

HOOSIER SURVEYOR

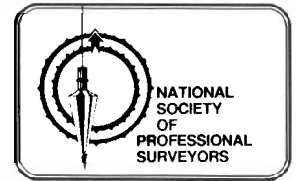


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WINTER 2004



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MAPS OF INDIANA COUNTIES IN 1876

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HOOSIER SURVEYOR

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EDITORS NOTE

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.

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.

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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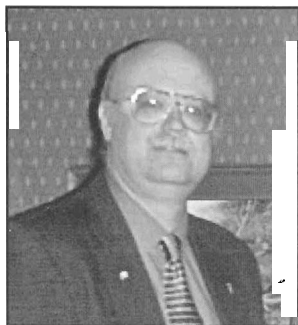
Because of the timing of the recent ISPLS Annual Convention in Indianapolis, the untimely death of Fred Bennett, and the past-deadline for the Winter issue of the Hoosier Surveyor, it was decided to postpone coverage of the Convention to the Spring issue. This issue contains two articles written by Knud Hermansen, a well-known PLS, PE, and attorney at law who teaches in the surveying program at the University of Maine. We have published several of his articles in the past. He is very knowledgeable and is a prolific speaker and writer whose papers have appeared in many other state society newsletters. We have his permission to use these and will continue to do so in future issues of this newsletter. In connection with the current article on fences there is a list of seventeen references for this article and it is available on request to the editor.

Words cannot express our deep sympathy to Dianne and family for their recent loss of Fred. Dianne really spearheads the compiling of this newsletter with a little help from yours truly.

Ken Curtis, editor

PRESIDENT'S THOUGHTS

by Ronald Wharry, PLS, Frankfort, Indiana



First of all I want to thank everyone for allowing me this amazing opportunity to be your President. It has been 30 years since I started dreaming of becoming the leader of this great organization when attending Purdue University during the beginning of its 4-year program while under the guidance and direction of Ken Curtis and John McEntyre. I continue to look

up to them as mentors as well as fellow professionals. During these past three decades I also have had the pleasure of getting to know and work with several other great individuals throughout this state and I have found that they have the same dedication and commitment to this profession as I have. This is indeed an honor of which I will not take lightly as I accept the responsibility and challenges that will come with this job.

I would like you to know that my background started out as a rodman in a small business, then came up through the ranks to now own the company. In this coming year I want you all to understand that I will work just as hard for every individual or company, no matter where you find yourself in this well deserved profession, with equal due diligence. It does not matter where you are in this life but what you make of that life. God has given everyone of us the ability to create a difference in this world to make a better place for ourselves and what we will leave to those who will follow in our footsteps as we have followed those before us. In this 200th anniversary of that intense journey of Lewis and Clark and the origin of our own Initial Point, it is with all that, we should look back and see if we could now muster up that same courage and dedication that our forefathers experienced before us.

I had the honor to address the new land surveyor registrants this past November into the profession. It turned out to be in the same chambers in the Statehouse that I accepted my certificate 25 years ago. I remember it just as well as my first day on the job. I told them that the primary goal of ISPLS is to provide our membership a professional identity, professional guidelines and direction, educational services and to promote the interests of the profession. Our philosophy is to encourage all who are in the surveying profession to value professional ethics, to maintain competency in performance of duties, to insure trustworthiness, to provide quality in work, and to constantly protect the public interest.

I also want to remind all of you of that emotion that you had when you did your first surveying project. The pride of a job accomplished using the skills you learned and the feeling of going on to the next adventure. I challenge you to step up and ask your Board of Directors if there is anything they need that you may provide to make this organization even better than it is now. Please call and let us know if there is anything that you need to get your questions answered. There is no wrong question unless it is not asked. We are here to serve you and want to hear from you. I have recently read some letters written in the 70's and 80's and

find that they have said about the same things that are being written about today. We now have a membership of 928 but it still does not show all of the potential this group has.

We have several areas of work that could use your influence. We can use your help especially with TrigStar or even accepting to show off what surveying is to a local high school career day. I also want to encourage the new registrants and the recent graduates from all of our exceptional surveying schools in this State to get active with committee participation, then and grow in the knowledge that whatever you can do, will make a difference. We are all in a position to assist with this philosophy or to contact another potential member and offer them same benefits of belonging to a group of dedicated people the same profession.

I believe you have elected several unique individuals on the Board and we will be striving to direct this organization to even greater accomplishments. We are proposing to be very active in informing the public as to what we can provide for them and how they can use our expertise. There is going to be a more responsive legislative effort with the leaders of this State who make the rules that we have to live with each day. A better affiliation with like organizations will be a goal that we must establish to gain the appropriate place on the professional scale. We are going to be more visible in our local schools to develop a better relationship with them and encourage students to accept a position with any field of land surveying. We will continue to offer educational classes from a well rounded curriculum to enhance our professional development.

I have heard it said that there are three class of people: "The few who make things happen, the many who watch things happen, and the overwhelming majority who have no idea what had happened." I would like to think most of us want to be in the group that will make things happen, but I am afraid it is in the latter that we find ourselves too often. It is easier to stay in our own little comfort zone, I want to be one of the first that will try new avenues. I may stumble along the way but I want to think that I can say at the end of this year that I made every effort to the best of my ability to achieve those goals that are set before me. Even if you fall on your face, you are still moving forward.

I am looking toward this coming year with great expectation on what we can achieve with your help. Its your choice, your decision, your profession. Think about it.

2005 Convention

The ISPLS Convention Committee extends a sincere thank you to the Tecumseh Chapter of ISPLS and all those who assisted with the 2005 ISPLS Convention. The overwhelming success of the 53rd ISPLS Convention was the work of a team of dedicated members. Thank you from the ISPLS Convention Committee.

ISPLS BOARD OF DIRECTORS MEETING HIGHLIGHTS

by Dianne Bennett, Executive Director

October 9, 2004

The ISPLS Board of Directors held a meeting on Saturday, October 9, 2004 at the Marriott Hotel East, Indianapolis. President Stephens called the meeting to order at 9:12 a.m. The minutes and treasurers reports were reviewed and approved with revisions.

Adjustments to Agenda: Ed Sweetland distributed his MBA project questionnaire to the board.

Staff Activity Report - A written report was submitted for board review. The report is stated under individual topics listed below.

Communication - Membership - The following memberships were reviewed and approved: Life: Wayne Mostrom; Professional: Paul Sanders, Kevin Krulik, Joseph Peters, Duane Mast, Lawrence Lambert and DeWayne Nodine; Associate: Eric Meeks, Larry Rollins, Jr., Gregg Germann, Nick Charnas, Adam Christenberry, Andrew Murray, David Meyers, Brian Yentes, Keith Messel, Brian Nelson, Lawrence Jones, Matthew Knoy and Paul Aikins; Student: Scott Wilkinson, Brandon Truelove, Derek Knowling, Michael Lewandowski, Joseph Dunaway, Jonathan Polson, Shane Dyer, Michael Redicker, Brooks Leach, Andrew Swisher, Bryson Raney, Clayton Baylor, Zachary Despain, Sean Chambers, Daniel Dumezich, Aaron Carl, Jonn Kinkle, Robert Will, Christopher Carmien, Kevin Redelman, Kelly Miller, Nickolas Schmitt and Gene Gosewehr. One student application was sent back for lack of his signature.

Web Site - There was discussion on the new logo. Several chapters commented that they did not like the new logo. A motion was made and passed to change the logo back to the 1950's ISPLS logo (transit only).

Professional Development - Education - The October and Convention seminars were approved by the board of directors.

Seminar partial credit was discussed. After much discussion there was a motion to allow for partial credit for certain circumstances.

Scholarship - Purdue University has asked on the application form for the John McEntyre Surveying Scholarship to be revised to satisfy the new scholarship requirements for the university. The main modification requested is to remove the U.S. Citizen requirement to be only "a graduate from an American high school". The other modification requested was to add the Geomatics term into the scholarship's application form. A motion was made to modify the application form changes (U.S. Citizenship) and not modify the application to address Geomatics name change.

Vincennes University - They are auditing the University's Foundation records.

LS Review Seminar - After much discussion regarding the review seminars it was decided that future Indianapolis seminars be held at area hotels instead of IUPUI. It would be more convenient at a hotel with a catering service. A motion was made and passed to pick up any short falls (expenses) if future LS/SIT seminars are not profitable.

Trig-Star - NGS is trying to establish a surveyor technician's board for Trig Star.

PAC - John Stephens clarified that the PAC is separate entity of ISPLS and that we have no influence on the PAC.

Professional Liability - A letter was received from Gary Kent regarding a surveyors liability does not end when he retires. This letter will go to the Government Affairs Committee for them to review and report back to the board.

ByLaws - Question was asked about local chapter members being members of ISPLS. The bylaw states that "All voting members of any chapter shall be members of ISPLS". The bylaws are on the ISPLS web site.

Building Lease - The ISPLS lease will be up shortly. We are waiting for the lease information from the building's landlord.

Convention Raffle - Because of state law, ISPLS has to create a separate checking account for the upcoming convention raffle. A motion was made and passed to create a second checking account and to deposit \$1000 into the account.

Nominations - Mark Isaacs and Frank Ballintyn are the two candidates for the 2005 ISPLS President Elect ballot.

Government Affairs - Board of Registration - The 2005 Registration Board meeting schedule was handed out. The board has begun its license review audit.

Randy Miller reported on the problems the board is currently having with applicants to the LS exam. The board is currently in the process of revamping the application requirements. There was lengthy discussion that followed.

NSPS Governor/Great Lakes Council - Don Bengel attended the Great Lakes Council. The next meeting will be in Las Vegas.

Chapter Report - The Northwest Chapter conducted a joint meeting with ISPE on September 9, 2004. The chapter's next meeting is October 14, 2004 and will host an attorney to discuss surveying and legal issues.

The Northeast Chapter met on October 5th. A scholarship was awarded to Joshua Lash. \$200 was donated to the Future City Project held at IPFW. Steve Maxwell was elected Secretary/Treasurer for 2005.

Tecumseh Chapter - Their next meeting will be held at Purdue University on November 10.

Hoosier Hills Chapter - They will be meeting on Oct. 14th to discuss upcoming chapter seminar.

Initial Point Chapter - The chapter will be conducting work on the Initial Point on Oct. 9th in order to prepare it for a possible re-dedication ceremony to be conducted in 2005. The chapter discussed the PAC issue and supports the PAC but believes the PAC should review issues such as surveyor's liability issues after retirement and a statewide issue of right to trespass. Their next meeting is Oct. 28th.

Southwest Chapter - The last meeting was Sept. 14th to discuss the following issues: ISPLS logo, PAC and the boundaries of the Southwest Chapter were discussed. A report was submitted by Steve Sherwood.

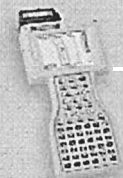
St. Joseph Chapter - The chapter met on April 29th to discuss future seminars and Trig Star. They also met on May 27th to discuss continuing education and new rules. They held a golf outing on June 13th at Whispering Pines Golf Course.

New Business - Initial Point re-enactment discussion.

...continued Page 5

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Minutes

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November 6, 2004

The ISPLS Board of Directors held a meeting on Saturday, November 6, 2004 at ISPLS headquarters. President Stephens called the meeting to order at 10:03 a.m. The minutes and treasurers reports were reviewed and approved with revisions.

Staff Activity Report - A written report was submitted for board review. The report is stated under individual topics listed below.

Communication - Membership - The following membership applications were reviewed and approved. Affiliate : David Clary; Student: Travis Shetler, Adam Robinson, Levi DeWeese, Adam Moonman, Richard Robert, Eric McIntosh.

Dianne has been talking with a company about reproducing our membership card, which would be mounted on laser paper that could be fed through the printer for personalization.

Publications - Dennis Grumpp reported to Dianne that no progress has been made updating the current ISPLS manuals because of his involvement with the Initial Point re-enactment scheduled for next summer.

Hoosier Surveyor - Currently working on Fall issue.

Web Page - Dianne has the convention registration form ready to go on the website. She is just waiting to send the convention registration form in the mail before unlocking the convention registration form on the website. The new logo is now updated on the site.

Public Information & Marketing - The center of population's property owner has given ISPLS the approval to set the monument on her property. We also are in the process of contacting INDOT

for a possible center of population sign to identify the site.

Professional Development -Education - The board reviewed and approved the seminars that were to be presented by Pat Cunningham.

Scholarships - The committee will be meeting with Purdue University students to conduct interviews for the John McEntyre scholarship on November 24, 2004.

Honors & Awards - There was discussion about disbanding this committee.

John Stephens also held discussion about streamlining the convention banquet so that it wouldn't run so long.

Trig Star - Planning for the 2004-2005 Trig Star exams have already started. The committee hopes to double the number of schools participating in the exam from 2003-2004.

Government Affairs - Board of Registration - Ed Sweetland will be attending the next BOR meeting on Nov. 18, 2004 and Perry Cloyd will be attending the BOR meeting scheduled for Dec. 9, 2004.

Internal Affairs - Planning and Goals - There was discussion about the next goal setting session scheduled for next year.

Business Management - The lease has expired at the Monument Circle location. We are still waiting for a new lease.

Midwest Computer Solutions completed maintenance on the two computers at the office and will be installing a backup system. A new printer has also been ordered and should arrive next week.

Nominations - The results of the president-elect were reviewed. Frank Ballintyn will be the President Elect for 2005.

Chapter Reports - Northwest Chapter's next meeting is Nov. 11th and will discuss aerial mapping and surveying.

Northeast Chapter next meeting is the first week of December.

Tecumseh Chapter next meeting is Nov. 10th at Purdue University.

Central Indiana Chapter will meet Nov. 16th at Seiler Instruments for a survey instrument maintenance discussion and officer nominations.

Hoosier Hills Chapter has elected the following new officers: Chuck Coyle, President; Jonathan Isaacs, Vice President; and Orwic Johnson, Treasurer and Secretary.

Initial Point Chapter met on Oct. 9th to clean up the Initial Point area. The next meeting will be Dec. 9th to nominate 2005 officers.

Old Business - Brad Ott has returned all the antique surveying equipment owned by ISPLS to headquarters.

Grant - ISPLS has submitted the information to CICF for the grant proposal to move the funds to Indiana Geographic Information Council. The Council has been approved as a 501c 3.

Marketing Research - The questionnaire results obtained from the BOD were discussed. As a result of the BOD discussion an ad-hoc committee will be made up of four board of director members. The goals of the committee would be to improve intersociety communication, visit chapter meetings to promote the society and finally to promote and execute the ISPLS Marketing Plan. A motion was made and passed to create the ad-hoc committee.

December 11, 2004

The ISPLS Board of Directors held a meeting on Saturday, December 11, 2004 at ISPLS headquarters. President Stephens

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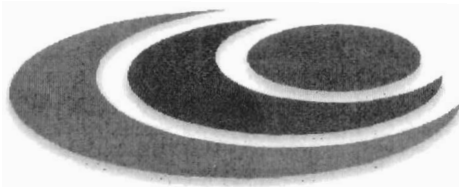


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Minutes

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called the meeting to order at 10:10 a.m. The minutes and treasurers reports were reviewed and approved with revisions. Staff Activity Report - A written report was submitted for board review. The report is stated under individual topics listed below.

Adjustment to the Agenda - Convention report by Doug Herendeen reported that all speaker contracts have been signed. However, Bob Jackson's seminar has been canceled and Dennis Mouland's seminar will substitute for Bob's seminar. The registration is on the internet. The raffle door prize is \$8000 John Deer Gator ATV. Two hospitality rooms will be provided to our membership before the annual banquet dinner on Thursday.

ISPLS Lease Renewal - The lease has expired and the society needs more space for its activities. An ad-hoc committee was created to review this issue in more detail. They will be researching building options to be reviewed by BOD during our January meeting.

Communication - Membership - The following membership applications were reviewed and approved. Associate: Chris Howell, and James Fisher; Professional: Mark Downey.

A membership survey is being sent out to the ISPLS members.

Hoosier Surveyor - Articles for winter issue needs to be in by Jan. 15th.

Public Information & Marketing - Reviewed the status of the Center of Population sign to be provided by INDOT. They are not willing to provide a sign for the monument. We will call INDOT again. The owner of the property will not let ISPLS install the monument until she gives her approval to the monument's sign.

Professional Development - Scholarship - The committee recommends Kelly Miller for the \$3000.00 John McEntyre scholarship. A motion was made and approved the committee's recommendation.

Trig Star - Copies of the exam are available through Tony Gregory.

Licensing Exam Review - The next LS/SIT review will be March 18 & 19th at Vincennes University.

Government Affairs - Board of Registration - A letter from Ed Sweetland was reviewed stating what actions were taken at the November BOR meeting.

Internal Affairs - Nominations - A slate of candidates for the board of directors was submitted to the board.

Chapters - The Northwest Chapter held a meeting Dec. 9th with 40 members in attendance. Their new officers are: Dave Croft, President; Rich Hudson, Sec/Treasurer; Troy Smith, 3 year director; and Wade Dillon, President Elect. Rich Hudson was presented with a plaque for his participation and service to the chapter.

Northeast Chapter met Dec. 1st. They discussed their participation in the upcoming 2006 ISPLS convention and filled out the ISPLS marketing questionnaire.

Tecumseh Chapter will meet Feb. 23, 2005 at Purdue University.

Initial Point Chapter held its Christmas meeting on Dec. 9th. They discussed 2005 Initial Point re-enactment, Trig Star, scholarship awards and officer elections. Their new officers are: Chris Howell, Sec/Treasurer; Terry Kendal, President. Nick Schmitt received the chapter's scholarship. The chapter has also mailed Trig Star letters to area schools.

Old Business - Market Research Ad Hoc Committee - Ed Sweetland gave a summary of the marketing plan and a summary of

the membership responses to the committee's courtesy phone calls.

Grant - CICF has transferred the grant money to IGIS. We will be purchasing the computer and printer/scanners for the tie card projects. If anyone knows of a member that would volunteer his time to scan the tie cards please let John Stephens know.

New Business - Purdue Calumet University and IUPUFW is offering a web based survey law course starting Jan. 18, 2005.

Board of Registration News

The Board of Registration held an open session at the recent Annual Convention of the ISPLS. A number of issues were discussed with those in attendance including continuing education and the complaint process.

At its January meeting, the Board elected its officers for 2005. Mike Falk was elected Chairman and Gary Kent, Vice-Chair. Randy Miller was reappointed Board liaison with the Attorney General's office. Due to the process of having rotating appointments to the Board, the four year terms of David Blankenbeker, E.R. Gray and Mike Falk will all come due this year.

Also in January, a public hearing was held on the proposed revision to the Title 865 rules of the Board regarding fees for application. In addition, the Board is continuing work on revisions to the various application forms which should make the application process flow better for both applicants and for the Board.

Members of the Board spent a considerable portion of their February meeting discussing potential revisions to Title 865 including the rules of professional conduct, continuing education, use of seal and the Rule 12 survey standards. Issuing a notice of intent to start the official process of revising those rules will be discussed at the next meeting on Friday March 11th.

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Module B - Wednesday, March 2, Land Surveying Principles

Module C - Thursday, March 3, Geodetic Topics

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Further information including [registration form](#), topic outlines, daily schedule, cost, and lodging information is available on the web site.

<http://www.ecn.purdue.edu/Geomatics/SurveySchool/>

[SurveySchool_Main.html](#)

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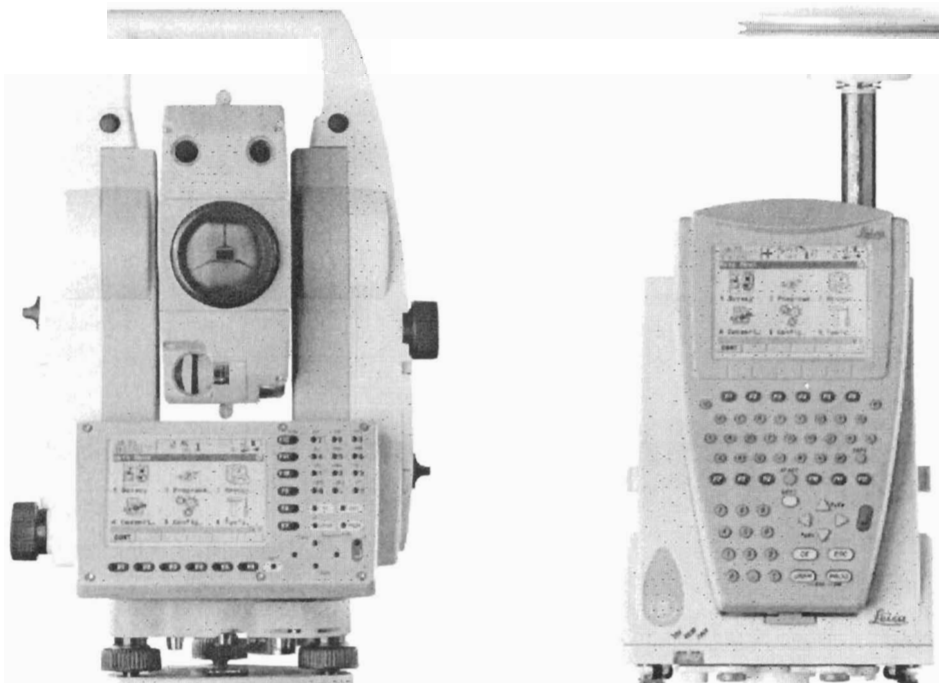
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ISPLS -LS / SIT Review Seminar Committee

Presents:

Registered Land Surveyor (LS) & Surveyor in Training (SIT)

Review Seminar

Date: Friday (March 18) & Saturday (March 19)

Location: Vincennes University, Technology Building, Vincennes, Indiana

Time: 9:00 AM – 5:00 PM (each day)

Schedule: SIT Review on Friday

LS Review on Saturday

SIT Topics:

- Photogrammetry
- State Plane Coordinate Calculations
- Astronomic Observation Computations
- GIS & Computer Terms
- Matrix Algebra & Higher Math
- Basic Survey Computations
- Boundary Survey Computations

LS Topics

- GLO / USPLS & Tiffins Instructions
- Early Indiana Trails and Surveys
- Rule 12 & Ethics
- ALTA Surveys
- Indiana Law
- Unwritten Rights
- Ten State Standards
- HERPIC Drainage Manuals
- Sequential & Simultaneous Conveyance

Refreshments

Breakfast: Coffee and donuts will be supplied

Lunch: Will be provided

For more information contact: Ed Sweetland @ 317-547-5580 or Dianne Bennett, ISPLS @ 317-687-8859

Registered Land Surveyor (LS) & Surveyor in Training (SIT)

Review Seminar * Application Deadline: **March 11, 2005**

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CANCELLATION POLICY

100 % Refund if ISPLS office is notified in 7 days prior to the scheduled course.

REGISTRATION FEE:

March 18, 2005 SIT Seminar

March 19, 2005 LS Seminar

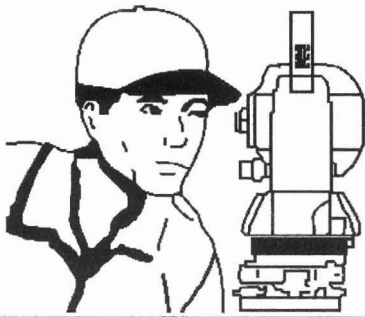
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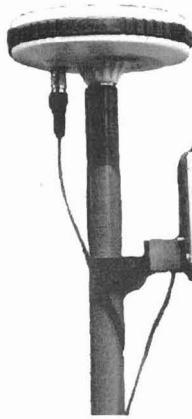
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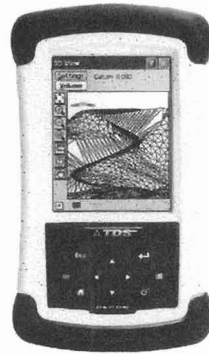


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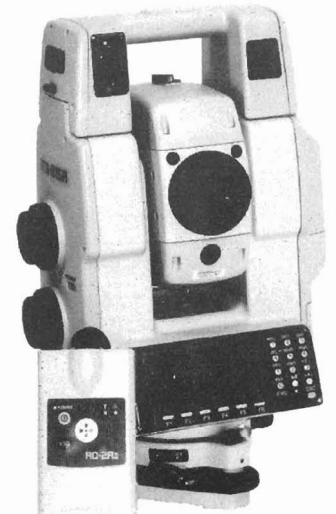
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IS YOUR JOB GETTING YOU DOWN?

Our jobs are important to each of us as our source of livelihood and happiness. But, each of us is not immune to a "BURNOUT" situation coming from excessive stress and trying to do too much.

This article highlights different aspects of mental well-being and also outlines the Top 10 Causes for Burnout.

10. Forgetting to go back to this beginning. Why did you choose your career? What attracted you toward a certain hobby? Can't remember? Spend a few minutes to get in touch with the passions that motivated you at one point.

9. Getting stuck in a rut? If you can do your work in your sleep, or sleep while you do your work, its time to shake things up. Find a way to challenge yourself. If possible, do things in a different order. Try to outperform your personal best.

8. Overlooking the importance of humor. Surrounding yourself with positive people who can share the humor of various situations will give you a boost of energy. Laughing is an effective way to discharge stress.

7. Forgetting to express gratitude. It is a slippery slope toward burnout if you focus on how bad things are. Take a few minutes to look at the positive things in life. Focus on finding gratitude and appreciation instead of fault and blame.

6. Adding to your "to-do" list without deleting. I met a person who actually started to write "take a break" on her to-do list. We had been discussing how too many things weighing on one's mind can lead to burnout. While it seems funny, she was so caught up in trying to get it "right" that she missed the point. Now I advise clients that if they want to add something, they must be willing to give up something from their to-do list.

5. Failing to care for yourself. Picture a person busily building a mansion on a foundation full of cracks. It is temporarily rewarding to have such a beautiful mansion, but ultimately costly to repair and unsettling to live in. What does the foundation of your life look like? What do you eat? How often? How much water do you drink on a daily basis? How often do you exercise? Is your environment soothing or cluttered? Are your relationships supportive? How do you manage stress in your life?

4. Overlooking the importance of the 3 R's-Rest, Relaxation, and Rejuvenation. Renewal, recreation and respite. No matter what words you use, you need it on a regular basis. Taking a break periodically actually increases your productivity.

3. Allowing issues to become bigger than they really are. When caught up in the middle of a crisis, meeting a deadline, or correcting a mistake, it is easy to become exhausted and disillusioned. However, if you find yourself feeling overwhelmed, ask yourself if the issue that is plaguing you is as catastrophic as it seems. Will anyone remember this issue a year from now. Putting the situation into a realistic perspective can relieve stress immediately.

2. Allowing others' expectations to determine how you spend your time. Are you caught up in trying to meet the expectation of your parents, spouse, children, or clients? Once you rearrange your schedule according to your priorities and values, you will enjoy more energy.

1. **Losing site of one's values/priorities.** When you are engaged in activities that aren't in line with those you find fulfilling and meaningful, the work drains your energy rather than keeping you fueled with a full supply.

If you, or someone you know, are experiencing any of these causes relating to your job, now is the time to seek confidential and professional help. There is help for burnout and other work/life issues.

Don't put it off?

From Summer 2004 issue, Ohio Surveying News.

SURVEYOR'S PRAYER

**Almighty God,
Surveyor of the Universe
And the True Point of Beginning
For all Things,**

**Bless That Parcel of Time
More Particularly Described as Life
And Guide us
As we Traverse Through It.**

**May we Accurately Follow the Courses
You Have Set Forth
Giving Full Measure of
Our Time and Talents
In a Manner that will
Make our Lives Worthy
Of a Place in the
Record Book of Eternity.**

**We Submit the Sum of our Being;
Less and Except Those Errors
By Your Grace Forgiven.**

**Witnessed by Those Present
In Your Holy Name.**

Amen

A Case for Bearing Accessories

By Larry Walter

Recently, I was contracted to reestablish a lost corner in an existing, rural, wooded subdivision. The survey of record is EDM-based, with bearings referenced to True North. I have retraced this original surveyor's work, on other projects, with good results, so was surprised to find that one of the monuments tied to was about 5 feet out of position. I found two, triple-blazed witness trees near the corner, both of which faced my calculated deed position rather than to the current location. What was disconcerting, was that the corner fell in a fairly remote location, with no apparent ground disturbance.

I contacted the original surveyor and secured coordinate and traverse data near the corner in question. I then located the original ground point from which the corner was set and from that, was lucky enough to find the original hole into which the rebar had been driven. The original position was within 0.05 feet of my calculated position. The original witness trees now face where I figured the monument had originally been set.

In order for me to reestablish this corner, my client had to spring for two field visits, plus a couple more hours of computations. This is not even considering phone tag with the prior surveyor to bother him for old field notes and computations. What's wrong with this picture? Admittedly, the blazes on the witness trees were enough to put a question mark over the errant pin position, but had they been further away, this would not have been so evident. If there had been a simple recordation of bearing and distance information to the two witness trees, I would have known immediately that the corner had been tampered with. More importantly, I could have restored it within an acceptable tolerance of the original position in about fifteen minutes time.

Swing ties to bearing objects are easily worth your client's nickel, and have the potential to save gobs of cash and headaches for future land owners. Here are some suggested methods for taking witness trees as well as bearing objects in more urban areas:

Witness Trees:

Once you are practiced, it will take about ten to fifteen minutes on each set of two witness trees, including blazing, scribing and recordation. The recorded bearing to each witness tree or bearing object serves as an aid for future location of said corner accessory. The distance measurement is what is critical for future reestablishment or location of the corner monument. Some rules of thumb: Only establish witness trees with prior permission from any land owners involved. Obviously, it is preferable to take trees from your client's parcel.

Use a steel measurement tape to the accessory if it can be held horizontally, and the EDM if the distance or slope is prohibitive.

Choose tree species which are durable and long lived, with minimal signs of injury or rot.

The idea is to tie to the center of the base of the tree. This way, should subsequent surveyors only have use of the remains of the stump, the center of said mass will determine the measurement point back to the corner position. With current tree-felling techniques resulting in ever lower stump heights, it is imperative to establish and measure from an aluminum nail driven very low and 'half way' around the side of the tree, as you face the corner. If the BT is down hill from the corner, place the side-center nail on the side opposite

from the side lean of the tree. This way, while measuring, you can hold a plumb line to the nail without running into the bole.

Try to keep the interior angle close to 90 degrees when facing the trees from the corner. This way, the most accurate results are obtained when simultaneously pulling the recorded distances from each tree to the corner position.

All distances are horizontal with bearings referenced to the same datum as your survey. If you want to make it easy for the layman to replicate the bearing, use magnetic. If you intend to provide a bearing that will retain its integrity over the decades, reference your survey readings to true or grid north.

It helps to select trees which are uphill from the corner. This allows you to hook your diameter/distance tape over the side-center nail and measure horizontally to the center of the monument. Usually, a self-winding, 35' steel tape with the hooked end at zero will be all you need. The self-winders have handy belt clips so you don't have to dig the thing out of your vest every time. The inside surface of the tape has a diameter scale. Fifty or one hundred footers of the same design are also available.

The bearing to the tree is taken to the center/base, and not to the side-center nail, again, with the center-of-base concept in mind. Some surveyors will place a brass washer (stamped with LS number) and nail in the butt blaze and actually turn an angle to said washer. This establishes a good check on your compass bearing to the same tree, and in the absence of other forms of control, can provide a fairly decent basis of bearing for subsequent survey line.

A scribed mark (a simple 'X' will do) on the butt blaze will ensure that your BT will not be confused with other blazed trees in the area. As the tree ages and rots from the inside out, often times, the healed over material will remain intact with a reverse image of your original scribe mark preserved.

If the tree species is sensitive to being blazed, you can opt to bark-scribe the tree at the base, with the same, side-center nail. Timber scribes can be obtained from forest supply outfits. The fancy ones will scribe an arc as well as a straight line, and have replacement bits in the handle. Small file sets or stones can be obtained from the tools section of Sears, Inc., or any other tool outfit worth its salt.

Record the dbh (diameter at breast height is measured at a height of four feet from the uphill side of the tree) and species of each witness tree. When taking a tree with two or more stems at the butt, specify which stem you are taking and its dbh as well.

It is a good idea to generate your own blazing style (i.e., with a hack mark above the face blaze) so your witness trees can be more easily identified. You should note said style upon your plat and/or description. Hack marks should be placed with an upward swing to prevent the collection of water and debris. In like manner, the base of any blaze should be smoothed out to facilitate good drainage.

Any side-center nails or tag tails should be driven just past the cambium layer, to allow for growth.

Other Bearing Objects

If you are within sight of other established monuments or durable objects, they can be used as well, keeping in mind that the tie should be made to the base of any objects with a non-determinate top or unstable nature.

...continued Page 13

When I tie to a telephone pole, I note the pole number and tie to the center-base using the same side center nail as with witness trees. Be aware of the fact that the power companies often times replace the existing pole with another directly alongside the old one. This can cause havoc if they retain the same number. If your side center nail cannot be located by a future surveyor, chances are, it has been replaced. Flush-driven PK nails work well on power poles. They are tougher than aluminum and can be located with a pin finder. You should record in detail the character and placement of any nails or tags for purposes of future identification.

A small, high carbon star chisel will put a nice 'X' on a boulder or rock outcrop, with distance and direction taken to the center of the X. Note the size and character of the source material, and at about what location the chiseled falls (height and aspect).

Try to stick to the corners of the foundation if you are recording swing ties to buildings. Sidings tend to change in composition and/or thickness over the years.

Fire hydrants are OK but remember that the top screw changes in height every time the water department tests the valve.

Highway surveyors have been routinely establishing and recording swing ties to bearing objects for years and so why not property surveyors? This sounds like a lot of additional work, but I have yet to encounter a client, especially with a rural tract, who does not see the cost-benefit of establishing some future insurance, should someone take to moving monuments around.

Reprinted from The Cornerpost (Vermont Society of Land Surveyors), September 2003

Attorney Fees Clause

By Knud E. Hermansen

A sizable proportion of litigation results in legal fees exceeding the damages that were sought and awarded. Numerous surveyors have opted not to pursue unpaid fees from the client because the cost of collecting the fee is not worth the amount sought.

One contract clause that will often reduce the cost of collection is a section in the contract shifting the prevailing party's attorney fees and litigation costs to the losing party.

Attorney Fees & Litigation Costs: In any litigation between the Client and Surveyor for fees provided for in this contract, the party prevailing in the litigation shall be compensated by the loser for attorney fees and courts costs to recover fees.

Many people have the mistaken impression that the loser must always pay the prevailing party's attorney fees. Shifting the prevailing party's attorney fees to the loser is common in other countries but is not allowed in the United States absent statute, vexatious litigation, or contract. (The responsibility for each side to pay their own legal fees is so distinctly a part of the judicial system in the United States that it is known as the "American Rule").

Accordingly, the surveyor that does not wish to pay attorney fees and litigation costs in order to collect their fee must include a provision in the contract to provide for the client to pay for the surveyor's attorney fees and litigation costs.

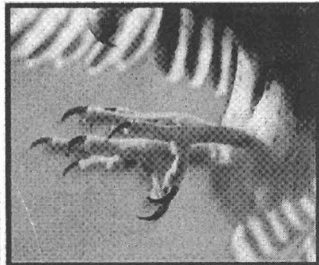
There are limitations to this clause that reduce its effectiveness. First and foremost, only reasonable fees can be collected. Since only reasonable fees can be sought and collected, the surveyor cannot always expect to be compensated for the best legal representation for all legal avenues that were pursued. The standard of reasonable fees has been defined in some cases to mean that the cost of only minimally acceptable legal representation will be compensated using a rate that is standard for the locality.

Often in litigation, complete victory seldom occurs. Accordingly, the term "prevailing" is subject to interpretation. The prevailing party is defined as the party that on a practical level is said to have succeeded in achieving a measure of their goals when compared against the other party. Accordingly, if a surveyor seeks \$1,000 in fees that the client denies entirely and the surveyor is awarded only \$500 in fees as a result of the judgment, the surveyor would be considered to be the prevailing party. On the other hand, if the client made claim they only owed the surveyor \$400 when the surveyor was demanding \$1000, the client, on a practical level, would be said to have prevailed. If the action was voluntarily dismissed there would not be a prevailing party. The court often determines who was the prevailing party as part of the judgment.

The contract clause, such as the previous example, often limits collection of fees and litigation costs to the terms set forth in the clause. In the previous example, the clause only applies to litigation costs over fees. The focus on fees tends to favor the surveyor since most litigation over the surveyor's fee is initiated by the surveyor. Where the surveyor litigates over the fee and the client counterclaims claiming shoddy surveying services, only those attorney fees related to the claim of fees and not the counterclaim are covered by the contract.

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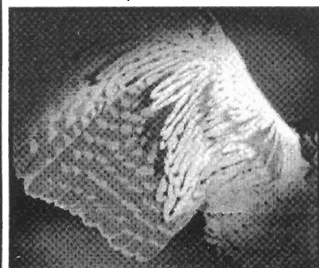
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Accountability



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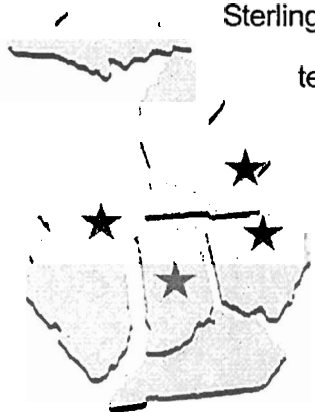
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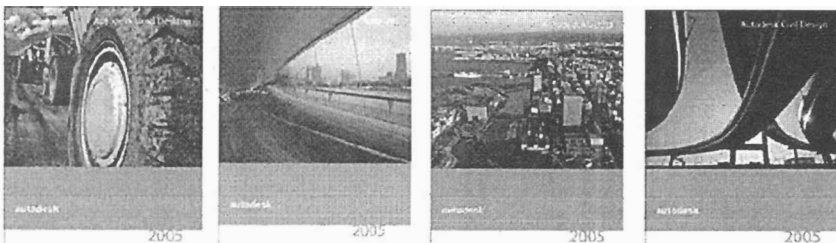
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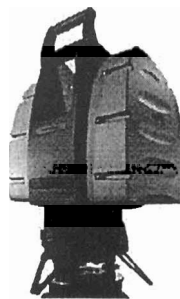


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Congress Lands West of The Miami River

Gordon Mitchell, Columbus, Ohio

The signing of the Greenville Treaty on August 3, 1795, between General Anthony Wayne of the United States and the chiefs of various Indian tribes finally opened the southeastern 2/3 of Ohio for settlement. The treaty line, known in Ohio as the Greenville Treaty Line or Wayne's Treaty Line, or in Indiana as the Old Indian Boundary Line, was drawn at that time. The northern edge of this treaty line began at the mouth of the Cuyahoga River in Lake Erie (present-day Cleveland). From there the line ran south along the Cuyahoga River to a portage path (present-day Akron). The line then followed the portage path to the Tuscarawas River and then along that river to the crossing of the Great Trail, just north of Fort Laurens (site of the only American fort on Ohio soil in the Revolutionary War in 1778-79) (present-day Bolivar). From Fort Laurens, the line ran southwesterly across Ohio to a portage point, near Loramies Store (present-day Fort Loramie). From Loramies Store, the line ran northwesterly to Fort Recovery (site of both St. Clair's disastrous defeat on November 4, 1791, and a subsequent American victory on June 30 1794). From Fort Recovery, the line ran southwesterly to the Ohio River (present-day Lamb, Indiana), opposite the mouth of the Kentucky River. Much of this treaty line was surveyed in 1797 by Israel Ludlow, Deputy Surveyor of the United States. After the treaty was signed, large numbers of settlers flocked to the Ohio valley to settle these newly acquired lands.

However, before the Greenville Treaty was signed, there were a few land surveys already present in southern Ohio, along the Ohio River. The Seven Ranges (1786) extended from the Ohio-Pennsylvania border to almost at the mouth of the Muskingum River. The Ohio Company Purchases (1787 and 1792) extended from east of the Muskingum River to almost opposite the Big Sandy River (the boundary of Kentucky and present-day West Virginia). The Virginia Military District (1784) extended from the Scioto River to The Little Miami River and the Symmes Purchase (1794) extended from the Little Miami River to the Great Miami River.

These early land surveys used different surveying methods. The Virginia Military District used the old English indiscriminate surveying methods, known as Metes and Bounds. This method resulted in some land grants with some very odd shapes. Both the Seven Ranges and the Symmes Purchase (along with the adjacent and subsequent Between-the-Miamis Survey) used the 6 mile square Rectangular Township Survey as designated by the Public Land Act of May 20, 1785. Under this law, each township of 36 square miles (or 23,040 acres) would be divided into 36 sections of 1 square miles (or 640 acres). Although the Ohio Company Purchases surveyed their lands into 6-mile square townships, they did not divide these townships into the 36 1-mile square sections as designated by that land ordinance.

The Congressional Act of May 18, 1796, kept the 6-mile square township but altered the numbering sequence of the 36 sections and established baselines and principal meridians. Afterwards, most of the surveyed townships in the United States used this new numbering system. The first lands in Ohio to use this new numbering were the Congressional Lands east of the Scioto River and the Congressional Lands west of the Great Miami River.

The Congressional Lands West of the Great Miami River Survey was bordered on the south by the Ohio River, on the east by the Great Miami River, and on the north and on the west by the Greenville Treaty Line.

The First Principal Meridian, surveyed in 1798, began at the mouth of the Great Miami River and ran due north. This meridian was sometimes called Ludlow's Meridian, named for its surveyor, Israel Ludlow. All of the ranges (numbered in Roman numerals) within this survey were numbered east and west of the meridian.

After the First Principal Meridian was established, the surveys running east of that meridian to the Great Miami River were called the Miami River Survey. The surveys running west of the meridian to the Greenville Treaty Line were called West of the First Principal Meridian Survey.

The Base Line for this survey was the Great Miami River for the lands on the east side of the First Principal Meridian and the Ohio River for the lands on the west side of that meridian. All of the townships (numbered in Arabic numerals) were numbered north from these two rivers.

By 1802, the Ohio Territory's population had reached the mandatory 60,000 inhabitants that were required for statehood (as established in Section V of the Northwest Ordinance of July 13, 1787). Ohio's Enabling Act of April 30, 1802, had set her permanent western boundary at the First Principal Meridian, which had been previously established in the Northwest Ordinance and by the Congressional Act of May 7, 1800.

Ohio officially attained her statehood on March 1, 1803. After that date, all of the land located within the Miami River Survey became part of the State of Ohio.

One full township within the Miami River Survey was to be set aside for a future university. (Originally, this college land was to be located within the Symmes Purchase but didn't because of John Cleves Symmes' mismanagement of his Purchase.) Most of Township 5, Range 1 (plus a few sections from some adjacent townships) was chosen as the site for this new college on September 1, 1803. On February 17, 1809, that tract of land became Miami University.

The lands located within the West of the First Principal Meridian Survey were placed within the Indiana Territory and were commonly known as the "Gore of Indiana". The lands within this survey were the only Indiana lands to be surveyed from the First Principal Meridian. (See the figure) All other lands in Indiana (and in much of eastern Illinois) were surveyed from the Second Principal Meridian.

After the land was surveyed, it was then sold to the new settlers. The Harrison Land Act of May 10, 1800, established four land offices in Ohio: Steubenville, Marietta, Chillicothe, and Cincinnati. Anyone interested in buying land in Ohio could visit any of these offices to determine their availability. However, most of these Congressional Lands west of the Great Miami River were purchased at the Cincinnati Land Office.

The Harrison Land Act also permitted buyers to purchase their lands on credit. The prices of these lands were established at public auctions. The buyer then paid an initial 5% of the cost (including surveying fees) at the time of the purchase, another 20% was due after 40 days. The rest was due in 3 annual payments of 25% each year. Payments also included a 6% interest rate. Paying in installments enabled the non-wealthy people to buy these lands.

Initially, the land could only be sold as entire 640-acre sections. When it was discovered that very few settlers could afford this minimum purchase of 640 acres, the minimum amount was lessened in 1800 to 320-acre half sections.

...continued Page 16

The minimum cost for the 320 acres was \$2 per acre, along with a \$6 per section survey fee and a 10 cents per acre filing fee. The rest of the cost was paid in 4 equal annual payments, with the first payment due within 40 days of purchase.

In 1804, the minimum purchase was again reduced to 160-acre quarter sections. The minimum cost was still \$2 per acre but the payments changed to ¼ of the cost within 2 years of purchase and the remainder payable in 3 equal annual payments.

In 1820, the minimum purchase was again reduced to 80-acre eighth sections. The minimum cost was reduced to \$1.25 per acre and was fully paid with cash at the time of purchase.

In 1832, the minimum purchase was finally reduced to 40-acre sixteenth sections. The minimum cost was still \$1.25 per acre and was paid at the time of purchase with cash or land scrips.

This survey covered all of parts of the Butler, Darke, Hamilton, Logan, Mercer, Miami, Montgomery, Preble, and Shelby Counties in Ohio and all or parts of Dearborn, Franklin, Ohio, Randolph, Switzerland, Union, and Wayne Counties in Indiana.

Much of what was learned from this survey would be applied to subsequent surveys in other parts of the country.

References

Ohio Lands: A Short History, By Thomas Aquinas Burke
Surveying and Federal Land Sales, By Robert Cottrell
www.connerprairie.org/HistoryOnLine/surey.html
Along the Ohio Trail: A Short History of Ohio Lands
Researched and Written by Tanya West Dean and W. David Speas,
Edited by Dr. George W. Knepper
Ohio Lands and Their History (3rd Edition)
By William Edward Peters
Original Ohio Lands Subdivision
By Christopher Elias Sherman
Early Indiana Trails and Surveys
By George R. Wilson, C.E., L.L.B.

COMPLETED CAREER

Frederick E. Bennett, Jr., Franklin

Frederick E. Bennett, Jr., 55, Franklin, died February 1, 2005. Fred was the husband of ISPLS's Executive Director Dianne Bennett and will be remembered by members as accompanying Dianne at many Society functions and conventions and assisting her in her many activities. Fred had been fighting cancer for a year and our condolences go out to Dianne and her family for this great loss.

Fred was a Vietnam veteran of the U. S. Air Force and had been a Sears Service Technician for Sears Center since 1972. He was a member of the Whiteland V.F.W. Post 6978, American Quarter Horse Association, National Barrel Horse Association, and past president of the Greenwood Little League. Also surviving, besides Dianne, are two children: Rhonda Andis of Indianapolis and Frederick Bennett III of Indianapolis and three sisters and two grandchildren.

Funeral services were held February 7 at the Jessen Funeral Home in Whiteland. Memorial contributions may be made to the American Cancer Society.

National Spatial Reference System Readjustment

The National Geodetic Survey is responsible for the establishment and maintenance of the National Spatial Reference System (NSRS). As such, our goal is to maintain a network of stations which are of high enough accuracy to serve as control for any project undertaken by local surveyors. In addition, numerous other applications benefit from an accurate, consistent coordinate system. The NSRS serves as the framework for those also.

As the Global Positioning System (GPS) became operational in the early 1990's, NGS quickly realized the possible increased accuracies of the coordinates and undertook a series of GPS surveys to establish High Accuracy Reference Networks (HARNs) in each state to serve as the basis for the NSRS. These were completed in 1998.

In addition, by the mid-1990's, the establishment of the network of Continuously Operating Reference Stations (CORS) was begun which made even higher accuracies possible. So, in 1998, NGS undertook yet another series of observations in each state designed to tie the network to the CORS and to realize the advances in surveying with GPS which allowed increased accuracies in the height component - long a weak link in the framework. These surveys are now complete (December 2004).

The availability of this high accuracy data, along with substantial growth in the NSRS due to the addition of local GPS surveys to the network, has resulted in a need for a national simultaneous readjustment which utilizes all these observations. Although NGS has strived to maintain a consistent network, inevitable discrepancies between surveys and between states have taken place. Such a readjustment, using all available GPS data archived in the NGS database, also allows for the computation of local and network accuracies for each mark.

This readjustment is scheduled to begin in June of 2005 and be completed in February of 2007.

For more information, contact maralyn.vorhauer@noaa.gov or visit the NGS web site www.ngs.noaa.gov

Attorney Fees Clause

...continued from Page 13

Another limitation of the previous clause is the exclusion of attorney fees and costs arising from alternate dispute resolution such as arbitration. Only litigation is covered in the previous clause.

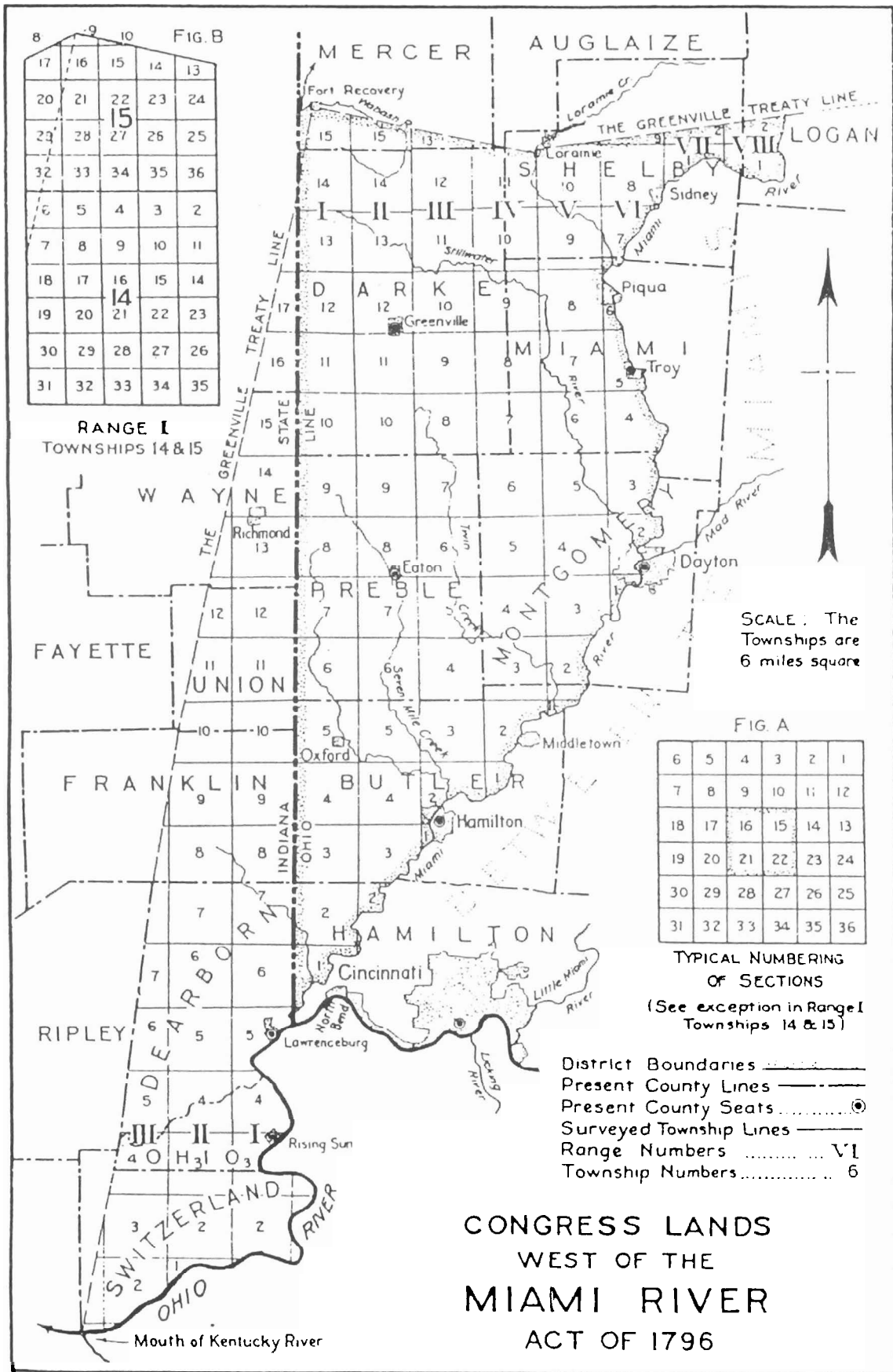
The contract clause can be re-written to cover all litigation involving a service contract.

Attorney Fees & Costs: In any action incurred to enforce this contract or defend services provided according to the contract, the prevailing party shall be entitled to reasonable attorney's fees.

As with other contract clauses, only the parties to the contract can seek relief under the clause, barring a state statute providing otherwise. Accordingly, litigation involving a third party will not shift the attorney fees and costs to the third party.

Knud is a professional land surveyor, professional engineer, and attorney at law licensed in several states. He teaches in the surveying program at the University of Maine and operates a consulting firm specializing in professional liability, boundary disputes, land development and title issues.

Reprinted from TBM-The NHLSA Newsletter, June 2004.



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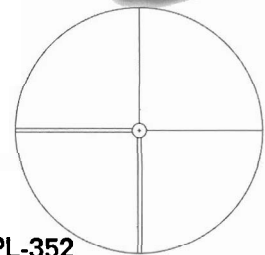
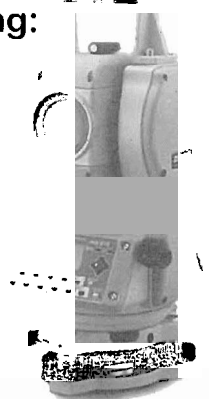
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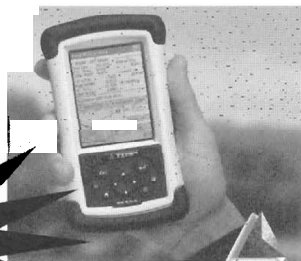
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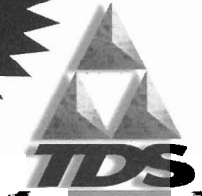
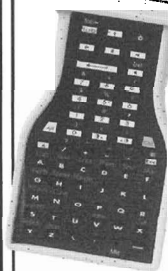
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Surveying the Railroad

By Michael J. Marlow, P.L.S., Highland, IN

As railroads downsize and merge, plats, deeds, field books and files get moved to other offices, get lost or worse discarded. People who knew where to find information have retired and those remaining may not be much help. Most railroads do not have people available to do any research for you, even if you are working for the railroad. Usually the best that you can hope for is a valuation plat showing right of way information and track alignment and a listing of property transactions with deed recording information. Some of the plats may not be up to date but usually you are looking for the older information.

Trying to find the right office for obtaining plats can also be a challenge. Some companies have outside contractors handling distribution of plats, entry permits and licenses. If you don't have the name of a railroad contact, start by calling the nearest railroad facility and ask for the local Division Engineer's office phone number. The Division Engineer's office may not have the information that you need but should be able to give you a name and phone number of someone who can help.

The Pocket List of Railroad Officials is a publication listing all railroads with names and phone numbers. The pocket list is published quarterly. For more information go to www.cbizmedia.com

When researching information on railroad right-of-way, in addition to checking records in the local county offices, check the State Archives, local historical groups and any old local railroad personnel.

There are several types of plats and charts that railroads use. The plat that most surveyors would be interested is the Valuation (Val) Map. Information shown would be right-of-way width, base line information (usually the centerline of one track), stationing and the track geometry. Val map scales will usually be 1"=100', 200', or 400'. There are plats similar to the Val maps listing the property transactions with deed information on recording dates and numbers. Railroad track charts or signal department charts can sometimes give additional information or clarify information regarding stationing, location of road crossings or other facilities.

The Railroad Atlas of North America – Great Lakes East will show all of the rail lines ever built in Indiana, Ohio and Lower Michigan. This atlas will show if the line is still active or abandoned. Information on each rail line will show current and past owners or operators. The atlas can be found at local hobby shops, some bookstores or ordered on line. For more information go to www.spv.co.uk. The atlas is very well done but with some recent changes such as the split up of Conrail between CSX and Norfolk Southern it is not completely up to date.

Another source of information on railroads is the Barriger Railroad Library, part of the St. Louis Mercantile Library located at the University of Missouri, St. Louis, MO.

Usually the centerline on one track is the baseline for the right-of-way and is not in the center of the right-of-way. The most common railroad right-of-way width being 100 ft. Some railroads have main line right-of-widths of 66'. Widths for branch lines and industry tracks can even be less.

When the railroads were first built and multiple tracks were constructed the distance between tracks (track centers) was 13.0' or 13.5'. Today track centers for main lines are being widened to 15' or 16'. Most yard tracks are being widened to 14' or 15' centers.

All railroad horizontal curves are based on the Chord definition. The length of curve for the chord definition is the total of the 100-ft chords and the nominal-ending sub chord, not the arc length. Transit systems generally will use the Arc definition for horizontal curves.

Transition or spiral curves were not introduced into the United States until 1880. Do old rights-of-way have spirals? It appears that when the railroads were built in the 1800's that spirals were not used but were added later. Railroad spiral curves are also based on the chord definition.

Common markers found on the railroad right-of-way are mileposts, whistle posts and sometimes a "section marker" which refers to the division point between old track gangs. On most railroads, bridges, signals and road crossings are listed by milepost.

To determine the track profile the top of rail elevation is used. When in curves the inside or low rail is always the profile rail.

Be careful measuring from centerline of track to determine right of way line. The track may not be in the original location. Tangent track may be close but curves are not put back to original location. Stringlining and automatic tamper-lining operations will create a smooth curve but not on the original alignment.

Most railroad plats will show a stationing for a Point of Switch (PS). Some plats use HB (Headblock) in place of PS.

In your survey, you may find several railroad items used as survey monuments. These will include rail on end, joint bars (fish plates), tie plates and track spikes.

Railroads will require an entry permit for surveys on their right-of-way. There is a cost for the permit and allow at least two to four weeks for processing.

The railroads will also require the use of a railroad flagman when working anywhere near live tracks. This is also a cost to the surveyor.



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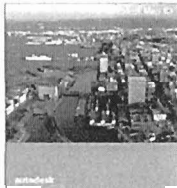


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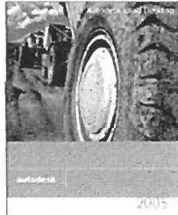


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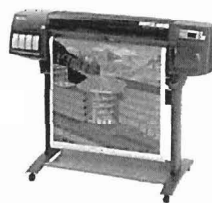


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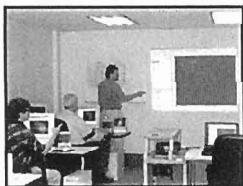
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What to do with Fences

By: Knud E. Hermansen, PLS, PE, PhD., Esq.

ABSTRACT

One of the perplexing problems that land surveyors must face is what to do with fences. Fences are found on or near many boundaries, to include boundaries around woodland, farm, and residential lots. This article was written to provide some suggestions and guidance concerning fences (and for that matter walls, hedgerows, tree-lines, etc.). In particular, the legal significance, practical value, and responsible treatment of fences are examined in this article.

INTRODUCTION

Landowners generally hire surveyors, in part, to determine where they own—they want the surveyor to locate their ownership boundary. The surveyor, for their part, has been trained to reestablish the location of the boundary as described in the records; that is, the record boundary. Under ideal conditions, the record and ownership boundaries will coincide and the surveyor will meet the client's expectations. A problem arises when the landowner or their predecessor in possession has asserted a claim, as evidenced by prior use and possession, short of or beyond the record boundary—creating a third category of boundaries known as the possession boundary. Where the extent of use or possession does not coincide with the record boundary, the location of the ownership boundary becomes uncertain since it may coincide with either the record or the possession boundary.

Within this realm of potential confusion stand the fence, sometimes an aid while at other times the nemesis and gist of the problem. The resolution of the confusion depends on the legal significance, practical value, and responsible treatment of the fence. Unfortunately, the confusion is compounded by serenity and fed by ignorance. By its protruding appearance in the woods, along a field, or between homes in a development, a fence seems to make what would ordinarily be uncertain, certain. For the surveyor to interrupt the serenity by casting doubt on its position or prestige as a boundary marker seems sanctimonious if not an outright declaration of mistrust that is bound to start a bitter boundary dispute between the neighbors. For this reason and others, surveyors are quick to adopt a fence, reluctant to question a fence, ignorant about the legal ramifications, or are simply uncertain about how to handle fences that are on or near boundaries.

The legal significance, practical value, and responsible treatment of a fence can be determined by three steps. The three steps are to: (1) gather information, (2) analyze the information, and (3) apply or communicate the information.

GATHER INFORMATION

The first step to determine the legal significance and practical value of the fence is to gather information on the fence. During the course of the survey, information on the fence can be gathered during the record search, interviews, and field survey. While searching the records for boundary information, the surveyor should determine if any documents cite or portray the fence in a manner that is suggestive of an intent to fix the record boundary along the fence. Any citations to a fence should be scrutinized to determine: (1) the time the fence was built; (2) the fence material, (3) the direction of the fence, and (4) the location of the fence.

Information is also obtained from interview with the client, neighbors, long-time residents and other knowledgeable people. During the interview, the surveyor should gather the following information: (1) the maker/builder; (2) builder's frame of mind, purpose, and apparent significance of the fence (e.g. cattle barrier, line fence); (3) approximate age; and (4) past condition of the fence.

Finally, information on the fence is obtained during the field surveyor (to include the reconnaissance). The most important piece of information to obtain during the field survey is the relative location of the fence with respect to other evidence. This would include any significant meanderings and the geometrical relation between the fence, existing monuments, and major features. In addition, the surveyor should also attempt to collect the following during the field survey or reconnaissance: (1) continuity of the fence (e.g. sporadic, continuous); (2) present condition of the fence (e.g. disrepair, decayed, new); (3) actual age of the fence (i.e. from tree borings); (4) fence material (e.g. woven wire, split rail); and (5) visibility of the fence.

ANALYZE THE INFORMATION

The second step is to analyze the information. The analysis should attempt to classify the fence as one of the following: (1) the best evidence to the record boundary, (2) evidence to the record boundary, or (3) no correlation to the record boundary.

Best Evidence: The fence may be the best evidence of the record boundary under one or a combination of two or more of the following (1) rules of construction; (2) recognition/reputation; (3) process of elimination; and (4) prima facie assumption.

Best Evidence-Rules of Construction: The rules of construction would favor the fence as the best evidence to the record boundary under two different scenarios. The most favorable scenario is when the fence is called for in a valid conveyance, cited in an authoritative record as a monument to the boundary, or constructed as a division fence according to a "fence line" statute or boundary agreement. The second, less favorable scenario is to determine the fence is in privity and conformance with the location of the original marks and monuments. Privity stands for the concept that there exists some chain of records, evidence, logic patterns, or other rational explanation that places the fence in the same stead as the original marks. This scenario would be appropriate if the fence were built along the blazed boundary, fence posts replaced the corner marks, or monuments (e.g. stakes), or the fence replaced or stands in the place of an earlier fence that was called for as a monument. Under these scenarios, the fence is favored much the same as other monuments are favored under boundary law rules of construction.

Best Evidence-Recognition/Reputation: A second way a fence may be the best evidence of the record boundary is by recognition and reputation. This concept treats the fence as an "undocumented" monument with authority based on its recognition and reputation. Recognition and reputation as a boundary or "line" fence is based in part on equity and in part on logical assumptions. Equity by way of laches, estoppel, and other equitable principles, would keep settled what has been settled. With the same results, a logical analysis

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What to do with Fences ...continued from Page 21

could be constructed to show that the recognition and reputation of a fence as a boundary marker must have been based on some authority since obscured or some intent expressed and accepted long ago.

Best Evidence-Process of Elimination: Recognition and reputation are usually combined with the process of elimination (although not always). The process of elimination, simply described, is that there is no better evidence available to prove the fence does not stand on the record boundary. What better evidence that may have once been available is now unavailable, lost, or suspect. In some cases, there may never have been better evidence other than the fact the people living along or near the fence have always supposed and accepted the fence as the boundary marker.

Best Evidence – Prima Facie Assumption: By way of a prima facie assumption, some courts will assume at the outset that the location of an existing fence accurately marks the location of the record boundary. To understand this concept, recognize that under the previous methods of interpretation, judges would ordinarily reserve judgment until the party with the burden of proof produces sufficient evidence to show that the fence marks the boundary or the moving party, by a preponderance of evidence, shows the fence in all likelihood coincides with the record boundary. However, if at the outset of the trial the court adopts a prima facie assumption in favor of the fence, the court assumes that the fence marks the location of the record boundary unless other, better evidence is introduced by the opposing party that shows it does not. This last assumption is founded partially on convenience and partially on the premise that: (1) the builder knew where the record boundary was located, (2) the record boundary was discernible to the builder at the time the fence was constructed (e.g. blazed trees), and (3) the builder followed the marks in constructing the fence.

Best Evidence-Prima Facie Assumption (Modified): As a slight modification to the best evidence by prima facie assumption, some courts do not use a prima facie assumption until the fence is shown to have existed undisturbed and uncontested for a period exceeding the statute of limitations (Acquiescence). This is based on the premise that any fence that has been allowed to stand uncontested for a long time must have been built on the record boundary or else someone should have come forward to dispute (i.e. litigate) its location before the present time. If the fence is shown to have existed for a long time without question or conflict, the opposing party has the burden of coming forward with evidence (not the same as the burden of proof) to show the fence is not on the record boundary.

Evidence: The fence may be classified as evidence (as opposed to the “best” evidence) to the boundary when the fence supports other comparable or better evidence to the record boundary. This classification uses the location of the fence as one piece of evidence among many (e.g. other undocumented monuments, measurements, area, and parol testimony) to help fix the record boundary. Naturally, the evidentiary value of the fence can be improved or minimized by proving or failing to prove such factors as: (1) the fence was built at a time when marks and monuments to the record boundary still existed; (2) the person constructing the fence was a disinterested party and intended to set the fence on the record boundary; or (3) the fence was constructed by previous landowners to stand on the common boundary between them.

No Correlation to the Record Boundary: By eliminating the

possibility that the fence is the best evidence or, less favorable, evidence to the boundary, the surveyor is left with the last possibility—there is no correlation between the fence and the client’s record boundary. In other words, the fence represents the position of another record boundary or a possession boundary not related to the client’s record boundary—possibly creating a cloud on the client’s or neighbor’s title. Estoppel and adverse possession are two common legal doctrines where a fence, standing as a possession boundary apart from the client’s record boundary, may alter the client’s rights and cloud the record title.

Estoppel: Estoppel is a legal doctrine that denies a person a legal remedy that would ordinarily be theirs to claim. With estoppel, one landowner is denied the right to claim to their record boundary and the other landowner has the right to claim to the fence lying beyond their record boundary. Estoppel arises when one landowner, by design or innocence; by action or, in some cases, acquiescence (e.g. where the landowner had a duty to assert the truth and did not); misleads another to that person’s detriment; to believe that the fence controls or stands in the location of the ownership boundary. Examples include an oral agreement followed by possession, acquiescence coupled with possession; and detrimental reliance. Estoppel, by itself, does not ordinarily create title until adverse possession is maintained for the time period prescribed by the statute of limitations.

Adverse Possession: Adverse possession is a legal doctrine that creates title in a possessor. Most state recognize adverse possession through statute or common law. Under the common law, adverse possession is founded on the premise (i.e. legal fiction) that any long possession must have been founded on a grant that has since been lost (i.e., lost grant theory). A person asserting title by adverse possession must prove the following six elements (although different jurisdictions may require more, less, or slightly different elements depending on the circumstances): (1) the land was held adverse or hostile to the record owner’s title; (2) possession has been actual (v. constructive); (3) it has been open and notorious (i.e., visible and known); (4) possession has been exclusive or the use by others has been controlled by the possessor; (5) possession has been continuous for the period set forth in the statute of limitation; and (6) possession has been under claim-of-title or color-of-title.

Other Record Boundary: A fence standing apart from the client’s record boundary may also represent another person’s record or ownership boundary (e.g. the neighbor’s). In some cases, this may result in a gap between record titles, while in other cases it may result in an overlap of record titles. In any event, a question of title is usually involved. In most of these cases, the surveyor should treat the fence as an encroachment on the client’s title or a possessory claim for the client.

APPLY OR COMMUNICATE THE INFORMATION

The last step is for the surveyor to apply the information or communicate the information along with his or her analysis and opinion to the client. This step focuses on the proper treatment of the fence. Generally, if the surveyor determines that the fence is the best evidence or, in the alternative, evidence to the boundary, the surveyor uses the fence to help fix the location of the record boundary. In contrast, if the surveyor determines there is no correlation between the fence and record boundary, the surveyor should communicate this

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What to do with Fences

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information to the client along with the legal ramifications that may result or may have occurred.

Fence as the Best Evidence: If the fence is the best evidence to the record boundary, the fence is used to fix the location of the record boundary. This normally requires the record boundary coincide with the location of the fence (even though the fence may deviate from a straight line). This conforms with the rule of construction that generally holds monuments superior to measurements (i.e. straight lines) should they conflict. Furthermore, the call for a monument is a call for the center, where it stood at the time the original description was prepared.

Fence Used as Evidence: On the other hand, if the surveyor has determined the fence is evidence to the record boundary, the fence usually falls partly on the boundary and partly off from the record boundary. The fence is used as one piece of evidence among others to relocate where the corner monuments or the record boundary once stood. All evidence, including the fence location is analyzed and used in the most favorable light (i.e. the conform rather than conflict), keeping in mind the conditions and situation at the time of the conveyance. As evidence (as opposed to the best evidence) of the record boundary, the record boundary will not be made to follow the meanderings of the fence. Since the fence will not ordinarily coincide with record boundary along its entire length, one of two different interpretations are used to reestablish the record boundary.

Under one interpretation, only part of the fence is used to help fix the corner locations. This interpretation assumes the builder attempted to place the fence on a straight line between two corner monuments, starting at one corner and building the fence towards the other corner. As he moved away from one corner monument and was out of sight of the other corner, the direction of the fence deviated from a direct line between the corners. However, once he came close enough to the other corner, the fence builder was able to visually correct his direction and head more or less back toward the second corner. The result is that the fence, as it stands, “bows” or “curves” away from the record boundary (i.e. a straight line). Therefore, under this interpretation, only the end segments of the fence would be used to help fix the location of the property corners. Once the corner locations are reestablished, a straight line is protracted between the corners and any deviation of the fence from the straight line is treated as an encroachment or adverse claim, as the case may be.

Under, a second interpretation, the fence builder is assumed to have stayed on or near the boundary, sometimes going off to one side and at other times crossing and going off to the other side - crossing and recrossing the record boundary. In other words the fence zig-zags along the length of the record boundary. Given this interpretation of the fence construction, the record boundary is located by projecting a “best fit” straight line along the fence (i.e. a least squares best fit). In other words, a straight line is chosen for the record boundary that minimizes the deviations of the fence from the record boundary.

It should be noted that one interpretation does not necessarily always have to be favored over another. The existing pattern of the fence location (bow v zig-zag), the character of the corner marker, (e.g. stream or road v. tree or ridge), and the character and frame of mind of the builder (conscientious v. noncaring) will influence whether the first or second interpretation is chosen. For example a

bow in the fence line would tend to fit the first interpretation while a fence that zig-zags would fit the second interpretation. On the other hand, if the fence builder was heading toward a linear monument, a monument not easily visible to the builder, there is less reason to choose the first interpretation. In contrast, if the builder had a tall tree or point on a ridge that was generally visible along the entire boundary while the fence builder constructed the fence, there is a good reason to choose the second interpretation since the builder would have been able to correct the direction of the fence from time to time.

Fence Does Not Coincide: In almost all cases where the record boundary and possession boundary (fence) do not coincide, the surveyor should not ignore the difference or attempt to solve the problem independent of written authority to do so. Where the client’s record boundary is in a different location than the possession boundary, the question of what is the (ownership) boundary becomes a question of law. The surveyor’s responsibility is limited to showing where the boundaries are located, which is a question of fact. As one early practitioner said in the 1800’s: “Old fences must generally be accepted by right of possession: though such questions belong to the lawyer [rather] than to the surveyor.”

In this situation, the surveyor has a duty to inform the client of any problems that may affect his or her title. Thereafter, it is the client’s problem and prerogative to ignore or take steps to remove the problem affecting their title. If the surveyor fails to properly inform the client or, in the alternative, attempts to decide title questions on his or her own, the surveyor will increase their liability considerably.

Unfortunately, many surveyors find it difficult to come to the client with a potential title problem they have discovered and are unable to solve. In real life, the client is not happy to find out they have a problem, is annoyed that the surveyor cannot solve the problem, and, on top of it all, is mad at the surveyor for demanding to be paid. However, the fault is not with the surveyor because he or she identified and described the problem; the fault is with some prior landowner who failed to have the property surveyed and subsequently failed to build the fence on the record boundary.

If the surveyor should determine a fence does not coincide with the record boundary, the surveyor should take several actions on behalf of their client: (1) The surveyor should carefully locate where the fence stands and describe the fence in relation to the record boundary. (2) The surveyor should describe and document all evidence that would support or refute a possessory claim on behalf of or against their client. (3) If the area is not inconsequential (“de minimis non curat lex”), the surveyor should calculate the area for the client. (4) The client should be notified of the possible adverse or beneficial consequences that result when the possession boundary does not coincide with the record boundary. (5) Finally, the surveyor should suggest some possible actions the client should consider and discuss with his or her attorney. These include: (a) do nothing, (b) maintain the status quo, (c) negotiate and compromise with the neighbor (e.g. boundary line agreement), (d) recognize any adverse claims, (e) arbitrate, or (f) litigate.

CONCLUSION

A fence is a common object found on or along boundaries. The surveyor should not ignore a fence since the fence may be evidence of the record boundary or, in the alternative, may represent a possession boundary that extends or usurps (i.e. clouds) the client’s title. It

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Do You Have a Vested Interest?

By Ronald E. Koons
RoSaKo Safety

The title above may be a little play on words, but I assure you this article is not about finances. The safety guy wants to keep on track. We are going to take a look in this issue at safety vests. We were conducting a day-long seminar for a surveying group recently when I overheard a group of students discussing the display of various safety vests that I had brought along. There were probably 8-10 different vests displayed and one of the students commented "How difficult can it be to get a vest? You just go into to store and buy one!" To me that's like saying "What's the problem in buying a new truck? Just go to the dealer and drive away in one!" You can browse through a safety catalog and come across dozens of vests from just a single manufacturer. Add in the many companies who are now producing safety vests and there are hundreds of choices to make. Let's see if we can help you narrow down how you should decide on which vest to purchase for your employees.

It would be nice to think that OSHA would give us a list of exactly which type of vest to purchase. Unfortunately, that hasn't happened. OSHA really hasn't given any guidelines at all. We have to go to other sources to come up with some kind of an idea what type vest should be worn by field personnel. ANSI, the American National Standards Institute produces consensus standards for many products and operations. You have read in some of my previous articles about ANSI and various requirements for reflective safety vests. These requirements change periodically. Sometimes it may be years before a change is made and other times it can happen in shorter periods. Last fall there were changes made to the vest standards that were attempting to correct some problems that surfaces when the 1999 changes were made. In 1999 a three class system was developed. Most activities required a Class II or Class III vest. The speed of traffic was tied to all of the classes as a starting guideline. I started out recommending that surveyors wear a Class III vest. What we later found out that it was impossible for manufacturers to make a Class III vest in a size smaller than large or extra Large. They couldn't meet the ANSI requirements for background materials. I then started recommending that surveyors

What to do with Fences

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behooves the surveyor to determine the relative location of the fence, who built the fence, when it was erected, the conditions under which it was erected, the manner in which it was erected, the purpose for its erection, and the authority or weight of the fence as evidence to the record boundary.

If the fence is evidence to the record boundary the surveyor may use it to reestablish or support the location of the record boundary. On the hand, if the fence does not coincide with the record boundary, the surveyor must explain the possible significance of the difference. The responsibility of the surveyor is not to resolve any conflicting title claims but identify and locate any potential conflicting title claims. This information is communicated to the client (or their attorney) in a clear, understandable, and comprehensive manner. The client may, after receiving legal advice, decide to do nothing, maintain the status quo, negotiate and compromise with the neighbor, recognize any adverse claims, arbitrate, or litigate.

wear Class III vests in the larger sizes and Class II in everything under Large. I have had discussions with a manufacturer over the past few years that indicated wearing a larger vest on a smaller body won't work because the material folds and you still lose the visibility.

ANSI published new standards in the fall of 2004. There were several changes. There are still three classes, but the descriptions in the classes have been somewhat altered. References to speed were removed from classes II and III, but surveyors are still listed in Class II and III. They are now putting much more of a burden on the individual employer to decide which vest should be worn by their employees in any given situation. Another item is that they are really not referring to "vests" anymore in the ANSI publications. They are using the term "High Visibility Safety Apparel". In fact, Class III can now no longer be just a "vest". It has to be apparel that has a short sleeve. That's right...a sleeve is now required for Class III. But there is even more. They now have a Class E that has reflective pants and shorts. In addition to Class E they are now emphasizing the wearing of some type of high visibility headwear. There are already guidelines for hardhats, but in this new material they are discussing baseball type caps and knit caps as being options for additional visibility. (Of course only when a hardhat is not required.)

The burden on each employer to make an informed decision has tremendously increased. Let me give you some scenarios that I have come up with just recently. Let's say you send a crew out to survey in or along a roadway. For simplification let's just say it is an urban state road with a speed limit of 55 mph. All of your MUTCD (Manual on Uniform Traffic Control Devices) requirements have been met for signage. For some reason an employee is hit by a motor vehicle. A lawsuit follows because a lawyer read the ANSI guidelines and determined there was more that *could* have been done to make the employee more visible. In the exact same scenario say an OSHA compliance officer drove by and was "startled" by the employee walking along the roadway. That compliance officer stops to inspect and as result of the inspection determines there is more protection the employee *could* have been wearing to make them more visible.

Where we have now come is that each situation may take special consideration. You don't want employees to be required to wear Class III High Visibility Safety Apparel with Class E pants at all times, but they may be needed when they are working on an interstate highway when the traffic is flowing 70-80 mph. Since OSHA refused to give specific guidance in their recently revised standards they have really opened up a can of worms as an end result of ANSI also changing their consensus standards. There is more of a requirement for employee training on traffic safety now than there ever has been in the past. If you haven't trained employees in a way they can determine when more protection might be needed you are simply sticking your neck out like the zoo's giraffe. So maybe I was talking about finances when I penned the title of this article. The end result of not understanding what needs to be done could have a tremendous affect on your bottom line. Keep it safe!

CALENDAR

March 9-10, 2005

2005 Indiana GIS Conference, Crowne Plaza Hotel & Conference Center, Downtown Indianapolis, Indiana.

March 18, 2005

ISPLS LS/SIT Review, Vincennes University, Vincennes, Indiana Contact: Ed Sweetland 317-547-5580 or Dianne Bennett 317-687-8859.

March 18-23, 2005

ACSM-CLSA-NALS-WFPS 2005 Annual Conference, Riviera Hotel & Casino, Las Vegas, NV. This is a joint conference with California, Nevada and WestFed Societies.

April 8, 2005

ISPLS Seminar, Topic to be announced, Plymouth, Indiana

April 22, 2005

ISPLS Seminar, Topic to be announced, Indianapolis, Indiana

April 29, 2005

ISPLS Seminar, Topic to be announced, Jasper, Indiana

September 30, 2005

ISPLS Fall Seminar, Topic to be announced, McCormicks Creek State Park, Spencer, Indiana

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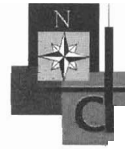
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