALS AND OBJECTIVES

Practical

- Application of measurement theory to practice
- Control of mistakes and errors
- Understanding instruments and error sources

Theoretical

- The art and science of measurement
- Behaviour and propagation of random errors

Professional and Technical

- Development of the basic surveyor's role as expert measurer
- Development of important mental, technical skills
- Better appreciation of measurement toward more fulfillment

PURPOSE

The principal purpose is continuing professional development for practicing surveyors and surveying technicians. This is not a course in how to use specific instruments or take readings, but is a seminar designed to help those who deal with measurements to understand what they are doing beyond the knob turning and reading of raw data. Appreciation of surveying measurement as an art and science is the central theme. This is not a refresher course for licensing but two days of explanation of material which is probably new to many.

TRUTHS TO PONDER

- Surveying is the art and science of making measurements. . . Do you understand both aspects?
- The mark of a professional surveyor is the ability to control measurement error. Do you have the theoretical tools to do this?
- True Value = Reading + Sum of corrections; or stated a little differently, the truth is always equal to one's initial observations plus the corrections discovered through added experience or knowledge. That's measurement and that's life!

TOPICS AND SCHEDULE

Friday - Seminar		Saturday - Workshop	
8:00	Registration and Orientation	8:00	Testing Instruments and Methods
8:30	Basic Art of Making Mistake-free Measurements		Noon lunch
	Care of Equipment	1:00	Application to Distance, Angle, Elevation Measurements
	Basics of Measurement in Surveying		Applications to Specifications and Standards
	Fundamental Survey Measurement Definitions		Finding Mistakes and Evaluating Errors
	Sources of Errors in Measurements		Statements of Accuracy on Surveying Plats
	Basic Survey Measurement Theory		Understanding your Instrument
	Systematic Errors and Corrections		(Theodolite, Level, Tape)
Noon Lunch			Appreciation of Measurement toward more Fulfilling Professional Work
1:00	Behaviour of Random Errors		
	Estimating Random Errors		
	Propagation of Random Errors	4:30	Discussion
	Testing Instruments and Methods for Precision		
4:30	Discussion		

PHOTOSTORY COVERAGE OF ISPLS ANNUAL CONVENTION IN INDIANAPOLIS FEBRUARY 1979

1. Airport Hilton Inn was site of convention
 2. Governor Otis Bowen was Thursday luncheon speaker
 3. Secretary of State Edward Simcox was Friday luncheon speaker
 4. Harold Michael discusses "safety for surveyors"
 5. Ralph Stephenson discusses "sewer design"
 6. Norman Henderson discusses "photogrammetry in surveying"
 7. Roger Woodfill presented awards for outstanding service to Gary Kent and John Schneider
 8. Woodfill receives past-president plaque while Al McConahay and Gordon Curtis receive special recognition momentos.
 - 9-10. New board of directors has first meeting
 11. ISPLS booth "manned" by pretty Karen Mollaun
 12. Paper money flowed freely at the Thursday evening armchair horse racing and auction.
- Centerspread. The Friday evening luau was outstanding



1



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11



12





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I.S.P.L.S. PRESIDENT'S REPORT 1978 **A State of the Society Editorial by Roger Woodfill** **(February 1979)**

The Indiana Society of Professional Land Surveyors, Inc. has accomplished, started, and participated in many worthwhile projects since the last annual convention. It is my belief that the greatest fault on our organization is failure to communicate these experiences to the whole membership. This report is a summary of I.S.P.L.S. decisions and individual efforts that I regard as significant since the last annual convention. It is divided into general headings without concern for order of importance. Some topics contain recommendations.

COMMITTEE STRUCTURE

I reorganized the I.S.P.L.S. committee structure in 1978. Basically, each committee has a chairman, a “reporter”, a surveyor in training member, and a regular member. The reporter or secretary position is filled by a member of the board of directors. This was done to increase communication and encourage production from committees. The S.I.T. positions offer an opportunity to our younger members wanting involvement in society work. I selected members from varied corners of the state for each committee in order to obtain decisions that would not favor a specific geographic area. That was a mistake. It prohibited some committees from meeting as often as they should. Committees should not be reorganized with every change of presidents, but annually the president should review membership within a committee, abolish some committees, and appoint new necessary committees. I recommend retaining the past five presidents as the “Ethics and Business Practices” committee. Committees that should be abolished or consolidated are as follows:

1. Committee to study Engineer-Survey Position (abolish)
2. Continuing Education programs (consolidate)
3. Economic committee (consolidate)
4. Corner perpetuation (consolidate)
5. Commercial supporters (consolidate)
6. I.S.P.L.S. - County Surveyor Association (consolidate)
7. Workshops (consolidate)

The committee structure in my opinion should do most of the society's work. Enthusiasm among members is highest when they are actively working on projects. It is up to the leadership to provide those projects and the means, but the society grassroots should contribute time and ideas.

WORKSHOPS

In 1978, I.S.P.L.S. was involved with five workshop opportunities for our membership. The first was held in conjunction with the Tri-State land surveyors convention near Cincinnati, Ohio. It was necessary to project attendance from each state in early stages of planning for that conference. I.S.P.L.S. membership supported this out-of-state project beyond all estimates. It was a great “confidence builder” for me to learn early in the year that officers of I.S.P.L.S. can count on loyal membership support. I thank those who attended and sincerely hope they benefitted from the technical and social activities.

The Indiana Society of Professional Land Surveyor's name had been used by the Indiana University-Purdue University at Indianapolis in conducting a review course for registration candidates. We dropped sponsorship of this program last year in favor of establishing a workshop program with Ted Madson as a refresher course. Mr. Madson held a math seminar last March and a legal seminar this past December. Ted Madson will return in the Spring of 1979 speaking on “The Business of Land Surveying”. We are also looking into videotaping surveying lectures for individual home study.

The “Traveling Roadshow” using the talents of Purdue professors Curtis and McEntyre was not well attended this year. I thought that the subjects discussed were current and well presented. I am told the reason for poor attendance was that business was good, and therefore participants were not able to get away. I.S.P.L.S. lost a few dollars on this workshop, but more important, we probably lost the whole concept of the traveling workshops and the instructors, Curtis and McEntyre, because of poor attendance. I do not accept the “too busy” excuse for professionals missing a continuing education opportunity. If you did not attend this workshop, please inform a member of the board of directors or a member of the workshop committee of the reason. We do not want to make the same mistake again.

The Gurdon Wattles workshop was a new concept in the continuing education program of I.S.P.L.S. Although it was rainy, the two-day seminar was wellattended, educational, and entertaining. I would like to continue holding a “celebrity workshop” at various locations in the future. The greatest problem with this one at Brown County State Park was the confusion over room and cabin assignments. We will do better in the future.

PUBLICATIONS

Early in the year a publications deadline calendar was established for "Hoosier Surveyor" and production of the roster. Suspecting that communications is the weakness of our society, I promised myself that the "Hoosier Surveyor" would be completed by the posted deadlines. We were grossly late 75 per cent of the editions, and I have received many comments criticising this tardiness. On the other hand, the "Hoosier Surveyor" won the Excellence in the Journalism Award from A.C.S.M. and we have the first I.S.P.L.S. roster published in several years. Also Manual No. 3 was updated and reprinted.

Currently, I.S.P.L.S. is leasing office space and securing various secretarial services from the Indiana Society of Professional Engineers. I recommend that we hire a part-time manager to work within our current I.S.P.E. agreement, and within our current I.S.P.L.S. budget, to relieve the pressure on officers and individual volunteers. The manager would work directly under the board of directors and with the existing committees.

This past year we lost the services of Peggy Archer when we needed secretarial services the most. Only through special efforts were we able to distribute our ballots, dues notices, and convention literature. Membership cards and year-end reports will be delayed. We should be protected from this happening again. The Board of Directors should continue to meet 10-12 times annually. Insurance for office furniture, files, and bonding employees was purchased in 1978.

GOVERNMENTAL AFFAIRS

During most of the past year the Indiana Legislature was not in session, and our efforts were directed toward aiding A.C.S.M. at the national level. However, we are now actively engaged in supporting a bill exempting architects, engineers, and land surveyors from the bidding process on state and local projects. In addition to committee support, I.S.P.L.S. has hired a professional lobbyist. The bill is presently in the Committee on Governmental Reorganization.

The I.S.P.L.S. action getting the land surveyor listing separately, but equally, with the engineer and architect in this bill has attained recognition at the national level. The American Bar Association next month will complete writing a model procurement code. Most states and local governmental units will use this model to outline their ordinances and rules. The Indiana experience, as noted in the above paragraph (and as explained to A.B.A. by Don Bender, A.C.S.M. governmental affairs chairman) has convinced A.B.A. to recognize land surveyors equally but separately in their model code.

I.S.P.L.S. also has cooperated extensively with A.C.S.M. to correct the federal Surface Mining Act. Several members and the society wrote our Congressmen about the law excluding surveyors from performing those services that they are qualified to perform. Four I.S.P.L.S. members testified at one of the three national hearings on the proposed regulations for surface mining. Gurdon Curtis of Oakland City has prepared an enlightening summary of the "Surveyor in Indiana Coal Mining" to be presented at the final Washington hearing. I.S.P.L.S. also asked eighty members to participate in a manpower study to determine the economic effect the regulations would have in the surveying profession.

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I.S.P.L.S. did correspond with one county chairman requesting that he consider only registered people for the office of County Surveyor.

A.C.S.M. AFFILIATION

I have noticed an effort in the American Congress on Surveying and Mapping to increase their services to their affiliates and general membership. I.S.P.L.S. printed our obligations to A.C.S.M. and their obligations to us in Volume 5, Number 1 of the "Hoosier Surveyor". In addition to the government affairs effort described above, I.S.P.L.S. has and will continue to conduct a membership drive in Indiana for A.C.S.M. I.S.P.L.S. and A.C.S.M. exchange lists of new members. As explained in your dues notices, I.S.P.L.S. and all other affiliates are being assessed \$5.00/member who is not also an A.C.S.M. member. This money will be used for federal governmental affairs.

We have received from A.C.S.M. significant information concerning "Sunset Legislation". A concerted effort must come next year in this field. Our nomination for the A.C.S.M. "Surveying Excellence Award" was received late and therefore rejected. Byron Brady has done an excellent job filing A.C.S.M. - I.S.P.L.S. reports and attending A.C.S.M. meetings. When you are an affiliate delegate, those conferences can be a lot of work. I was alternate at the Albuquerque Convention. We will miss Byron as our delegate next year. Did you notice that Indiana was the only state with two nominees for the A.C.S.M. board of directors?

MEMBERSHIP

Our membership levels have changed very little from a year ago, but presently we are in the middle of a drive that I predict will increase our membership. John Grimes was made an "Honorary Member" of I.S.P.L.S. this year; all new registrants were granted one-year free membership; and all members of A.C.S.M. (but not I.S.P.L.S.) were asked to join I.S.P.L.S. in 1978. Dues structure for Firm Members was analyzed and would you believe, dues were actually lowered for that class membership.

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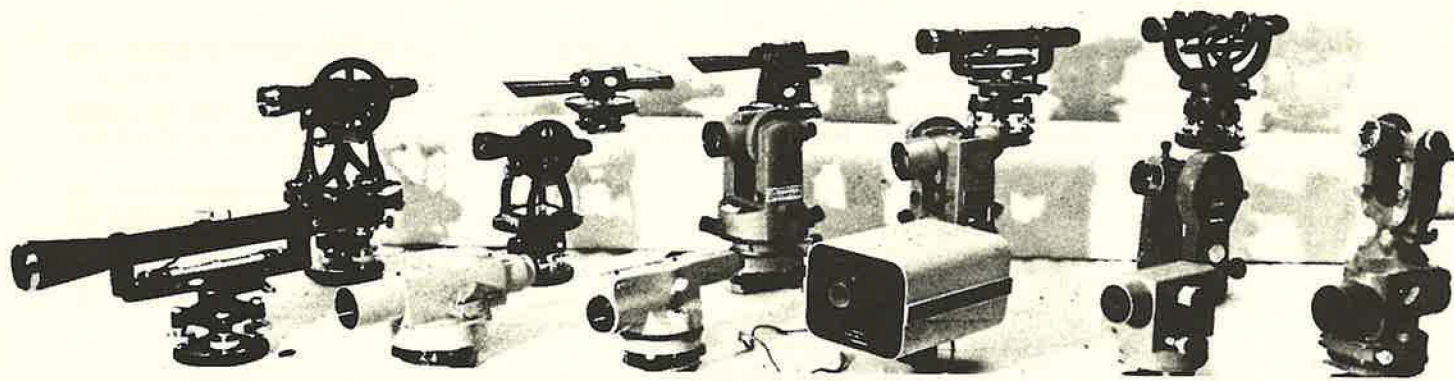
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STATE BOARD OF REGISTRATION

As reported in the "Hoosier Surveyor", the I.S.P.L.S. board of directors held a joint meeting with the Board of Registration to improve relations and better understand each other. The registration board is now notifying I.S.P.L.S. of their meetings and mailing us reports of registration board actions. We have placed their names on our mailing list. I participated in two registration certificate presentations and awarded Bernie Loeffler a small retirement gift from I.S.P.L.S. Because of an I.S.P.L.S. board recommendation, the registration exam for surveyors in Indiana will have more emphasis on drainage. We should work in 1979 with the registration board to protect it from Sunset legislation.

STANDARDS

In order for our membership, other architects and engineers, and the state board of registration to have survey guidelines, it was necessary for I.S.P.L.S. to update and expand on our surveying standards. I was astounded to learn at the Great Lakes Regional Council meeting that Indiana was running last in our area to modernize standards. Arvill and Duane Brown have done an excellent job preparing technical standards for I.S.P.L.S. this year. The board of directors has approved these standards, and I urge a resolution of support from the general membership at the February 16, 1979 business meeting. We must continue work on other sections of our Manual of Standards throughout 1979.

INITIAL POINT FUND

June 19, Nelson Prall wrote I.S.P.L.S. concerning vandalism of the Initial Point Marker near Paoli and asked for financial support. Pledging \$1000 at that time, I.S.P.L.S. mailed letters of solicitation to our membership. Our membership exceeded all reasonable expectations and generously donated \$1205 to the project. I attended the dedication of the new monument, and again was rewarded to learn that local I.S.P.L.S. members had done a great deal of the project's physical labor, too.

The following is a list of ISPLS member firms:

Allen & Associates, Inc.
26 N. Monroe Street
Williamsport, Ind. 47993 (Arthur A. Allen)

Anderson & Associates, Engrs.
222 E. Main Street, P.O. Box 585
Lebanon, Ind. 46052 (Carl M. Anderson)

H.R. Blankenbaker & Son
P.O. Box 157
Jeffersonville, Ind. 47130 (Rollin H. Blankenbaker)

Brady Land Surveying, Inc.
55308 Jay Ave Street
Elkhart, Ind. 46514 (Byron M. Brady)

Columbus Surveying & Engr., Co.
P.O. Box 1171
Columbus, Ind. 47201 (Orwic A. Johnson)

Paul I. Crpe, Inc.
150 East Market Street
Indianapolis, Ind. 46204 (James E. Dankert)

Dickerson Aerial Surveys
2505 Cambridge Road
Lafayette, Ind. 47905 (Brian M. Dickerson)

District 9 Land Survey Co.
202 West High Street
Lawrenceburg, Ind. 47025 (Roger Woolfill)

John R. Donovan
2030 Inwood Drive
Fort Wayne, Ind. 46805 (John R. Donovan)

Fink, Roberts & Peave, Inc.
563 W. Westfield Blvd.
Indianapolis, Ind. 46208 (Joe M. Blevins)

John E. Fisher
1526 Main Street
Lafayette, Ind. 47905 (John E. Fisher)

Hargis, Tappan & Associates, Inc.
700 N. Main Street
Crown Point, Ind. 46307 (Ray T. Tappan)

E.J. Hutson & Associates
501 Chestnut Blvd.
Chesleron, Ind. 46304 (Edward J. Hutson)

Indiana Surveying Co., Inc.
330 N. State Street
Greenfield, Ind. 46140 (Braul DeReamer)

Kel & Associates, Inc.
1107 Indiana Ave.
LaPorte, Ind. 46350 (James H. Keil)

Kyle & Sons Surveying
416 South College
Angola, Ind. 45703 (Edward Dennis Kyle)

Miller, Wherry & Lee, Inc.
P.O. Box 338 White Cloud
Corydon, Ind. 47112 (William B. Gibson)

M.W. Inc. Architects Engineers
700 N. High School Road
Indianapolis, Ind. 46224 (Max P. Newkirk)

Melton Associates, Inc.
Rt. 2, Box 283
Zionsville, Ind. 46077 (James D. Melton)

Franklin C. Moses
Route 4
Frankfort, Ind. 46041 (Franklin C. Moses)

O'Brien Engineering
448 Meadow Lane
Madison, Ind. 47250 (Eugene O'Brien)

T.F. Owens & Associates, Inc.
1136 E. Columbia Ave.
Fort Wayne, Ind. 46805 (Timothy F. Owens)

H. Douglas Peirce, L.S.
51744 Throwbridge Lane
South Bend, Ind. 46637 (H. Douglas Peirce)

Peller-Tanck-Gerstmeier-Rentert, Inc.
158 Napoleon Street
Valparaiso, Ind. 46383 (Ordell L. Gerstmeier)

Plumb, Tuckett, Book, Hewitson & Bigelow, Inc.
6481 Taff Street
Merrillville, Ind. 46410 (Robert B. Bigelow)

Paul Primavera & Associates
101 S. Capital Ave.
Corydon, Ind. 47112 (Paul E. Primavera)

Reid, Quebe, Allison, Wilcox & Associates
3901 Industrial Blvd.
Indianapolis, Ind. 46254 (William F. Quebe)

Schneider Engineering Corp.
3675 N. Post Road
Indianapolis, Ind. 46226 (Vincent J. Schneider)

Robert Scherschel Co., Inc.
6828 Hawthorn Pk. Drive
Indianapolis, Ind. 46220 (Charles Budnick)

Alan Stanley & Associates
15 S. Indiana Street
Greencastle, Ind. 46135 (Alan Stanley)

William S. Tanke
14 Washington Street
Valparaiso, Ind. 46383 (William S. Tanke)

Weihe Engineers, Inc.
10505 N. College Ave.
Indianapolis, Ind. 46280 (Allan H. Weihe)

David K. Wolf Associates, Inc.
R.R. #1, Box 45
Garrett, Ind. 46738 (David K. Wolf)

CONTINUING EDUCATION UNITS

In 1975, I.S.P.L.S. adopted a voluntary plan of keeping continuing education units. This year we began issuing certificates stating the value in c.e.u.s. of various workshops or services sponsored by I.S.P.L.S. We also were able to create a computer program to store these records. The State of Iowa requires continuing education units before license renewal. We must continue to refine our continuing education unit system.

GENERAL BUSINESS

The I.S.P.L.S. board of directors met with Max Evans, Indiana Soil Conservation Service's chief engineer concerning S.C.S. agents criticism of licensed surveyors designs. The ethics committee is to review the S.C.S. national policy.

The scholarship fund was increased to \$1000 last year and dual scholarships were awarded for the first time.

A plaque honoring Carl Kelly to be constructed in Osgood, Indiana, was proposed, but financing was not available.

The economics committee studied group insurance plans for health and/or life insurance with I.S.P.L.S. as the group. The bottom line was that we cannot beat the A.C.S.M. plan.

A public relations exhibit booth was proposed and feasibility will be assigned to a committee.

At the time of writing this report we are in the middle of an I.R.S. audit. It appears that we erred completing one section of the 1977 form, but we will retain our tax-exempt status.

The board of directors and economic committee are reviewing the possible expansion of I.C. Collection system service to all members.

The 1983 National datum adjustment will require minor changes in the wording of Indiana State Law. A committee has been formed to make those corrections.

A committee has been selected to review and revise our constitution.

A plat competition will be held at the next annual convention. Start preparing your projects now.

ISPLS MEMBER FIRMS

Since 1975, the Indiana Society of Professional Land Surveyors has had a firm or company membership class which includes a benefits package associated with Society activities. Dues are prorated based on size of firm and ranges from \$75 for a one-man firm to \$200 for a firm of ten or more. The following is a list of current ISPLS member firms: (Name in parenthesis is the designated member and is usually the principal or an employee).

Surveyors To Appear Before United States Senate Energy And Natural Resources Committee

On June 21, 1979, the American Congress on Surveying and Mapping will take its second historic step toward a full time presence on Capitol Hill. The invitation of the Honorable Wendell H. Ford (Ky.) has been accepted, and a time allocation before the full Senate committee "oversight hearing" has been confirmed. Messrs. David F. Rice, Floyd R. Stiles, Patrick J. Loper, and Leonard S. Homa will submit ACSM's prepared statement and answer questions relative to the preemption of surveyors by the Surface Mining Control and Reclamation Act of 1977.

The ACSM's March 6, 1979 appearance before the Subcommittee on Energy and the Environment of the Honorable Morris K. Udall's House Committee on Interior and Insular Affairs was apparently very well received. Several congressmen were knowledgeable concerning our problem and commented favorably. Presumably, the result of personal contacts by a few land surveyors prior to the hearing. Congressman Udall personally questioned the ACSM representatives and commented publically that he believed that he might be persuaded to amend the Act to remedy the injustice to land surveyors. The grassroots personal contacts of committee members by land surveyors was of obvious benefit and contributed to an open and concerned review of the surveyor's preemption problem. The placement of surveyors in a subordinate or assistance status to other professions is totally unacceptable to the ACSM and its membership. (See March 1979 Surveying and Mapping at page 27 for hearing testimony.)

Personal contacts and letters to all members of the Energy and Natural Resources Committee will ensure acceptance of ACSM's request for corrective legislation to reestablish the land surveyor as one of the lead professions in the preparation of maps and plans. The Senators are:

Arkansas:	Dale Bumpers	Louisiana:	J. Bennett Johnston	Oklahoma:	Henry Bellmon
Alaska:	Ted Stevens	Massachusetts:	Paul E. Tsongas	Oregon:	Mark O. Hatfield
Connecticut:	Lowell P. Weicker, Jr.	Montana:	John Melcher	Washington:	Henry M. Jackson, Chairman
Hawaii:	Spark M. Matsunaga	New Hampshire:	John A. Durkin	Wyoming:	Malcolm Wallop
Idaho:	Frank Church	New Mexico:	Pete V. Domenici		
	James A. McClure	New Jersey:	Bill Bradley		
Kentucky:	Wendell H. Ford	Ohio:	Howard M. Metzenbaum		

Would you go into the field ill-equipped?

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- Publishes a quarterly journal filled with articles of importance to the land surveyor and cartographer.
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- Has a "bookstore" of published materials on various aspects of land surveying and cartography available to its members.

There are many benefits in belonging to ACSM, but just those that make you a better-informed surveyor are well worth the cost of membership. Write or call today for a membership application.

American Congress on Surveying and Mapping
210 Little Falls Street
Falls Church, Virginia 22046
Telephone: (703) 241-2446



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APPLICATION FOR MEMBERSHIP

[Also use to change membership status
or for reinstatement]

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Occupation _____

Engaged in: (private practice _____) (industry _____) (public utility _____) (education _____)
(agency of government: municipal _____; county _____; state _____; federal _____)
Other (describe): _____

Employed by: _____

[] Business address _____
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street and number

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CHECK THE PREFERRED mailing address for receiving ACSM publications and correspondence.

Date of birth _____ [used for determining eligibility for life membership]

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Diplomas, certificates, or degrees _____

Name of school _____

Experience in occupational field of interest:
Number of years: sub-professional _____; pre-professional _____; professional _____ (_____)
total

Professional Registration — if registered give State and registry number:

[] Land Surveyor _____ [] Engineer _____

[] Other _____

Membership in kindred national societies:

ASP _____; ASCE _____; NSPE _____ (_____) State _____; SAME _____; AGU _____; other _____

Membership in local surveying or mapping organization: No _____ Yes _____ Name of organization _____

See Membership Qualifications and related dues structure on back of this form. Check membership applied for:

[] Member; [] Associate; [] Affiliate; [] Student.

Check the ACSM Division under which criteria you wish to be qualified. Check ONE only.

[] Control Surveys; [] Land Surveys; [] Cartography.

Check other interest: [] Education; [] Instruments; [] Computing; [] Marine Surveying and Mapping;

[] Other _____

Annual membership dues include \$15.00 (\$7.00, student) for one-year subscriptions to the ACSM periodicals
SURVEYING AND MAPPING (\$6.00), THE AMERICAN CARTOGRAPHER (\$3.00—two issues), and the ACSM BULLETIN (\$6.00).

Date _____ 19 _____ Signature _____

NOTE: Inclusion of appropriate dues payment (see details on back of this form) will expedite processing of application. Foreign members are requested to make remittances payable in U.S. dollars.

Effective 1979, January 1

AMERICAN CONGRESS ON SURVEYING AND MAPPING
Membership Qualification and Dues
Effective 1979, January 1

MEMBER ANNUAL DUES \$33.00

Any person who has attained professional qualification by education and/or experience in any of the various fields of surveying, mapping or charting, the criteria for which will be determined by each Division of primary interest subject to approval by ACSM Board of Direction, and administered by the Committee on Admissions, may become a Member of ACSM.

DIVISIONAL CRITERIA FOR CORPORATE MEMBER

CARTOGRAPHY DIVISION -

Graduation with a Bachelor's or higher degree from an accredited college or university in a discipline or area of study which would qualify the applicant for a professional position in the field of mapping or charting

or
eight years of active experience in mapping or charting, with a minimum of four years in recognized professional activities. The cited record of these qualifications having been verified and approved by the Cartography Division Membership Committee. Up to four years of higher education may be substituted for experience.

CONTROL SURVEYS DIVISION -

(a) Any person may become a member who is professionally qualified in the mathematical, physical or applied sciences or engineering arts, with specialist interests in control surveys, geodetic or precise plane surveys, geodesy, geophysics, optical or radio astronomy, earth environmental or space physics, specialized precision measurements and related adjustments and computations, or the development of optical, electromagnetic, mechanical, photogrammetric or other appropriate means of metrology, and who

(1) Has graduated with a Bachelor or higher degree from an accredited college or university in a discipline related to the fields noted in the foregoing item (a), or;

(2) Is a licensed Professional Engineer, or a licensed Land Surveyor, or a licensed Photogrammetric Engineer, or a licensed Planner, competent and experienced in one of the fields noted in the foregoing item (a), or;

(3) Has attained professional grade competence in one of the fields noted in the foregoing item (a) by specialized education or self study, with not less than 8 years experience in the fields of item (a) and the cited record of these qualifications having been verified and approved by the Control Surveys Division Membership Committee. Up to 4 years of higher education may be substituted for experience.

LAND SURVEYS DIVISION -

- Any person registered to practice Land Surveying in those political areas where such registration is a legal requirement.
- Any person practicing Land Surveying under an engineer's

registration in those political areas where such registration to practice Land Surveying is a legal requirement.

- Any person practicing Land Surveying under an engineer's registration in those political areas where such practice is permitted under such registration and where such practice conforms with the guide lines established in 6 below.
- Any person practicing Land Surveying in those political areas where no legal registration to practice Land Surveying is required who meets the guide lines established in 6 below.
- Any person practicing Land Surveying by virtue of his employment in public services who meets the guide lines established in 6 below.
- The phrase "practicing Land Surveyor" as used in 3, 4 & 5 above shall refer to one who has been in responsible charge for a period of not less than 8 years (up to 4 years of higher education of a satisfactory character may be substituted) in any field of service identified as Land Surveying in any existing or future State statute governing the registration of Land Surveyors. The cited record of these qualifications having been verified and approved by the Land Surveys Division Membership Committee.

FELLOW

ANNUAL DUES \$66.00

Any corporate Member in good standing who has belonged to ACSM for 8 or more years may be invited to apply for the grade of FELLOW. Persons with records of outstanding service to the profession who do not qualify under the above may be invited to apply for the grade of FELLOW.

ASSOCIATE MEMBER

ANNUAL DUES \$20.00

Any person with an associative interest in the profession of surveying, mapping and charting, the criteria for which shall be determined by each Division of primary interest subject to approval of ACSM Board of Direction, and administered by the Committee on Admissions, may become an Associate Member of ACSM.

DIVISION CRITERIA FOR ASSOCIATE MEMBER

Any person with an associate interest or actively engaged in the scope of interest of a Division, whose qualifications do not meet the requirements of member, may become an associate member.

STUDENT MEMBER

ANNUAL DUES \$7.00

Any person pursuing a course of study as a graduate or undergraduate student on a fulltime basis (at least 9 semester hours) leading to a career in the profession of surveying, mapping and charting.

INDIVIDUAL AFFILIATE MEMBER

ANNUAL DUES \$27.00

Members of other allied professions or persons with scientific acquirement or technological experience in their special pursuit to qualify them to cooperate with Members of ACSM in the advancement of professional knowledge and practice in surveying, mapping, and charting, who might not otherwise qualify for corporate membership in ACSM.

REFERENCES (Persons in knowledge of applicant's qualifications)

Name _____ Occupation and title _____

Address _____ street _____ city _____ state _____ zip code _____

Membership in ACSM [] or kindred society [] (indicate) _____

If professionally registered, give State and Registry number.

Land Surveyor [] _____ Engineer [] _____

Remarks: _____

Name _____ Occupation and title _____

Address _____ street _____ city _____ state _____ zip code _____

Membership in ACSM [] or kindred society [] (indicate) _____

If professionally registered, give State and Registry number.

Land Surveyor [] _____ Engineer [] _____

Remarks: _____

(Attach extra paper if required)

Effective 1979, January 1



MICHIGAN MUSEUM OF SURVEYING

The Land Surveyors of Michigan have undertaken the building of a "Michigan Museum of Surveying" to be located on the site of the intersection of the Michigan Meridian and the Baseline. The museum has been designed to display historical maps, instruments, and other memorabilia in order to further document the role of the Surveying Profession in the development of the State of Michigan. When completed, the 86 acre site will be maintained and operated as a park by the Michigan Department of Natural Resources and the museum will be operated and maintained by the Historical Division of the Michigan Department of State.

Over the years many people have been convinced of the importance of preserving this part of our heritage. The current project became a reality in 1967 when the Talbert and Leota Abrams Foundation of Lansing donated \$10,000 to buy 56.7 acres of land surrounding the site. Family members of the Burton Abstract and Title Company donated an additional 30 of land adjoining the site and the entire tract was deeded to the State of Michigan for a "Meridian Baseline Historical Park."

In 1969 the Michigan Society of Registered Land Surveyors (MSRLS) conducted a contest for the design of appropriate monuments to mark the intersections of the Baseline with the Meridian. (Contact MSRLS or a Michigan surveyor for an explanation of the 938 foot jog in the Baseline where it crosses the Meridian.) The winning design, which called for bronze plates mounted on massive 20 foot circular concrete pads, was submitted by Stephen W. Swarts, RLS of Jackson, Michigan. Financed by a second \$10,000 gift from the Abrams Foundation, the marks were set in 1974 and dedicated as a monument to the Public Land Survey System in Michigan and to the fortitude of the men who ran the original lines.

The firm of Tomblinson, Harburn, Yurk and Associates, Architects, of Flint, Michigan was retained in 1975 to design an "Interpretive Center" which will house the display area, a projection room, a lobby/lounge area and toilet facilities to serve both the museum and the park. Once the money for the building is raised and placed into escrow, the State will let the contract for the construction of the building and will complete the development of the access roads, the parking areas, walking and nature trails, picnic tables, and landscaping for the site.

The money for the museum building is being raised by the Michigan Society of Registered Land Surveyors Foundation. The "Foundation" was organized in 1966 to guide and coordinate efforts to monument the original Meridian-Baseline Points. The Foundation was incorporated in April, 1973 and received federal tax exempt status later that same year. The Foundation is also licensed by the Michigan Attorney General's Office to solicit funds for the building. All contributions are tax deductible.

The current estimated cost for construction of the building is \$400,000. The fund drive suffered initially due to the economic recession in 1974 and due to contractual problems with the participating state agencies. In spite of the drawbacks, (the contractual problems have been resolved), the money is being raised and the museum is on the way to becoming a reality. The halfway point has been reached in the fund raising and the rate of contributions has increased significantly in the past year. The Land Surveyors of Indiana, and other interested persons, are invited to participate in the fund drive and to visit the Michigan Museum of Surveying when it is completed. There are different levels of recognition for various levels of contribution, in addition to a certificate of appreciation to each contributor. For additional information contact:

Michigan Society of Registered Land Surveyors Foundation
P.O. Box 11104
Lansing, Michigan 48901
(517) 484-2413

HEWLETT-PACKARD HP 3820A and HP 3851A

A electronic distance and angle measuring device that combines a distance meter, and electronic digital theodolite and micro-processor in a single, compact package will be available from Hewlett-Packard after August 1, 1979.

The HP 3820A Electronic Total Station, priced at \$30,000, will automatically:

- Measure horizontal, vertical and slope distances to 5 km (3.1 miles), while correcting for earth curvature, refraction and environmental conditions.
- Electronically measure horizontal and zenith angles to 1 second, while automatically compensating for instrument mislevel.
- Send data to an optional external Data Collector for later processing, or directly to a calculator or computer.
- Track (continuously update) any of its measured or computed quantities.
- Compute and display relative direction (clockwise angle from previous direction to current direction.)

According to William R. McCullough, General Manager of HP's Civil Engineering Division, "the 3820 is designed for surveyors to use in applications such as land, construction and control surveys, as well as precise traversing, photo control, trigonometric leveling, structural monitoring and land slip studies. In addition, its versatility will allow its use in many other applications, such as precision control of industrial fabrication operations, three dimensional positioning and volume measurements, and other areas where the measurement of angle and distance is critical.

"The 3820 will allow the operator to complete measurements quickly, easily and accurately. It automatically computes and displays necessary information in the form and the units of measurements most useful to the operator, and reduces set up and measurement time significantly."

HP developments in three areas make the HP 3820 one of the most advanced distance and angle measuring devices on the market:

- 1) A 'lashing' diode — this solid state device gives long range, high accuracy with extremely low power consumption.
- 2) An electronic level sensor makes the 3820 the first instrument of its kind to compensate both horizontal and vertical angles for instrument mislevel, thus reducing set up time and increasing accuracy.
- 3) A highly sophisticated electronic circle interpolation technique combined with a microprocessor allows the 3820 to electronically display horizontal and vertical angles.

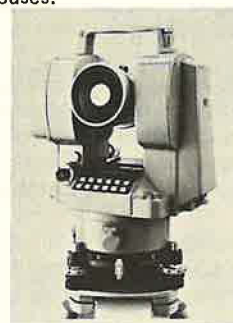
The 3820 also features a 30-power telescope; measurements displayed in either feet or meters, degrees or grads, two-speed tangent screws for fast sighting, plungeable telescope; electronic aiming for sighting under poor conditions; illuminated crosshairs for night work; and automatic self-test.

The 3820 makes continuous distance measurements and keeps a running total of the mean and variance of the readings. As long as the variance remains within specifications, the mean is displayed as the result. Otherwise, the display flashes to signal a marginal measurement. Beam breaks do not affect the accuracy of the measurements.

For added user convenience, the 3820 has a full keyboard and display on each side of the instrument.

To obtain a reading, the user simply aims the 3820, selects the appropriate display modes and presses a button. The angle measurement will appear in the display within two seconds (time), and the distance measurement within six seconds (time).

Optional accessories for the 3820 include an optical plummet, prism interface base and leveling base, as well as prisms, bases, tripods, range poles and cases.



HP 3820A



HP 3851A

The Hewlett-Packard 385A Data Collector, a portable data entry terminal for use with the company's line of electronic distance and angle measuring equipment, has been placed on the market by HP.

The Data Collector, designed to reduce transcribing errors and speed computation in surveying and construction applications, is battery powered and features a solid-state memory that will hold 1 023 lines of 16 characters each. It has a 20-character bright light-emitting-diode display.

With the HP 3820A Electronic Total Station, the 3851 records distance and angle data automatically at the touch of a button. With the 3805, 3808, and 3810 distance measuring instruments, data is keyed into the Data Collector for storage.

Using the HP 38003A interface/charger, the user can transfer data from the Data Collector to a Hewlett-Packard calculator in the office, while simultaneously charging a second battery pac.

DIMENSIONS — 114 mm. x 244 mm. x 94 mm. (4.5 in. x 9.6 in. x 3.7 in.)

WEIGHT — 1.7 kg. (3.7 lb.), including battery

TEMPERATURE RANGE — -20 C to 55 C (-5 F to 130 F)

PRICE AND DELIVERY — The Hewlett-Packard 3851A Data Collector is priced at \$2,950.00 (U.S. price). Delivery is 2 weeks from receipt of order.

For more information, contact Hewlett-Packard Company, INQUIRIES MANAGER, Loveland Civil Engineering Division, P.O. Box 301-C, Loveland, Colorado, 80537. Phone: (303) 667-5000, extension 2137.



INDIANA SOCIETY OF PROFESSIONAL LAND SURVEYORS, INC.

3919 MEADOWS DR SUITE 103 · INDIANAPOLIS, INDIANA 46205
(317) 545-8907



March 1975

MEMBERSHIP APPLICATION

Member _____, Junior _____, Associate _____, Student _____, (check one.)

Annual dues payable on February 1, of each year are for: Member \$50.00 or Associate \$30.00, Junior \$25.00 and Student \$5.00.

Name _____ Position _____

Home Address _____ Employed by _____

City _____ Zip _____ Business Address _____

Telephone () - _____ City _____ Zip _____

County _____ State _____

Business Phone () - _____

I.T.# _____ R.L.S.# _____ R.P.E.# _____

Member of American Congress on Surveying and Mapping _____ Yes _____ No

Member of a local chapter of ISPLS Inc.? _____ Which Chapter? _____

MEMBERSHIP CLASSIFICATIONS

MEMBER ---- Registered in Indiana as Land Surveyor. Member is entitled to vote, hold office, and participate fully in the Society.

JUNIOR ---- Actively pursuing the goal of becoming registered as a Land Surveyor. Junior is entitled to vote and participate fully in the Society, but is not entitled to hold office.

ASSOCIATE -- Associated or affiliated with the Land Surveying Profession but is not qualified to become registered. Associate is not entitled to vote or hold office, but will receive newsletter and will be invited to participate in meetings.

STUDENT ---- Same eligibility requirements as for Junior, except membership may be used only by full time students, and for four years only. Students are entitled to the same benefit as Associates.

PUBLICATIONS AVAILABLE FROM ISPLS HEADQUARTERS

I.S.P.L.S. Surveying Publication Series

Quantity	Publication	Cost to Member	Cost To Non-member
_____	Manual No. 1 - <u>The Perpetuation of Corners in Indiana</u> by John G. McEntyre (June 1972), 100 pages.	\$ 5.25	\$ 7.50
_____	Manual No. 2 - <u>The Indiana State Plane Coordinate System</u> by Kenneth S. Curtis (June 1974), 196 pages.	\$ 5.25	\$ 7.50
_____	Manual No. 3 - <u>Law and Surveying</u> (including Surveyor's Guide to the use of a Law Library and Indiana Statutes related to Land Surveying), by Darrell R. Dean & John G. McEntyre, (April, 1975), 120 pages.	\$ 5.25	\$ 7.50
_____	Manual No. 4 - <u>Meridian Determination by Solar and Polaris Observation</u> , by Kenneth S. Curtis, (June, 1975), 194 pages.	\$ 5.25	\$ 7.50
_____	Manual No. 5 - <u>Computer Programs (HP-65 Documentation)</u> by Charles C. Campbell (February 1976), 219 pages and contains 50 surveying programs.	\$30.00	\$45.00
_____	Manual No. 6 - <u>Establishment of Boundaries by Unwritten Methods</u> by John G. McEntyre (June 1976), 171 pages.	\$ 5.25	\$ 7.50
_____	Manual No. 7 - <u>Optical Distance Measurement</u> by Kenneth S. Curtis (June 1976), 169 pages.	\$ 5.25	\$ 7.50

\$1.50 postage to be added to each order.

Name _____

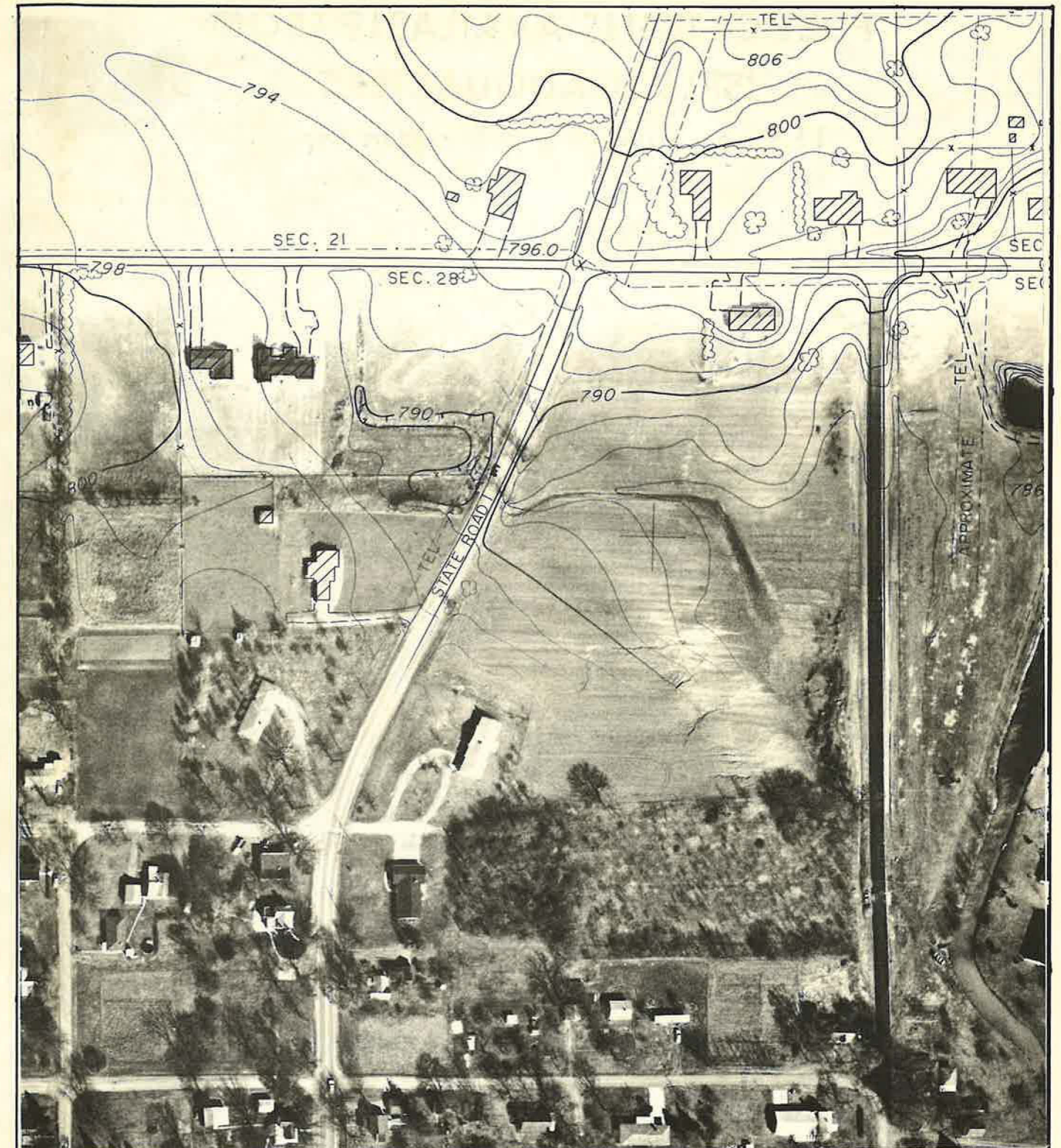
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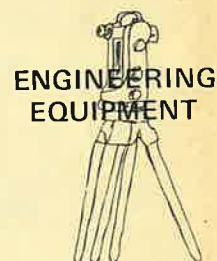
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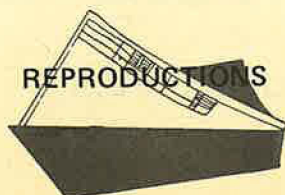
121 West North Street, Indianapolis, Indiana 46204

Phone: 632-4322

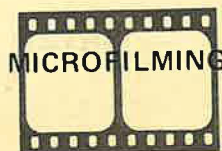
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