

FeedBack

Please Excuse My Dear Aunt Sally

I enjoyed “Hidden Point Offset” by Shawn Billings [Nov 2008], but have a small bone to pick, with all due respect to Mr. Billings.

If one uses Mr. Billings’ formula of $NI - [(NI - Nh)/(HRI - HRh)] * HRI$ substituting the appropriate terms for solving Easting and Elevation as well as Northing), then applies it to the examples on p. 61, one actually acquires different answers.

Here’s the glitch:

$[(NI - Nh)/(HRI - HRh)] * HRI$ actually means to divide $(NI - Nh)$ by the product $(HRI - HRh) * HRI$. To find the stated answers in the examples on p. 61, the formula should read

$NI - \{HRI * [(NI - Nh)/(HRI - HRh)]\}$.

In other words, $[(NI - Nh)/(HRI - HRh)]$ is being multiplied by HRI in its entirety after the division is accomplished first. For Mr. Billings’ formula to work, HRI cannot be a part of the divisor as suggested.

Example: $5169.0762 - [(5169.0762 - 5169.2191)/(5.00 - 8.00)] * 5.00$ equals 5169.0667 . (This is not the answer on p. 61.)

However: $5169.0762 - \{5.00 * [(5169.0762 - 5169.2191)/(5.00 - 8.00)]\}$ equals 5168.8380 . (This is the answer on p. 61.)

It’s a matter of notation, but the differences in the answers are significant.

*Pete Yates-Hodshon
Tucson, AZ
Via the Internet*

Billings Replies

Mr. Yates-Hodshon, I don’t have to tell you this, but you are correct. Please Excuse My Dear Aunt Sally (or, Parenthesis, Exponents, Multiplication, Division, Addition, Subtraction). It needed the extra brackets to make sure the division is done first instead of the multiplication. I appreciate you taking such a deep interest in the article and taking the time to respond and point out a clear error. – *S.B.*

Editor’s Note: Additional responses containing alternate ways to obtain positions on hidden points were sent in by Ferris State Professor Sayed Hashimi and by Albert Avanesyan, PE, from Ohio. Their solutions are posted in “Exclusive Online-Only Content” at amerisurv.com.

They Did Us Proud

Surveyor William (Bill) Grimm’s letter [FeedBack, Nov 2008] left a whole lot of his family’s legacy on the table in his humble dissertation. Mr. Bill says he is one of our “Professional Dinosaurs.” I say that’s bull. He and his father, K.B. Grimm, Jr., are icons without peer who formed the surveying dynasty in Solano County, California. They were classic professionals of the highest order of competence. Their monuments were ubiquitous all across the county.

I had worked many of my early years for their competition, but we were mostly construction surveyors. We worked for engineers who were licensed to survey, but not one of them could or would survey.

Solano County is a prosperous place with a fully-developed industrial base, ideal as a survey base, so I used to practice there sometimes. In my travels I had the occasion to visit the office of Grimm Surveying. It was a memorable visit.

Their office was in a small, but picture perfect 1930s era bungalow, facing the courthouse complex which contained the Recorder’s Office, so, Mr. Grimm need only walk his map over for admission to the public record. The office was also a Smithsonian artifact in the truest sense of American surveying history. I’m sure their records went back into the 1920s when Mr. Bill was probably born. And his father Ken was probably born in the late 19th century as was mine, if he was surveying in the Cascades in 1912.

That’s a legacy to be proud of. The Grimms deserve the credit and respect for their endurance and steadfast commitment to our profession. The Grimm’s office is only about 30 miles north of where California’s survey history began in July of 1851. Deputy Surveyor Leander Ransom brought the Mt. Diablo Base and Meridian down to the valley by simple but classic means. Getting there was the larger part of the job, and that beginning and those who followed in their footsteps constitute the best traditions of our profession. Congratulations on your longevity Mr. Bill, you did us proud.

*David Bader, LS (retired)
Napa, California*

In response to William Grimm’s letter, I too am a “dinosaur” that has been involved with surveying for close to 44 years. My first job was as rodman on a surveying crew for the New York Central Railroad in 1965. For years I have asked “What happens when the batteries go dead or the power goes down?” Back in the day we used to leave the office to do a job with a suitcase full of function books, logarithm books, equation references, radius tables, spiral offsets, slide rule and countless other references. No radios, no cell phones, no electronic devices.

I have no problem with the new technologies. My son has taken over my surveying business and uses many of these technologies. I have every confidence that he could survive if the batteries went dead. But I am not sure the majority of the modern generation could handle a power failure. My experience with the old vs. new tells me the modern generation is not learning the important theories and practices of surveying. I don’t think many today learn or could describe the difference between “chord” and “arc” definition and their respective uses in railroad and highway calculations.

History will show, however, that the modern generation will look back years from now as we do today, and marvel at the newest technologies and declare the next generation unprepared.

*Michael J. Rodgers, LS
Bemus Point, New York*

Electronic Indexing System

It was with great interest that I read Leininger’s article on Digital Archives Storage [Dec 2008]. First of all, I created a survey storage filing system back in the early 1960s for an engineering and surveying firm in Melbourne, Florida that I thought was pretty good. It is still in use today and considerably larger, as I found out when reviewing the files for release to another surveyor.

Secondly, my firm needed electronic storage as the records were extensive (full of mortgage and township, range and sectional surveys) after the end of forty years. As I had acquired several older firms, I really needed an electronic indexing system for research. I ended up using the only electronic recording system that I could find on the market after months

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of looking at all the magazines in the market. Later I needed electronic drawing reference for my public relations efforts as I had retired (but just can't stay out of it). The reason for this was that the drawings I was working from were all hand drawn, created from 1962 to 1985. The remainder was already electronic drawings.

I obtained a bunch of TIFF files and some JPEG files from them to include in Word files that helped me create my public relation files for my web page. This allowed me to return the drawings to the purchaser of same when I retired. The TIFF files would print out correctly on my printer (at least up to 11" x 17") and plotter (up to 24" x 36"). They were quite large (up to 15 Mb), but the Word program did not have a problem with them. The JPEG files were quite small compared to the TIFF files, and looked good on the screen, but would not print well, and looked washed out, not sharp. I was using a Hewlett-Packard LaserJet 8100 printer, which would print the worst of files, a Hewlett-Packard 650 and 750 plotter.

The articles I was then writing were all changed from the JPEG files to TIFF files. However, the TIFF files could not be modified with the standard tools that came with XP Pro that is available to the surveyor and mapper. That was the problem—they could not be modified, at least like the drawings could be.

Therefore, I retained the drawing files (*.DWG) so I could modify (update) the drawings for up to ten years. If one were to keep the drawing files for a specific time period, you would have enough time to modify the drawings and update the drawings for the new client. I assumed that ten years would be sufficient. After that they were scanned by an outside firm and Deep Stored for future retrieval (Deep Stored meant that I did not expect to use them again except for reference purposes). The drawing file could be destroyed or zipped and stored on DVDs.

The storage system that I used for the drawing file was most efficient. The filing system had the first 200 file numbers for the firm's corporate accounts number requirements and the mortgage survey project number sequence. The firm project numbers were items like employee overhead time

(0010-0001: corporate duties), employee time not chargeable to a project time (0010-0010: secretaries, etc.), quotation sequence numbers (0050-0001 for the first one and 0050-0002 for the second number). The other numbers within the first 99 numbers were used, but need not be explained at this time (besides, each firm is different). This sequence allowed sufficient numbers for most anything the firm needed to accomplish.

The mortgage survey numbers would start at a project number of 0100 and go up from there until all the counties were reserved in alphabetical order (only 67 counties in my state). The true project number projects started at 200 and up (more on that later). One firm that I worked for had been in business for more than 50 years and their project numbers were only up to 2800 at the time, so I think the number sequence was large enough.

One of the ways I stored my files was to retain the mortgage subdivision location organization file name and store the drawings that way, by numbers. Non-recorded subdivision mortgage surveys received a standard project number from the 200 and up numbers; they were referenced by township, range and section numbers for my state. The first number in the file name was the project number, which I had started as the county name in alphabetical order (I did not survey outside my state). As stated above, this used up 67 numbers. This left the blank (un-assigned) numbers from the 0167 to 0199. They were retained for future county splits (however, the counties would no longer be alphabetical). The county number for my home county was 0108, so the mortgage survey number started out with a 0108 number.

The second item in this numeric sequence was the county's plat book number (used up to three characters as they hadn't even reached 100 in books yet). The third item was the plat book page number, which was also up to three characters, as the first three books each contained more than 100 pages. Also they may in the future, as more and more people get digital copies of the plat books and don't have to lift the heavy books to view them anymore. The fourth number was the block number into which the plat had numbered the lots. As the plats in my

county had blocks up to three digits, the block number was three digits long. The fifth number was the actual lot number of the lot that was under survey. The sixth number was the drawing page number (normally starting at zero).

The number was quite long and looked like the following:

0108-004-058-452-010-001.dwg

■ project number

■ recording plat book number

■ plat book recording page number
(sometimes with letter at end if more than one plat per page)

■ block number

■ lot number

■ drawing number *(starting at zero with letter at end to cover the revisions)*

The big advantage of such a sequence of numbering mortgage surveys was the drawings were already correctly sequenced as they were drawn. The indexing had already occurred. I didn't have to create multiple card files or electronic file indexing, etc. It was already done as long as they were kept in the same computer file directory. The operating system could handle the large numbering sequence as well. The only problem with the system as I found out was the relationship between the plat's name and the number sequence—there wasn't any. We had to learn that "such and such numbers" meant "such and such subdivision," but that wasn't that bad. Anyhow, it worked.

Your article actually only touched on digital archives in surveying. Of course, there's not much one can do in a page and a half on any subject unless you are President Lincoln.

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