



MINNESOTA

Summer 2023

Volume 31 • Number 3

SURVEYOR

INSIDE

9

Women Surveyors Summit

12

2023 Session Wrap Up for Minnesota Society of Professional Surveyors

17

Surveying in Early America

18

A Suggestion for PLS Monument Preservation Records Research

20

Surveying the Exteriors of Township 110 North Range 20 West of the 5th Principal Meridian

30

A History of Minnesota Statutes Dealing with PLS Monument Preservation

The Trimble® X12 Scanning System unites the best of both worlds with industry-leading hardware and Trimble's powerful, ultra-efficient Trimble Perspective software for guaranteed peak performance. No more complicated workflows. No complex registration process. No compromises in accuracy, speed, range, or imaging.



TRIMBLE X12

3D LASER SCANNING SYSTEM

ACCESSIBLE HIGH-END 3D LASER SCANNING SYSTEM WITH SUPERIOR SPEED, ACCURACY, RANGE, AND INCREDIBLE IMAGE CLARITY.

Want more information? Contact:

Frontier Precision | Minneapolis

10900 73rd Avenue North

Maple Grove, MN 55369

763.496.1366 | 877.698.3077

Frontier Precision | St. Cloud

446 Great Oak Drive

Waite Park, MN 56387

320.654.6511 | 800.944.8557

 **Trimble**
Authorized Distribution Partner



Minnesota Society of Professional Surveyors

an affiliate of NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS
AMERICAN CONGRESS ON SURVEYING AND MAPPING

MINNESOTA SURVEYOR

Minnesota Surveyor is the official publication of the Minnesota Society of Professional Surveyors. It is published quarterly and sent to members and similar organizations on a complimentary basis. Material published is copyrighted but may be reprinted without permission as long as credit is given to the MSPS *Minnesota Surveyor*. All material must be submitted by the deadline noted for each issue, and should be directed to:

EDITORS

John Freemyer
Roderick Squires

©2023 MSPS

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

MSPS 2022 OFFICERS AND DIRECTORS

President Kory Thurnau
President-Elect Virginia Winberg
Past President Chad Conner
Secretary Mike Smith
Treasurer Peter Oetliker
NSPS Director Marcus Hampton
Director Amanda Brustad
Director Nichole Dimick
Director Sam Gibson
Director Jay Wittstock
Director Jesse Zeig

Advertise in the Minnesota Surveyor!

More than 600 members of the surveying community in Minnesota read the award-winning *Minnesota Surveyor* magazine. Advertising in the magazine is a great way to reach that audience! Our online publication allows you to link from your ad to your website.

ADVERTISING RATES:

1/3 page
(4.5" wide x 4.75" high)..... \$120.00
1/2 page
(7.5" wide x 5" high)..... \$160.00
Full page
(7.5" wide x 10" high) \$300.00
SOLD Inside Front Cover-
(7.5" wide x 5.25" high) ~~\$410.00~~

SUSTAINING MEMBERS Receive a 20% Discount!

Contact the MSPS Office, info@mnsurveyor.com for more information. Send ads via email, preferably in high-resolution pdf format and in color, to info@mnsurveyor.com.

INDEX

From the President.....5

Editor's Comments6

MSPS Summer Meeting8

Women Surveyors Summit9

2023 Session Wrap Up for Minnesota Society of Professional Surveyors12

Surveying in Early America17

A Suggestion for PLS Monument Preservation Records Research18

Surveying the Exteriors of Township 110 North Range 20 West of the 5th Principal Meridian.....20

A History of Minnesota Statutes Dealing with PLS Monument Preservation.....30

Firm Member Directory35

Sustaining Members.....36

Peter W. Blethen, LS, Memorial Scholarship37

Minnesota Surveyor Upcoming Content Deadlines

Issue	Due Date	Publication Date
Fall 2023	October 1, 2023	October 2023
Winter 2023-24	January 1, 2024	January 2024
Spring 2024	April 1, 2024	April 2024
Summer 2024	July 1, 2024	July 2024

FROM THE PRESIDENT

KORY THURNAU



I hope this summer season finds you all busy with the work you enjoy! I also hope you all have also been able to enjoy some leisure and recreation in the great state we call home. When not at work I have been enjoying my time mountain biking many of our great singletrack trails across the state. I probably think more about mountain biking than surveying. Just being honest.

That said I am excited about the passing of the remonumentation legislation and the funding that will be available soon. I hope you all received and had time to review the email that came out from MnGeo and where they are at in the process of hiring a state survey coordinator as well as developing the grant program. I encourage any of you interested to pursue getting involved in the work one way or

another: <https://content.govdelivery.com/accounts/MNIT/bulletins/36289a5>

Virginia Winberg has taken the chair of the Public Relations Committee and the group has begun work to review and revamp the priorities and work of the committee. In part the goal is to be positioned and prepared for the society to represent you, our membership, and also promote and educate the public about land surveying in general as well as a career opportunity. There will be more to come about the work of the committee to come. If you are interested in participating on the committee, I highly recommend it, please reach out to Virginia.

Plans are on the way for our state fair booth in education building. This has been a very rewarding outreach for the surveyors who have volunteered in the past, and has been a great opportunity to share and educate people young and old about the land surveyor's work. Please consider volunteering and filling one of the booth spots. I am looking forward to a couple of shift and seeing the fair.

The board met in June and spent much of the time discussing the above events and plan to meet again in August at the summer meeting in Maple Grove. Hope you will consider and attend the meeting.

Take care and have a great rest of summer!

EDITOR'S COMMENTS

ROD SQUIRES, EMERITUS UNIVERSITY OF MINNESOTA

Remonumentation Legislation.

On May 24 2023 Governor Walz signed HF 1830 “An act relating to government operations; establishing a biennial budget; appropriating money for the legislature” into law.¹

Article 1 section 10 subd. (f) appropriated money,

(f) **Public Land Survey System.** \$9,700,000 the first year is for the grant program authorized by Minnesota Statutes, section 381.125, and for grants to counties to employ county technical staff to aid surveyors making land survey corners. Up to six percent of this appropriation may be used by the chief geospatial information officer for the administration of the grant program. This is a onetime appropriation and is available until June 30, 2027.

Article 2 section 111 added a new section to Minnesota Statutes 2022, section **382.125 Public Land Survey monument Program** which states,

Subdivision 1. **Grant program.** The chief geospatial information officer, through the Geospatial Advisory Council established under section 1630, subdivision 8, shall work with the stakeholders licensed as land surveyors under section 326.02, to develop a process for accepting applications from counties for funding for the perpetuation of monuments established by the United States in the public lands survey to mark public land survey corners, as provided in section 381.12, subdivision 2, clause (1). Grants may also be used to update records and data regarding monuments. The chief geospatial information officer must establish criteria for prioritizing applicants when resources available for grants are not sufficient to award grants to all applicants. The criteria must favor providing grants to counties that demonstrate financial need for assistance.²

Subd. 2. **Report.** By October 1, in each odd-numbered year, the chief geospatial information officer must submit a report to the chairs and ranking minority members of the committees in the senate and the house of representatives with jurisdiction over state government and local government. The report must include the following:

(1) a summary of the chief geospatial information officer activities regarding administration of this grant program for the previous fiscal year, including the amount of money requested and disbursed by county;

(2) an assessment of the progress toward completion of necessary monument restoration and certification by county; and

(3) a forecast of the amount needed to complete monument recertification in all counties.

Subd. 3. **Nonstate match.** No nonstate match is required for grants made under this program.

See also [PLSS Preservation Funding Approved](#), [PLSS Preservation Committee](#), [PLSS Preservation Committee Membership Deadline Extended](#).

Moratzka Decision.³

On March 29, 2023, the Minnesota Supreme Court overturned the Appeals Court decision [In the Matter of the Application of Timothy D. Moratzka, Trustee of the Nancy L. Mayen Residual Trust](#) and remanded the case to the district court in which the case was first heard “for further proceedings consistent with this opinion.”⁴ On June 30, 2023, following at a scheduling conference involving the parties in the suit, the Itasca District Court stated that it would hold a Review Hearing, on September 25, 2023. So, I am hoping that an article on the case will appear in the Winter issue of the magazine.

New Additions to the Public land survey records at the Minnesota History Center

The Minnesota History Society has added several new digital resources described in the finding aid; [Secretary of State: An Inventory of Its Land Survey Field Notes at the Minnesota Historical Society](#).

One new addition is an index created by the Minnesota Secretary of State's Office identifying where a specific section line can be found in the collection of field notebooks.

There are two indexes for the notes to the exterior boundaries of townships. 16 volumes each of which contains one or two pages on which is shown a portion of Minnesota [Land Survey Exterior Indexes](#). Conveniently there is also a [digital copy of a photocopy of these volumes](#).

The index to the township subdivision notes is, unfortunately not very useful. It consists of 758 “books,” each of which a number of pages on which there is a reference to the location of the subdivision notes of a particular township. But it is not clear to me how the “books” have been arranged so finding the notes of a particular township is impossible. In addition, the location of the notes is given with reference to the numbering system used by the Historical Society in an early attempt at microfilming the field notes rather the volume and page number of the particular notebook in the Secretary of State’s collection.

[Index to Island Land Survey Notes](#) is a digital copy of existing printed indexes that describe the public land survey location of various islands.

[Indian Reservations and Fort Ripley Military Reservation Land Survey Notes](#) is a digital copy of existing printed index,

Proposed Legislation

On April 21, 2023 five Republican Senators introduced [SF 3295](#), the “Reorganization of Counties Knowledge Study and County Organization Working Sessions Act.” The bill, if enacted, would establish a “State Boundary Adjustment Planning Commission” to study and recommend to the Legislature the best way for counties that border North Dakota and South Dakota to be separated from Minnesota and annexed into one of those states. On the same day, 20 Republican Representatives introduced a companion (identical) bill, [HF 3278](#), for the same purpose. Both bills were referred to the appropriate committees but no further action was taken on either of them. I draw your attention to the fact that the proposed legislation took the position that the counties were to be separated from Minnesota and the Commission’s responsibility was merely to recommend the best method for doing just that. With an acknowledgement to the Daily Reformer issued Sat. July 1, 2023 “The Weekly Reformer: New Minnesota laws go into effect today. Here are some kooky ones that will not.”

References

¹ This act will be cited as [Minnesota Laws 2023 Chapter 62](#). A note at the top of the web page notes “This document represents the act as presented to the governor. The version passed by the legislature is the [final engrossment](#). It does not represent the official 2023 session law, which will be available here summer 2023.”

² Emphasis in original. All additions made to the Minnesota Statutes by laws enacted by the legislature are underlined.

³ See my comments on page 6 in the last issue of [Minnesota Surveyor](#).

⁴ [In the Matter of the Application of Timothy D. Moratzka, Trustee of the Nancy L. Mayen Residual Trust](#) p. 19.

MSPS SUMMER MEETING



Maple Grove, MN | Sponsored by Chapter 6 | August 2 - 4

Prepare for networking events tailored for surveyors, a golf and disc golf outing, and a delightful happy hour reception. Not to mention, we'll be celebrating MACS' 40th Anniversary!

Boost your expertise with three informative technical sessions, offering a total of 3 PDH's. You'll dive into cutting-edge topics like the latest advancements in laser scanning workflows and data extraction techniques with Exploring Trimble X9 and TBC. Learn invaluable insights and tips for successfully applying for a PLSS Grant with Simplifying the PLSS Grant Application Process. And discover the historical significance and development of roads within the Minnesota Territory with Unveiling the Roads in the Minnesota Territory.

This is an opportunity you can't afford to miss! Expand your knowledge, forge new connections with industry professionals, and have a blast doing it all. Don't wait another moment—register now for the 2023 Summer Meeting with Chapter 6! Next week will be here before you know it, so secure your spot today!

[Register Today!](#)

WOMEN SURVEYORS SUMMIT

ANNA RIOS, RPLS



In case you missed the news, the Women Surveyors Summit is coming to Minnesota and there is a little story behind it!

Once upon a time, a small-town girl living in the big city of Austin, Texas decided to get on a plane to Minneapolis to see her fellow young surveyors from across the country. It was not something that she would typically do, but she had just accepted the role as State Representative for the Texas Young Surveyors. The Texas Society of Professional Surveyors would cover the travel expenses for their representative to attend one of the national Young Surveyors Network meetings per year. So, with this

new role, and the opportunity to connect with other young surveyors, this small-town girl set out on an adventure that would unknowingly become the start of an idea that formed the Women Surveyors Summit.

That's the beginning of the story, but here is why it is important. On average, women make up approximately 3% of the surveyors across the United States. In many of the states, that percentage is even lower with some as low as 1%. Often it is difficult for women to feel accepted or a part of the surveying profession. I'll share a little more about my own journey and how the Summit was formed.

As a woman in the surveying profession, I always felt a certain intimidation when attending any of the professional organization meetings. Many in our profession, including myself, naturally lean towards being more introverted which can keep both women and men from connecting or taking that first step towards introductions in a professional setting.

Often, I was the only woman in the room. This can make connecting with others even more difficult. When you are the only woman in a room full of men, many feelings can come up on both sides. The woman may not feel comfortable walking up to a group of men who are already in conversation or who clearly already know each other. The men may not feel comfortable walking up to and welcoming the woman because they don't want to make the woman feel uncomfortable or they are unsure how to start the conversation. Much of the time, the assumption was that I was a surveyor's wife or secretary or even someone who worked at the event. When I would say that I am a surveyor, often it was responded to in surprise and at other times curiosity with questions of how I got into surveying.

When I began attending meetings on the State level, I would see a handful of women who had been in the profession much longer than me and I was too shy, intimidated, anxious or self-conscious to participate. These were highly respected women who had made a name for themselves, and I would freeze up when it

WOMENS SURBEYOR SUMMIT

came to being around them because I was so inspired and in awe of their impressive careers. I worked for two different women-owned survey businesses during my career and initially inspired to become a surveyor while working for the first woman licensed in the State of Texas. All of this to say, I had every opportunity to feel accepted and a part of the survey profession, but I somehow still did not feel that I belonged in this wonderful career that I had chosen so many years before. This all changed when I went to Minnesota for the North American Young Surveyors Network meeting, held in conjunction with Minnesota's Annual Meeting in February of 2016.

There's something special about Minnesota and the women surveyors in both Minnesota and Wisconsin. For the first time since I began my surveying career back in 2001, I finally felt like I was accepted and that I truly belong in this career. 15 years in the profession... It took that long for me to feel connected. The ladies in attendance, made me feel so welcomed and were truly excited to see other women in their profession. They were warm and inviting to the women who attended the meeting, sharing their passion for the profession. It was inspiring and refreshing and, in that moment, I knew I wanted all women to feel the same acceptance in the surveying and geospatial world.

Minnesota holds a significant role in the Summit because it was the inspiration and reason behind the development of the Women Surveyors Summit. It was where the idea formed to have a conference for women by women to share the feeling that I felt from the women who welcomed me in Minnesota. It inspired not just myself, but the other ladies in Texas that I shared my story with. These Texas women helped create the 1st Summit in 2019. They led TSPS to host and assist the event. Without the women of Minnesota, Wisconsin, and Texas, the first summit would never have taken place.

At the first Women Surveyors Summit in Austin, we started small because we didn't know what kind of response we would get. We had to double the number of registrations and still sold out within 3 days. It was clear that this was something that had interest. During that Summit, the atmosphere was unlike anything I had ever seen at a conference. Women came together from across the nation to share stories and advice, gaining support and friendships along the way. It was clear that the Summit filled a need for women in the survey profession to connect.

Due to the pandemic, we did not have a Summit in 2020, but held a virtual conference with small breakout sessions in 2021. Then in 2022, we held our 3rd Summit in Virginia, where we held a Panel Discussion and an Enneagram Session that taught us more about personality types and how we can self-reflect on our own personalities to work with others around us. It was educational and inspiring. We had a historic tour of Colonial Williamsburg and a late night social where the attendees could build connections.

I am so excited to return to Minnesota where this idea began, and I can't wait to see all the women surveyors from across the country there! I hope to see all the Minnesota and Wisconsin women who attended the meeting that inspired the Summit and for them to see how they have made a difference, not only to this small-town girl from Texas, but to women across the nation.

Fun Fact: In 2016, it was in the 60's in Austin and when I landed in Minnesota, there was a temperature of 8 degrees, snow, and a windchill below 0. Another fun fact: This small-town Texas girl was born in North Dakota during a late spring blizzard and loves the beauty of glistening snow, preferring snowy mountains to sandy beaches for vacations.



Women Surveyors Summit Sponsorship Opportunities

October 19th – 22nd, 2023

The Women Surveyors Summit, hosted by the Future Surveyors Foundation, is held to support and promote diversity in the land surveying profession by bringing the women of land surveying together for continuing education and networking opportunities.

The Future Surveyors Foundation is a 501(c)(3) corporation and your sponsorship donation may be tax deductible. Donations will be used to support Foundation activities.

Join the Women Surveyors Summit attendees for our Friday Happy Hour to celebrate YOU, our sponsors, and the achievements the Foundation has made growing the Women Surveyors Summit with your support.

Event Sponsorship Levels

- ☐ Platinum Sponsorship\$3,000
 - Large logo on attendee gift bag, event signage and itinerary
 - Recognition on Future Surveyors Foundation website and social media
 - Provide swag item for attendee gift bag, optional (see website for suggestions)
 - 5 tickets to the Friday Happy Hour
- ☐ Gold Sponsorship\$2,000
 - Large logo on event signage and itinerary
 - Recognition on Future Surveyors Foundation website and social media
 - Provide swag item for attendee gift bag, optional (see website for suggestions)
 - 3 tickets to the Friday Happy Hour
- ☐ Silver Sponsorship\$1,000
 - Small logo on event signage and itinerary
 - Recognition on Future Surveyors Foundation website and social media
 - Provide swag item for attendee gift bag, optional (see website for suggestions)
 - 2 tickets to the Friday Happy Hour
- ☐ Bronze Sponsorship\$500
 - Name listed on event signage and itinerary
 - Recognition on Future Surveyors Foundation website and social media
 - Provide swag item for attendee gift bag, optional (see website for suggestions)
 - 1 ticket to the Friday Happy Hour
- ☐ Ala Carte Sponsorship Opportunities, available upon request
 - Unique sponsorship opportunities
 - Additional tickets to the Friday Happy Hour

Sponsorships must be submitted by **September 1st, 2023** to receive recognition.

Please send logo to admin@futuresurveyors.org

2023 SESSION WRAP UP FOR MINNESOTA SOCIETY OF PROFESSIONAL SURVEYORS¹

PHIL RAINES, PREVAILING WISDOM, LLC



Prevailing Wisdom, LLC Business Lobbying & Consultation

This year was a great year for the MSPS at the Minnesota Legislature. For the first time ever, we were able to secure funding for the remonumentation of the public land survey system (PLSS). In the 1960s the MSPs began the quest for a statewide remonumentation program because of the slow deterioration of the land survey system following its installation during the early statehood and territory phase.

In total, we were able to secure \$9.7 million for the remonumentation program. While the appropriation is available in the first year, it can be accessed until June 30, 2027. The initial ask for \$22 million over two years was a stretch goal, and we were very lucky to approximately 40% of the total.

The goal is to increase the appropriation and make it a recurring appropriation, a worthy and lofty goal. In total, we estimate a need of approximately \$300 million over thirty years to bring the PLSS up to current standards.

Last year, an initial bill was drafted to spur remonumentation, and included ongoing funding for the next 30 years. This move was seen as too ambitious by legislators, and prior to the beginning of the year, the decision had been made to ask only for a four-year appropriation to fit within the four-year budget targets. The bill, introduced by a minority member of the house and a minority member of the Senate, did not receive a hearing. However, a small appropriation was garnered through the Legislative-Citizen Commission on Minnesota Resources (LCCMR).²

Authorship

This year, MSPS hired Prevailing Wisdom, LLC in January to help spur legislation for the monumentation program. One of the first acts we took this year was to move the proposed legislation to chief authors who are majority members. The 2022 election put the DFL in charge of both the House and Senate. Additionally, we set as a priority that we should have bipartisan support of both bills. This move helps in fostering goodwill and demonstrates the bill will not be a political liability if the majority moves it.

In the House, Representative Freiberg (DFL-Golden Valley) showed a strong interest in the bill, noting that he is an avid geocacher. He was familiar with the public land survey system and appreciated the importance of it. He was eager to take on the bill and has been a great friend to surveyors. I am hopeful that he will sponsor our legislation in future sessions.

Representative Paul Anderson (R - Starbuck) was our second author in the House and was previously the chief author. Rep. Anderson was familiar with the legislation but understood that the DFL majority

required a different chief author. If partisan control were to switch, he would be a good chief author. It is worth considering that he does not currently sit on the state government finance committee, and so it may be wise to seek a new Republican chief author from the committee.

In the Senate, Anne Johnson Stewart (DFL – Plymouth) was the chief author last year. The bill did not get a hearing last year partially because the DFL was in the minority. With the new DFL majority, she would have made a great author, but she did not run for reelection. Consequently, the hunt began again. This search took longer than hoped for because the DFL had a very active agenda, and majority senators had many bills to carry.

We were lucky to find Senator Jim Carlson (DFL - Eagan) to be our chief author. Previously he served as an engineer for 3M, and more recently worked as realtor. Both jobs provided some direct knowledge of the land survey system. He is seen as one of the more moderate members of the Senate DFL and is a member of the state government finance committee in the Senate. We are hopeful that he will continue to sponsor the effort.

Senator Mark Koran (R-North Branch) served as our second author in the Senate. Although he doesn't have a strong connection to the issue, he is a member of the State Government Finance Committee. MSPS and Prevailing Wisdom will work to either strengthen his knowledge of the issue or find a more suitable GOP senator.

Committee Challenges

The biggest challenge in passing this bill was a fight against inactivity and other priorities. With a short lead time to build support and find key authors, it was a quick uphill fight to get the bill heard. We were strongly helped by the massive budget surplus this year.

One of the initial problems in getting the bill up and running was having the bill drafted in its current form. It is useful to work ahead because once legislators are at the capital in January the revisers office becomes very busy. It took about four weeks just to get the bill drafted. Even while the legislation was being drafted, I began meetings with members of the State Government Finance Committees in the House and Senate, both to build support and identify authors.

With the exception of a senator or two, there was little opposition from any of the members on the merits. The big problem was finding a substantial amount of money available for this project when there are many other competing proposals. Republicans are more interested in tax cuts than further spending while Democrats have many other competing funding goals including education, healthcare, and numerous other programs.

In the end, we were able to secure a full hearing on the legislation in the House State Government Finance Committee on March 3rd. The committee was well prepared on the legislation and had generally positive comments from both the DFL and GOP members. The bill was laid over for inclusion in the State Government Finance Omnibus bill. It was later included in that exact committee bill.

In the House, we found a great deal of support from the Chair of the State Government Finance Committee. Rep. Ginny Klevorn (DFL - Plymouth) was familiar with the topic already. One great advantage is that her son is a geocaching fan and is well familiar with the issue. Additionally, Vice Chair John Huot (DFL - Rosemount) is also a realtor and is familiar with the PLSS issue. The GOP lead, Rep. Jim Nash (R-Waconia) studied geography in college and was an easy sell. He remains skeptical of the cost but may be a reliable

2023 SESSION WRAP UP FOR MINNESOTA SOCIETY OF PROFESSIONAL SURVEYORS

author if the GOP goes into the majority.

The Senate ran out of time to hear the bill. This situation was very unsettling, since it is typically a necessary step to have a basic hearing on the bill before it was included in the final bill. With continual pressure and inquiries, we were told by staff that the hearing in the House was enough. In the end, the Senate included out provision in the Omnibus bill without a formal hearing.

The Senate committee was led by Sen. Erin Murphy (DFL-Saint Paul) who was supportive in the end of the legislation; however, she has not expressed a strong opinion on the bill. In the end, she fully funded it in her omnibus legislation, and that is most telling. Bruce Anderson (R-Buffalo) is the Republican lead. He is not opposed to the provision per se but has reservations about overall spending targets. More engagement with Sen. Anderson is advisable.

In general, support in the Senate is not as strong as in the House. We must devote extra effort in future sessions to the upper chamber.

Subsequent Committee and Floor Action

The remonumentation provision was barely mentioned in other committees as the Omnibus bill made its way forward. It was included in a few comments on the House floor but was not substantively discussed. In the Senate, there was a five-minute complaint by Senator Steve Green (R-Fosston), but no response was made. Sen. Green recently had a bad outcome from a surveying project on his land and feels that PLSS remonumentation will cause more problems for landowners. His challenge is directly in opposition to the fundamental nature of surveying, and it is going to take time to alleviate his opposition. Fortunately, his concerns are not widespread.

The bill passed each House on a partisan basis, which had little to do with our provision. In conference committee, our provision was outlined but not substantively discussed. While Prevailing Wisdom staff worked the issue behind the scenes to ensure we were included in the final draft, larger budgetary issues forced the cut from \$22 million to \$9.7 million. Essentially, the chief authors had not planned to give the full amount from the start but were keeping the number large so that they could have negotiation room. This development was not unexpected, and the final number was generally regarded at the Capitol as surprisingly large at the end.

There was one bit of a controversy that the PLSS remonumentation committee asked that instead of two funds (one for remonumentation, and one for county staff) be consolidated into one fund that could be used for either purpose. While the Senate was willing to make the change, the House felt the ask was too late. The Senate held up the bill for a bit to get this and other changes, and the lobbyist made certain that we aren't marked as a problem by House managers for forcing the issue.

Future Challenges

Threats to the remonumentation program in the future include:

- Budget cuts due to overall recession,
- Changes in legislative makeup,
- Opposition from certain legislators, and

- Lack of strong Walz Administration support.

We can take steps to mitigate these concerns.

With the current appropriation in place MSPs should move as quickly as possible to implement the program and encumber the funds so that they are not subject to later budgetary rescissions. Money that is “out the door” cannot be taken back. Additionally, quick payments will note the need and capacity for grants.

While we cannot shape the overall budget environment, it is important to continue to find alternative sources of funding including dedicated funding sources set by fees or specific taxes. Building support for these concepts with partner organizations, and with legislators will help if budget problems arise. Currently support for a fee on title recording makes the most sense but is strongly opposed by the county recorders association. Moves to identify an alternative source or mitigate opposition to county fees would be very useful.

MSPS should also consider possible changes to the legislative environment to work to make our legislation immune to partisan control. This involves developing long term relationships with members of both parties, including specific individuals who are likely to become chairs of the State Government Finance committees. Currently, the retirement, death, appointment to a higher office, or other situation involving only one DFL Senator could flip the partisan control of that chamber.

Currently, the only real opposition to the legislation came from Sen. Green and certain GOP friends. Green feels that surveyors are “moving the lines,” and should respect sales made on subjective concepts of where the lines were. While this goes against federal and state laws, and would be a chaotic rubric, he is set in his thoughts. In addition, there are a trio of legislators, Senators Glenn Gruenhagen (R-Glencoe), Cal Bahr (R-East Bethel), and Steve Drazkowski (R-Zumbrota) who work as a sub-caucus and are skeptical of the legislation. Bahr is persuadable, and Drazkowski is not engaged on the issue. Work with these two could limit the spread.

Identifying strong GOP advocates will also help to minimize this threat.

Finally, we should work to expand ties with the Administration. While the Walz Administration certainly did not oppose the program and did support the provision in the final bill, it was not included in the Governor’s proposed budget. As with legislators, we need to develop the administration as “superfans” of the PLSS remonumentation program. This effort needs to come in three forms: outreach to the Governor’s office, building ties with MNIT and MNGEO personnel, and building ties with the regulatory committee: the Minnesota Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience and Interior Design. All require time and engagement by surveyors and lobbyists.

Policy Ideas to Address

Big policy ideas that formed the basis for opposition include:

- Concerns about workforce. Some legislators are worried that there are not enough surveyors to complete the \$300 million PLSS remonumentation program. We must work to gather information showing sufficient capacity, to demonstrate – through the first grant programs – that the workforce exists, and to work with the higher education community to provide more training opportunities.
- Concerns about feather-bedding by counties. Some legislators fear that counties are

2023 SESSION WRAP UP FOR MINNESOTA SOCIETY OF PROFESSIONAL SURVEYORS

substituting state funds for locally generated funds, or that the appropriation can be used to buy unnecessary equipment. Details of the grants made under the existing appropriation should help, but we must work with our county associates to mitigate these concerns.

- Concerns about additional property line conflicts caused by remove monumentation. The biggest on-going concern is that remonumentation will generate new property disputes. While the remonumentation may generate some issues, it will solve long-term problems and avoid future problems. It is vital that we work with the legal community to demonstrate that we are a net positive in this area.
- Overall cost issues – To remonument the entire state will cost \$300 million. We must be able to demonstrate that there is a net savings to the state and landowners by remonumentation. As a basic service, the PLSS is somewhat immune from this argument, but every program is judged on its return on investment. There are opportunities through taxation rates and avoided land disputes to fulfill this requirement.

The remonumentation committee has worked on these issues in the past and should continue to work to develop policy papers and online resources to combat the specific questions involved.

Summary

MSPS and Prevailing Wisdom, LLC teamed up this year for the first time, and had an historic success: The first statewide funding for remonumentation in over 50 years of efforts. We accomplished this goal with steady work, a bit of inside knowledge, and an \$18 billion budget surplus.

The first effort was quite successful, but if we are going make the funding on-going into the future, our plan must include:

- Develop long-term partnerships with legislators and Administration officials. The Meet-Me-At-the-Corner program is a good start. Targeted meetings with individuals are strongly advised.
- Mitigate problematic legislators. Working to “circle” the legislators and isolate their influence is the key, along with efforts to educate and address those legislators’ concerns.
- Address policy questions. The PLSS remonumentation committee did a great job setting up a website and developing marketing materials. It is important that we continue to develop these materials in response to on-going questions.
- Develop alternative funding sources. It is unlikely that state General Fund dollars will always be available. A plan to take these items “off-budget” is key to long-term funding.

References

¹ The article was written by Phil Raines, the [President of Prevailing Wisdom, LLC](#)

² “Improving Statewide GIS Data by Restoring the Public Land Survey” awarded to Pat Veraguth representing the Minnesota Association of County Surveyors see https://www.lccmr.mn.gov/projects/2019/finals/2019_o3m.pdf. For an account of the work finding one monument during that work see “Finding Corner Monuments in Minnesota” published in [Minnesota Surveyor vol. 29 no. 4 \(Fall 2021\)](#) 14-21.

SURVEYING IN EARLY AMERICA

A MESSAGE FROM MSPS MEMBER PETE JENKINS

[SURVEYING IN EARLY AMERICA](#) by Dan Patterson and Clinton Terry

A MSPS Life member asked me if there was some way to share this book with other MSPS members because he enjoyed the read. I would consider this a coffee table staple for any surveyor and we offer this to the membership for a brief period of time. The book is artfully done, full of stories, sketches and re-enactment photos.

Here is what we propose; for the next few months we will collect names, email addresses and hometown locations. I will do my best to geographically prepare a list. I will share the book and list to the first person and they can enjoy it for approximately one month. At that point, the current holder of the book and list will contact the next person and make arrangements for its safe transfer.

I am told that this book is available on line, so should you care to purchase a copy, feel free to do so. This is a soft cover book and there is always the potential for it to get banged up. The original owner is not asking for its return, only wishes people to enjoy the book and that it be shared with the surveying community.

If you are interested in reading this book, please send contact information to Peter Jenkins at jenkoo96@umn.edu.

Additional Information about the recently- published book.

[Surveying in Early America The Point of Beginning, An Illustrated History](#)

In *Surveying in Early America: The Point of Beginning, An Illustrated History*, award-winning photographer Dan Patterson and American historian Clinton Terry vividly examine the profession of surveying in the eighteenth century. Retracing the steps Washington and other surveyors took to map the Ohio River Valley, readers are immersed in historically accurate details of early surveying techniques and practices. Terry's narrative describes the practice of land and survey measurement—methods that did not substantially change until the invention of GPS technology 200 years later. Over 100 full color photographs exclusively shot for the book depict authentic and historically accurate reproductions of tools along with early American reenactors to provide an interpretive look at surveying as a primary means to building the American nation. Working with the Department of the Geographer, Patterson restages actual expeditions, brilliantly displaying the techniques and instruments Washington would have employed 260 years ago. Through the lens of Patterson's camera and Terry's accompanying narrative, readers see what Washington saw as he learned his trade, explored the vast American wilderness, and occasionally laid personal claim to great expanses of land along the way.

[Surveying in Early America: The Point of Beginning, An Illustrated History.](#)

[Review: Surveying in Early America.](#)

[Surveying in Early America. The Point of Beginning, An Illustrated History.](#)

[Surveying in Early America](#) – A presentation by the authors, Dan Patterson and Clinton Terry to the Filson Historical Society of Kentucky June 13, 2022 YouTube.

A SUGGESTION FOR PLS MONUMENT PRESERVATION RECORDS RESEARCH

JOHN E. FREEMYER, RETIRED CARVER COUNTY SURVEYOR

Before ever going in the field to restore a missing PLS corner monument, become familiar with everything that can be determined from the appropriate GLO plats and notes. Next determine whether any records exist dealing with any early restoration efforts. Often times that may include field notes and drawings that may be located in the office of a county surveyor or county engineer. In some cases records of old-time land surveyors provide invaluable information.

An area for possible records that is sometimes overlooked is the office of county recorder. The 1875 law dealing with the “Re-Establishment and Re-Location of Section Posts and Boundaries” contained a provision that stated the surveyor charged with restoration efforts of PLS corners: “shall keep full and accurate notes thereof, and shall file a certified copy of the same in the office of the register of deeds of said county.”¹ If any such notes were ever preserved with by the register of deeds (county recorder) searching for them should not be considered a “needle in the haystack” proposition. In most cases such notes would have been indexed in the “Miscellaneous Records” index for the time period of suspected work.

Here’s a case study. In 1880, John Brunius, Carver County Surveyor was directed by the County Board of Commissioners to restore deteriorating section corner posts with stone monuments. The majority of those stone monuments survived well into the twentieth century and some still mark section corner locations today. Sometime during the 1960s, the County Board of Commissioners authorized a gradual effort to restore section corners, quarter-section corners and meanders corners. Various county surveyors between 1960 and 1995, were aware of the stone markers at section corner locations, but no one was sure of who set them. Finally in 1995, a county recorder clerk wandered into the county surveyor’s office with an old archive box containing the old field notes of John Brunius. Years earlier a search of the “Miscellaneous Records” index would have revealed the fact the notes had been preserved. The research time may be well worth it!

References

¹ [Minnesota Laws 1875 c. 33.](#)



CONFIDENCE

Certified.

NSPS
CST

CERTIFIED SURVEY TECHNICIAN

**No matter what the future holds,
prepare to meet challenges head-on.**

Future-proof your resume by becoming
a Certified Survey Technician (CST).

This unique four-level program
indicates official recognition by
NSPS that a person can perform
tasks at a specific technical level.
Show what you can do! Decide
between the office or field track.

cstnsps.com

+1 (240) 439-4615 Ext. 112

JOIN THE FAST TRACK!

All-new quarterly online classroom at **learnCST.com**



SURVEYING THE EXTERIORS OF TOWNSHIP 110 NORTH RANGE 20 WEST OF THE 5TH PRINCIPAL MERIDIAN

ROD SQUIRES, EMERITUS UNIVERSITY OF MINNESOTA

Prolog

This article was prompted by a slide that purported to show how the exteriors of T.110N R.20W of the 5th Principal Meridian were run and marked. (Fig. 1) The slide was used in a presentation on legal descriptions and so, to be fair, the speaker was not interested in describing the actual operations involved in running and marking these particular lines. But, since many of my oral presentations and printed articles have suggested that such generalisations may not be accurate, presenting a very simplistic view of the field operations undertaken by the deputy surveyors, and should either be avoided or used with some caveats, I feel a comment is in order. This article merely uses the slide as an illustration of my concerns about generalizations that have been made, and continue to be made, about the public land survey operations.

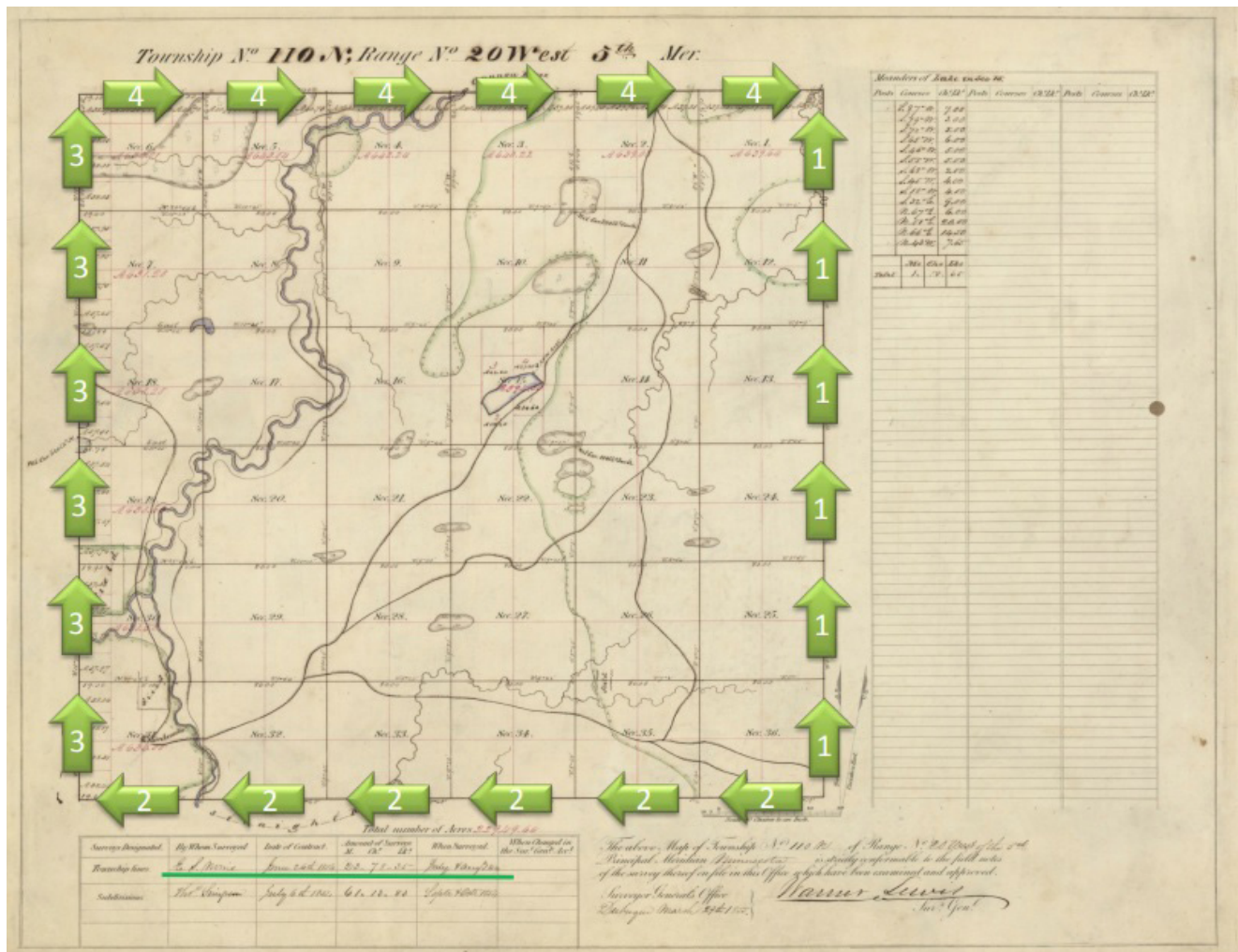


Figure 1. Slide showing the sequence in which the exteriors of T.110N R.20W were run and marked.¹

Introduction

In an earlier article I stated,

Each rectangular land survey line in Minnesota begins at a corner and runs either north, south, east, or west – often at half-mile intervals ... – and ends at another corner. Each line segment and each corner is relative to, in fact dependent upon, the location of a previously-run half mile segment of line and a previously-established corner. The sequence in which the line segments were run and the corners established by individual deputies, each operating under instructions contained in their contracts, is a neglected feature of the historical geography of the rectangular land surveys in Minnesota. Anyone interested in the lines and corners in an area, or even a particular line segment or corner, should be aware of the sequence in which the lines were run and the corners monumented. (T)he lines and corners in each township were dependent upon the lines and corners in previously-established adjacent townships – and so to understand how the lines were run and corners established in any one township requires we look at how the lines were run and the corners established in other townships. The only way to do this is to examine the field notebooks of individual deputies in an attempt to reconstruct the sequence in which each ran the lines and established the corners.²

Thus, the survey of the four exterior lines of a particular township must be viewed in the context of the other line segments that the particular deputy was contracted to run and mark. What follows is a description of how the exterior lines of T.110N R20W of the 5th Principal Meridian were run and marked using data from the [Bureau of Land Management General Land Office Records digital database](#) (BLM GLO). (Fig. 2)




<u>Survey</u>	<u>Approved / Accepted</u>	<u>State</u>	<u>Meridian</u>	<u>Twp - Rng</u>	<u>Boundaries / Subdivisional</u>	<u>County</u>		<u>Field Notes</u>
Original Survey	3/29/1855	MN	5th PM	110.0N - 020.0W	Subdivisional, Meanders	Rice		I5296
Original Survey	3/29/1855	MN	5th PM	110.0N - 020.0W	S	Rice		E5048
Original Survey	3/29/1855	MN	5th PM	110.0N - 020.0W	N, E, W	Rice		E5049, E5050

Figure 2. Search Results T.110 N R.20W

The Field Notes of Elisah S. Norris

The exteriors of the township were run and marked by E. S. Norris in July and August 1854 under his contract dated June 24, 1854.³ (Fig. 3) The township was subdivided by Thomas Simpson, under a contract dated July 6, 1854, from September 27 to October 9, 1854, see BLM GLO vol. [I5296](#). The township plat was approved by Surveyor General Warner Lewis on March 9, 1855. (Fig. 4). His notes, describing how he carried out his contract, can be found in three notebooks. (Fig. 5)

SURVEYING THE EXTERIORS OF TOWNSHIP 110 NORTH RANGE 20 WEST OF THE 5TH PRINCIPAL MERIDIAN

Range Total number of Acres *22949.66*

Surveys Designated.	By Whom Surveyed	Date of Contract.	Amount of Surveys M. Ch. ^s Lk. ^s	When Surveyed.	When Charged in the Sur. ^t Gen. ^l Acc ^t
Township lines.	<i>E. S. Norris</i>	<i>June 24th 1854</i>	<i>23. 78. 35</i>	<i>July 4 Aug 1854</i>	
Subdivisions.	<i>Wm^d Simpson</i>	<i>July 6th 1854</i>	<i>61. 13. 83</i>	<i>Sept 4 Oct 1854</i>	

Figure 3. Legend on Township Plat.⁴

The above Map of Township N^o 110 N. of Range N^o 20 West of the 5th Principal Meridian Minnesota is strictly conformable to the field notes of the survey thereof on file in this Office which have been examined and approved.

*Surveyor General's Office
Dubuque March 29th 1855.*

*Warner Lewis
Sur.^t Gen.^l*

Figure 4. Legend on Township Plat.⁵

Volume		Began	Ended	Certified	Title
E5048	Book 1	July 1	July 12	Sept 18	Township Lines in Minnesota Territory
E5049	Book 2	July 13	July 29	Sept 18	Standard Parallel No. 3 from the 2nd to the Third Guide Meridian and Township Lines in Minnesota Territory
E5050	Book 3	Aug 1	Aug 17	Sept 20	Town Lines in Minnesota Territory

Figure 5. Overview of Norris notebooks.

His notes of the south exterior are contained in BLM GLO vol. E5048 titled “Township Lines in Minnesota Territory Elisha S. Norris,” in which he described his work July 1– 13.⁶ The deputy ran and marked the township lines in 15 segments. (Fig. 6) The cover of the notebook, which contains the page number on which a particular line segment – one mile in length – is described, is not useful.⁷ Describing the country over which his line ran, he wrote;

The Townships in Ranges 18 & 19 are mostly Prairie having however a fair proportion of timber and water they are excellent farming land. Township 109 in Range 20 is mostly timber and having Straight River running through it from South to the North together its branches renders it a very valuable tract. The Other Townships are extremely marshy and are not valuable.⁸

Segment	BLM image	Note page	Description of Work
1	7-12	1-6	Began contract on Standard Parallel No.2, the line between T.108 and 109N at the corner between R.18 and 19W and ran north setting mile and half mile posts, ending the line by setting a post in mound to designate the corner to T.109-110N R.18-19W. July 1.
2	13-19	7-13	Random line east 480 chains, six miles, between T.109N and 110N from R.18W to the 2nd Guide Meridian, the line between R.17-18W, setting temporary mile and half mile posts. Corrected (true) line west back to the corner monument to T.109-110N R.18-19W. July 1-2.
3	20-25	14-19	North in T.109N between R.19W and 20W setting mile and half mile posts, and set post in mound for the corner to T.109-110N R.19-20W. July 3.
4	26-31	20-25	Random line east between T.109-110N R.19W setting temporary mile and half mile posts to an established township corner post and a corrected (true) line west, setting permanent mile and half mile monuments back to the corner to T.109-110N R.18-19W. July 3.
5	32-37	26-31	North in T.109N between R 20-21W setting mile and half mile posts and ending the line by setting a post in mound to designate the corner to T.109-110N R.20-21W. July 3-4.
6	38-43	32-37	Random line east between T.109-110N R.20W setting temporary mile and half mile posts to the established township corner post and a true line west, setting permanent mile and half mile monuments and ending by setting a corner monument to T.109-110N R.19-20W. July 4-5. This was the south boundary of T.110N R.20W
7	44-49	38-43	North in T.109N between R.21-22W, setting mile and half mile posts, ending by setting a post in mound to designate the corner to T.109-110N R.21-22W. July 5-6.
8	50-55	44-49	East random between T.109-110N R.21W setting temporary mile and half mile posts to the established township corner post and a true line west setting permanent mile and half mile monuments to the corner to T.109-110N R.21W. July 6.
9	56-61	50-55	North in T.109N between R.22-23W setting mile and half mile posts ending the line by setting a post for the corner to T.109-110N R.22-23W. July 7.
10	62-67	56-61	East random between T.109-110N R.22W setting temporary mile and half mile posts to the established township corner post and a true line west setting permanent mile and half mile monuments back to the corner T.109-110N R.22W. July 7.
11	68-73	62-67	North in T.109N between R.23-24W setting mile and half mile monuments and post for witness corner to T.109-110N R.23-24W July 8.
12	74-79	68-73	East random between T.109-110N R.23W setting temporary mile and half mile posts to the established township corner post and a true line west setting permanent mile and half mile monuments back to corner to T.109-110N R.22-23W. July 8-9.
	80	74	Page labeled "error."
13	81-87	75-81	Beginning in Guide Meridian No. 3 at corner to T.109-110N R.24-25W east random between T.109-110N R.24W setting temporary mile and half mile posts to the established township corner post. Ran west true line setting permanent mile and half mile monuments back to corner to T.109-110N R.24-25W. July 10.
14	88-94	82-87	North in T.110N between R.18-19W setting mile and half mile monuments and post for corner to T.110-111N R.18-19W. July 10.
15	94-99	89-99	East random between T.110-111N of R.18W setting temporary mile and half mile posts to the established township corner post. Corrected (true) west setting permanent mile and half mile monuments back to corner to T.110-111N of R.18W July 12, 1854 July 11-12.

Figure 6. [BLM GLO Records volume No. 5048.](#)

SURVEYING THE EXTERIORS OF TOWNSHIP 110 NORTH RANGE 20 WEST OF THE 5TH PRINCIPAL MERIDIAN

BLM GLO volume no. [E5049](#) contains the notes covering the work of the deputy between July 13 and July 29.⁹ Titled “Standard Parallel No. 3 from the 2nd to the Third Guide Meridian and Township Lines in Minnesota Territory,” it includes the notes of the east exterior of T.110N R.20W.¹⁰ Norris ran and marked the lines in nine steps. (Fig. 7)

Segment	BLM image	Note page	Description of Work
16a, b, c	4	1	Began on Guide Meridian No. 2, the line between R.17-18W, at the corner to T.113N R.17-18W the 5th Principal Meridian. ¹¹ Ran west on random line on the south side of T.113 N R.18, 19, 20, 21, 22, 23, & 24, setting temporary mile and half mile posts and at 42 miles 1.70 chains intersected Guide Meridian No. 3 at the corner to T.113N R. 24-25W on July 18. Ran a corrected (true) line east setting permanent mile and half mile posts. The notes of the corrected line between R.24-25W and R.21-22 have been crossed out, and on each page is a penciled note “see J. Ryan’s resurvey.” Norris continued his corrected line east on the south side of section 36 T.113N R.21W, setting permanent mile and half mile posts, ending back at Guide Meridian No 2, at the corner to T.113N R.17-18W on July 24.
	5-25	2-22	
	25-46	22-43	
17	48-53 ¹²	45-50	Beginning at corner to T.110-111N R.18-19W. Ran north six mile, setting permanent mile and half mile posts, and ended by setting a post in mound for corner to T.111-112N R.18-19W. July 24.
18	54-59	51-56	Random east between T.111-112N R.18W setting temporary mile and half mile posts and at 477.75 chs intersected Guide Meridian No. 2. West on a corrected (true) line setting permanent mile and half mile posts, returning to corner to T.111-112N R.18W. July 24-26.
19	60-65	57-62	North in T.112N between R.18-19W for six miles, setting mile and half mile posts to T.113N R.18-19W on Standard Parallel No.3 where he “erected mound with trench pits (sic) charred stake and Osage Orange seeds at each angle” as a closing corner to T.112-113N R.18-19W. July 26.
20	66-71	63-68	North in T.110N between R.19-20W for six miles, setting mile and half mile posts, ending by setting post in mound for corner to T.110-111N R.19-20W. July 25-26. This is the eastern boundary of T.110N R.20W.
21	71-77	69-74	Random east between T.110-111N in R.19W setting temporary mile and half mile posts and at 479.30 chains intersected range line to R.19-20W. West corrected (true) line, setting temporary mile and half mile posts, and back to corner to T.110-111N in R.18-19W. July 26-27.
22	78-83	75-80	North in T.111N between R 19-20W for six miles, setting mile and half mile posts, ending by setting a post in mound for corner to T.111-112N R.19-20W. July 27-28.
23	84-89	81-86	East on random line between T.111-112N R.19W setting temporary mile and half mile posts and at 478.38 chs intersected range line R.18W. West corrected (true) line setting mile and half mile posts back to corner post to T.111-112N R.-18-19W. July 28.
24	90-95	87-92	North in T.112N between R.19-20W for six miles, setting mile and half mile posts, intersecting the Standard Parallel No.3 at the corner to T.113N R.19-20W where he erected a post in mound as a closing corner. July 28-29.

Figure 7. [BLM GLO Records volume No. 5049.](#)

At the end of the notes deputy Norris wrote,

The tract traversed by the Standard Parallel is, the first 15 miles of it a rolling Prairie of good

quality. The ballance (sic) is a dense thicket of Brush with scattering timber and Marshes. The soil is generally rather poor. The tract embraced by the Township lines is mostly Prairie interspersed with timber, well watered and is valuable farming land.¹³

[BLM GLO volume E5050](#), labelled as Norris Book 3, contains the notes of field operations between August 1 and August 17, 1854.¹⁴ Titled “Town Lines in Minnesota Territory,” the index on the cover is a little more useful than on the other two volumes, but is very hard to read. It shows that the deputy completed his work in twelve steps. (Fig. 8)

Segment	BLM image	Note page	Description of Work
25	5-10	1-6	Began at the corner to T.110N R.20-21W and ran north six miles, setting mile and half mile posts, ending by setting a post for the corner to T.110-111N R.20-21W. August 1-2 This is the western exterior to T.110N R.20W.
26	11-17	7-13	Random line east between T.110-111N R.20W setting temporary mile and half mile posts and at 479.10 chains intersected R.20-21W. Corrected (true) line west, setting mile and half mile posts ending at the township corner to T.110-111N R.19-20W. This is the northern exterior to T.110N-20W. August 2-3.
27	18-23	14-19	North six miles in T.111N between R.20-21W, setting mile and half mile posts and ending by setting a post to corner T.111-112N R.20-21W. August 3-4.
28	24-29	20-25	Random line east between T.111-112N R 20W, setting temporary mile and half mile posts and at 478.50 chains intersected R.20-21W Corrected (true) line back to his starting point August 4-5.
29	30-35	26-31	North, in T.112N R.20-21W for six miles setting mile and half mile posts, intersecting Standard Parallel No. 3 where he set a post for closing corner to T.112N R.20-21W. August 5-6.
30	36-41	32-37	North in T.110N between R.21-22W for six miles setting mile and half mile posts, ending by setting a post to corner T.110-111N R.21-22W. August 7-8.
31	42-47	38-43	East random between T.110-111N R.21W setting temporary mile and half mile posts and at 478.50 chains intersected R.21-22W. Corrected (true) line west setting mile and half mile posts and ending at his starting corner. August 9.
32	48-53	44-49	North six miles in T.111N between R.21-22W setting mile and half mile posts and ending by setting a post for corner to T.110-111N R.21-22W. August 10.
33	54-59	50-55	East random between T.111-112N R.21W setting temporary mile and half mile posts and at 478.50 chains intersected a range line. Corrected (true) line west setting mile and half mile posts, ending at his starting corner. August 12.
34	60-65	56-61	North six miles in T.112N between R.21-22W setting mile and half mile posts, intersecting Standard Parallel No. 3, and setting a post for a closing corner to T.113N R.21-22W. August 13.
35	66-71	62-67	North six miles in T.110N between R.22-23W setting mile and half mile posts and ending by setting post for corner to T.110-111N R.22-23W. August 15.
36	72-78	68-74	East random line between T.110-111N R.22W setting temporary mile and half mile posts and at 479.00 chains intersected R.22-23W. Corrected (true) line west setting mile and half mile posts back to his starting point. August 16-17.

Figure 8. [BLM GLO Records volume No. 5050](#).

In his description of the country traversed, the deputy wrote

A large portion of this tract is marshy and covered with a thick growth of small brush rendering

SURVEYING THE EXTERIORS OF TOWNSHIP 110 NORTH RANGE 20 WEST OF THE 5TH PRINCIPAL MERIDIAN

its survey tardy and difficult and in consequence of which it is not well adapted to purposes of agriculture.¹⁵

Summary.

So, Norris ran and marked several township lines under the contract describe here, the lines describing the exteriors of T.110N R.20 were merely part of the contract and must be viewed in that context. (Fig. 9)

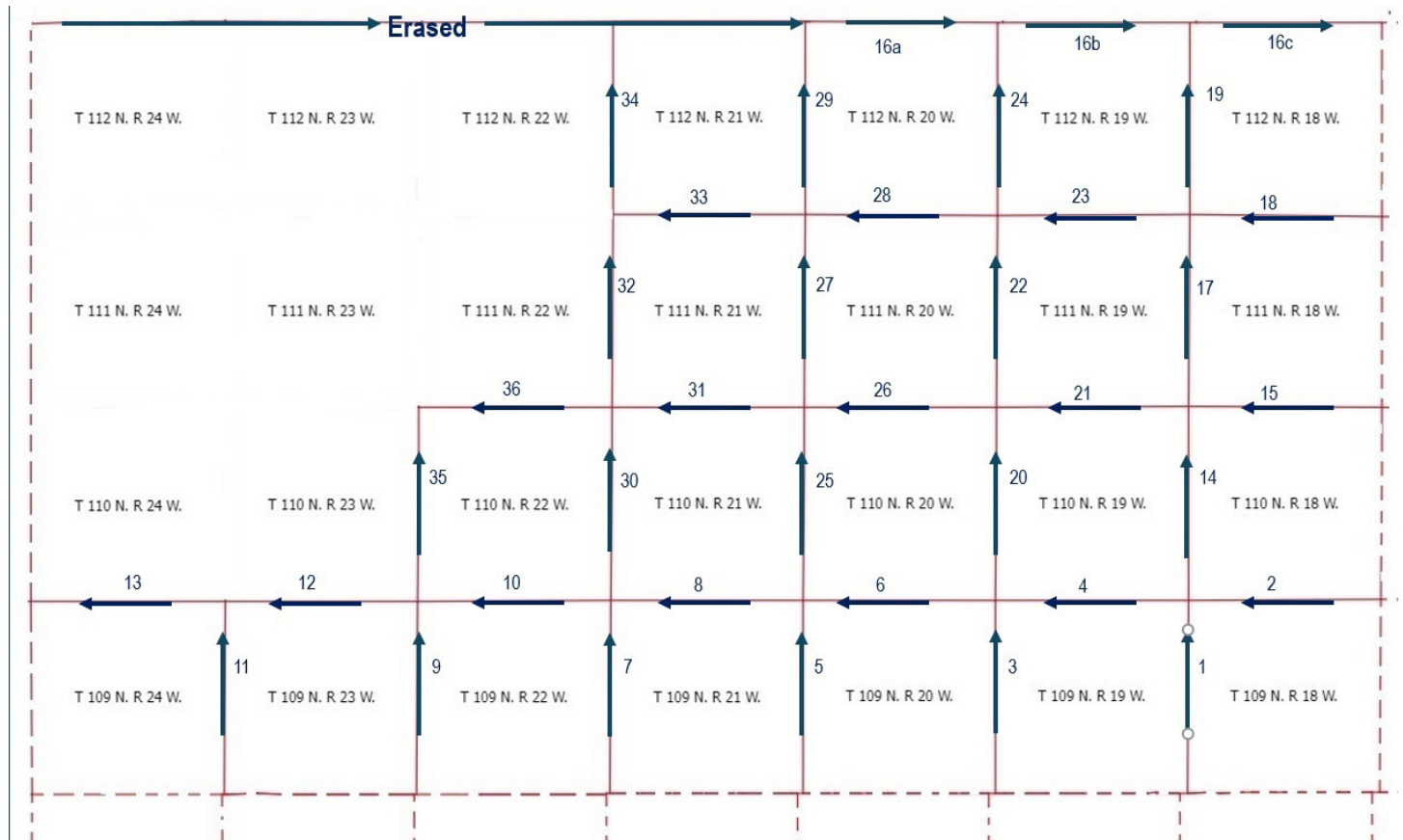


Figure 9. The Sequence and Direction of the Line Segments Run and Marked by Elisha Norris.¹⁶

He ran and marked the south exterior, the line between T.109N and T.110N R.20, on July 4-5; the east exterior, the line between R.19W and R.20W T.110N, on July 24-25; the west exterior, the line between R.20W and R.21W T.110N, on August 1-2 and the north exterior, the line between T.110N and T.111N R.20, on August 2-3. This sequence is quite different from the one depicted in Figure 1

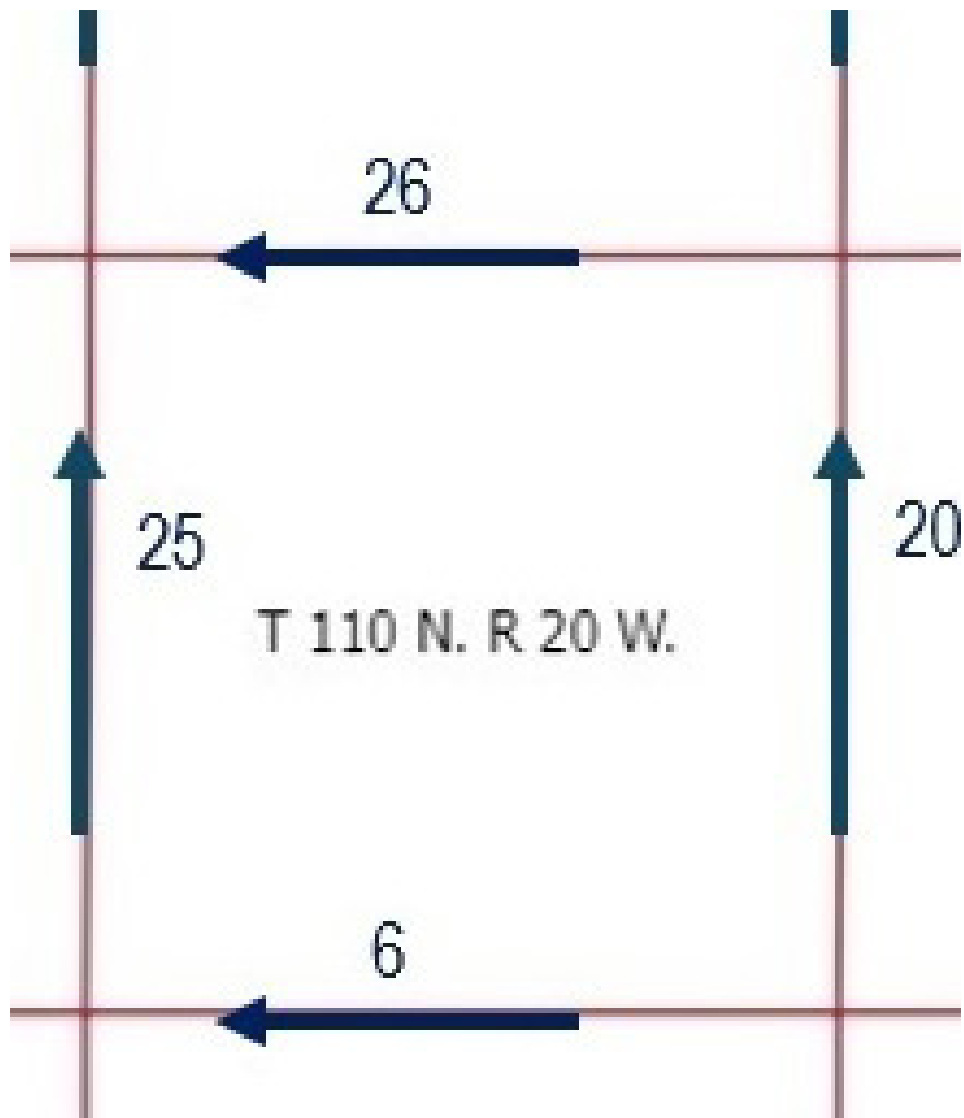


Figure 10. The Sequence and Direction in which Norris ran the Exterior Lines of T.110N R.20W.¹⁷

References

¹ I did not attend the presentation so I am presuming that the slide was meant to show the direction and the sequence in which each 6-mile segment of the township exteriors were run and marked. Clearly the slide is a copy of the image in the [Bureau of Land Management General Land Office Records \(BLM GLO\) digital database](#).

² “The Public Land Survey Lines in Carver County; Township Exteriors” [Minnesota Surveyor vol. 22 no. 3 \(Fall 2014\)](#) p.19.

³ I have not seen the contract awarded the deputy nor have I seen any special instructions he might have been given, so my article is based solely on the deputy’s field notebooks.

⁴ [BLM GLO](#).

⁵ Id.

SURVEYING THE EXTERIORS OF TOWNSHIP 110 NORTH RANGE 20 WEST OF THE 5TH PRINCIPAL MERIDIAN

⁶ [E5048](#) image 5.

⁷ See the condition of the cover [E5048](#). I will make reference to both the image number, given in the BLM GLO database and the page number of the volume given by the deputy, since the index on the cover of the notebook makes reference to the pagination given by the deputy.

⁸ [E5048](#) image 100 p.94. The notes were notarized by Surveyor General Lewis on September 18, 1854, image 102 p. 96. In my previous articles I have often stated that the Surveyor General certified the notes. I no longer think that “certified” is the correct word to use. I think the Surveyor General merely notarized the deputy’s affidavit that the notes were made “in strict conformity to the laws of the United States and the instructions of the Surveyor General” and that the notes “are the true and original field notes executed” as described in the notes. Surveyor General Lewis stated “Subscribed and sworn by the said Elisha S. Norris Deputy Surveyor before me at DuBuque (sic) this 18th day of Sept AD 1854,” see image 101-102 p. 95-96.

⁹ [E5049](#) p. 3.

¹⁰ Id.

¹¹ In the notes the Township was initially described as “North of Ranges” that was subsequently erased.

¹² [E5049](#) image 47 p.44 is blank.

¹³ [E5049](#) image 96 p. 93. The notes were notarized by Surveyor General Lewis on September 18, 1854 [E5049](#) image 97 p. 94.

¹⁴ [E5050](#) image 3 no pagination. The notes were notarized by Surveyor General Lewis on September 20, 1854, image 81 p.77.

¹⁵ [E5050](#) image 79 page 75. The notes were notarized by the Surveyor General on September 20, 1854.

¹⁶ The dashed lines were already run and marked.

¹⁷ Numbers refer to the numbers in Figure 9.

Benefiting Members and the Surveying Profession

The National Society of Professional Surveyors has an active government affairs program that protects the interests of the surveying and mapping professions in the federal legislative and regulatory arenas. Working with a government affairs consultant, NSPS monitors federal government activities that may be of interest and concern to our members. The consultant works closely with members of the NSPS Government Affairs Committee and our Executive Director to represent members' interests before Congress and Executive Branch Agencies.

Plus, we offer members these professional benefits:

Advocacy Programs

- Political Action Committee Jefferson Club (*contact NSPS to learn more*)
- Assistance on state-specific matters
- Other geospatial organizations, such as the International Federation of Surveyors (FIG) and the Coalition of Geospatial Organizations (COGO)

Education

- ABET-Lead Society for surveying/geomatics program evaluation for accreditation
- Scholarship Program: 15 annual awards

Licensing / Standards

- NCEES – Participating Organizations Liaisons Council
- ALTA/NSPS Land Title Survey Requirements
- NSPS Model Standards

Outreach Opportunities

- Trig-Star
- Boy Scouts Surveying Merit Badge
- National Surveyors Week
- Getkidsintosurvey.com
- Beasurveyor.com

Certification Programs

- Certified Survey Technician Program
- Hydrographic Certification opportunities
- Certified Floodplain Surveyor
- Certified Federal Surveyor

News and Networking

Check Out the NSPS Newsletter and Podcast

Sign up for the weekly email newsletter by visiting multibriefs.com/briefs/NSPS and clicking "subscribe." Listen to the Surveyor Says! podcast on Spotify, iTunes, and Google Play, or by going to surveyorsays.podbean.com.

Follow Us on Social Media



Member Discount Programs



Apparel

Buy NSPS apparel through Lands' End, including tops, bottoms, outerwear and accessories.

- business.landsend.com/store/nspsinc

Insurance

NSPS Endorsed Program

- Assurance Risk Managers
- 888-454-9562
 - Arm-i.com/nsps.html



Individual Life & Health Insurance

- Mercer Consumer
- 800-424-9883
 - nsps.insurancetrustsite.com

Group Health

- Mass Marketing Insurance Consultants
- 800-349-1039
 - mmicinsurance.com/NSPS

Dell Computers

Get 40% off computer products, electronics and accessories.

- nsps.us.com/page/Dell

Travel Discounts

NSPS members qualify for a Member Travel Discount Program through Localhospitality, which applies to hotels and car rentals.

- Go to: nsps.us.com
- Click "Membership"
- Click "Member Travel Discounts"
- You must sign in to search

PerksConnect Program

PerksConnect saves you money on dining, retail, auto and home services, pet needs, health, fitness, recreation, entertainment and more. To sign up, go to:

- Discounts.perksconnection.com
- Click "Activate account now"
- Use group code: NSPS

Tire Discounts

Save 10% on your order! Go to tirebuyer.com/nsps and apply the coupon code that appears in the pop-up window.



NSPS Career Center

Find qualified job applicants or search for a new position, free!

- careercenter.nsps.us.com

A HISTORY OF MINNESOTA STATUTES DEALING WITH PLS MONUMENT PRESERVATION

JOHN E. FREEMYER, RETIRED CARVER COUNTY SURVEYOR

When the U.S. Congress enacted laws governing the Public Land Surveys (PLS), there was no thought about the preservation of the corner markers that were being set by the government surveyors. Knowing that the ultimate goal in most cases was to transfer title to state governments or private entities, corner restoration would become the responsibility of the grantee. However, after the creation of U.S. General Land Office (GLO), that office was inundated with request from local surveyors on how to restore missing PLS monuments. Finally in 1879, the GLO released a published circular offering restoration advice.¹ Through the years that circular has been updated several times, with the last update in 1974.² It needs to be noted that certain sections of the U.S. “Manual of Surveying Instructions, 2009” is intended to serve as the latest restoration manual.

Responsibility for PLS monument preservation in Minnesota has consistently been assigned to counties. In 1851, the Legislative Assembly of the Territory of Minnesota created the statutory position of County Surveyor, and although the statute did not specifically describe PLS monument preservation, it certainly could be implied.

Article VII – Of County Surveyors.³

Sec. 1. The qualified electors of each of the organized counties of the territory shall, at the annual election, elect a surveyor who shall reside in the county for which he shall have been elected - - -.

Sec. 3 It shall be the duty of said surveyor, by himself or one of his deputies, to execute any survey which may be required by order of any court, or upon application of any individual or corporation.

Sec. 4. The said surveyor shall keep a correct and fair record of all surveys made by him or his deputies in a book to be provided by the county commissioners for that purpose, which he shall transmit to his successor in office; he shall also number such surveys progressively, and shall preserve a copy of the field notes and calculations of each survey, endorsing thereon its proper number, a copy of which, and also a fair and accurate plat, together with a certificate of survey, shall be furnished by said surveyor to any person requiring the same.

Sec. 7. In all surveys the courses shall be expressed according to the true meridian, and the variation of the magnetic meridian from the true meridian, shall be expressed on the plat, with the year, month and day of the same.

During the early years of statehood, there is little evidence of widespread PLS monument preservation efforts. County surveyors were not “full-time county employees” and were only compensated for county duties specifically ordered by commissioners. Old records commonly found in county surveyor offices indicate that missing monuments were occasionally restored to layout new towns and subdivide sections for settlers.

In 1858, when Minnesota became a state, the laws describing the duties of the county surveyor were fundamentally unchanged from the territorial laws. In 1861, the state legislature approved an act amending the duties of county surveyors. The portion of the amendment dealing with PLS monument preservation stated:

If the quarter section or section corner posts, as originally fixed by the United States survey, be destroyed, it shall be the duty of the surveyor to fix a new post on such land as he may be called

upon to survey, with similar marks to those placed on like post by the United States surveyors, graved therein; and said posts to be fixed in accordance with the government field notes; but this act shall not effect the legality of any surveyor's proceedings previous to the passage of this act, which shall take effect and be in force from and after the passage thereof.⁴

That amendment codified into State Statutes for 1863, Title XI, Sec. 205. This law required county surveyors to replace a destroyed corner post with a new post with similar marks. Based on that requirement, there may always be a question as to whether a recovered post was set during the original government survey or was set by an early county surveyor as a replacement for the original.

In 1870, the state legislature amended the statute relating to county surveyors.

That all surveys made after the passage of this act by county surveyors or other surveyors shall be made in strict conformity to the original United States governments surveys, and to enable surveyors to conform to the requirements of this act, the county commissioners of each county are hereby required to procure and keep on file in the office of register of deeds certified copies of the original plats and field notes of the United States government surveys in their respective counties.⁵

The state legislature approved two separate laws dealing with PLS monument restoration in 1875. These laws are likely the first that could be considered mandates.

An Act To Establish Landmarks for Townships.⁶

Section 1. That it shall be the duty of the county commissioners of every county in this state having a population of over five thousand, to cause to be placed at the northeast section stake on the northeast corner every government township in their respective counties a "landmark" said landmark shall be of a stone not less than eight inches square and 2 feet long, sunk the full depth in the ground, duly marked on the top by chisel marks, the number and range of said township and section, or an iron post two inches square and thirty inches long, with flat head six inches square, with letters on the top indicating the town, range and section, the expenses to be paid out of the county treasurer, as other expenses of said county are paid.

Section 2, Said "landmarks" shall be located by the county surveyor of each county, and where there be no county surveyor then by a competent surveyor employed by said commissioners, and shall be located if possible where the government stake was located, or as near as can be, and the same shall be considered and taken prima facie evidence as the legal corner of said government section one in said township according to government survey.

Section 3. It shall be unlawful for any person to remove, destroy or deface said "Landmarks" and upon conviction of the same shall be deemed guilty of a misdemeanor, - - -.

An Act to Provide for the Re-Establishment and Re-Location of Section Posts and Boundaries.⁷

Section 1. The board of county commissioners of any county where it shall be made to appear to their satisfaction, at any regular or special meeting, that the section posts or monuments established by the United States have been destroyed, or are becoming obscure, shall have power to authorize and direct a competent surveyor of the county to re-survey, relocate and re-establish such section posts or monuments, by having permanently placed at such government corners an iron or stone or wood post or monument, of a durable character, of such size and construction as

A HISTORY OF MINNESOTA STATUTES DEALING WITH PLS MONUMENT PRESERVATION

in their discretion may be deemed desirable; and such surveyor shall be paid for such services and expensed out of the general fund of the county; and in making such survey, the said surveyor shall keep full and accurate notes thereof, and shall file a certified copy of the same in the office of the register of deeds of said county.

Those actions in 1875 could be considered the first “Restoration” laws dealing with PLS preservation in Minnesota. It put the responsibility and funding for such work at the county level. Several counties across the state became active with PLS restoration efforts, paying their county surveyor to replace deteriorating posts and mounds with stone or metal monuments.⁸



Figure 1. A Township Corner restored in 1880, in accordance with General Laws of Minnesota for 1875



Figure 2. A Section Corner restored in 1880 in accordance with General Laws of Minnesota for 1875
An important amendment to the 1875 law was approved in 1893. It stated in part:

And the points where said posts or monuments are re-located and re-established, as aforesaid, shall be taken and considered as prima facie evidence that such points are the points where the section posts, or monuments, were established by the United States government.⁹

Prima facie evidence is an important legal principle basically meaning that it is “evidence that, until its effect is overcome by other evidence, will suffice as proof of fact in issue.”¹⁰ Other later amendments to the 1875 laws would follow, resulting in the language found in the current state law cited as: [Minnesota Statutes 381.12](#), Section Corners Perpetuated and [M.S. 381.13](#) Township Landmarks.

State statutes prior to 1957 stated that: “In each county in this state there shall be elected at the general election - - a county surveyor, but in 1961, the state legislature approved an amendment to the county surveyor statute allowing a county surveyor to be either elected or appointed, and further:

A HISTORY OF MINNESOTA STATUTES DEALING WITH PLS MONUMENT PRESERVATION

In any county having less than 200,000 inhabitants and in which the office is vacant by reason of no person having been elected and qualified for the position, the board of county commissioners may by resolution duly adopted at least six months before the end of the term of office of the county surveyor, declare the office terminated. If such resolution is adopted no person shall be elected or appointed to the office of county surveyor so long as such resolution remains in effect.¹¹

It is likely that numerous counties throughout the state prior to the 1961 amendment did not have a county surveyor so this change in statutory law was perhaps an attempt to bring that practice into conformity with the law. There can be little doubt that the weak demand for a county surveyor in some areas of the state directly resulted in the rapid deterioration of known PLS corner monument positions.

From the earliest state laws recognizing the need to preserve PLS corner markers, the funding for such work was the responsibility of county taxpayers at the discretion of county board of commissioners. Some counties were proactive in an organized attempt to preserve PLS corner monuments and others were not. The reasons for the differences could be debated, but much probably depended on population growth, land use, land values, and the demands of county residents. It is unfortunate that after PLS corner monuments have been lost or obliterated for long periods of time, actual land use is often not in conformity with PLS aliquot parts. That is a potential problem that can be identified but not resolved by land surveyors.

References

¹ Reprinted in White C. Albert [“A History of the Rectangular Land Survey System”](#) (Washington D.C U.S. Government Printing Office, 1983) p. 509-510. GLO/BLM restoration manuals are typically advisory only, after title has passed from the U.S. government.

² [“Restoration of Lost or Obliterated Corners and Subdivision of Sections. A Guide for Surveyors.”](#)

³ [The Revised Statutes of the Territory of Minnesota, Passed at the Second Session of the Legislative Assembly](#), Commencing Jan. 1, 1851

⁴ [General Laws of Minnesota for 1861, Chapter VIII.](#)

⁵ [General Laws of Minnesota for 1870, Chapter XLIII.](#)

⁶ [General Laws of Minnesota for 1875 Chapter XXXII.](#)

⁷ [General Laws of Minnesota for 1875, Chapter XXXIII.](#)

⁸ Minnesota Association of County Surveyors reports

⁹ [General Laws of Minnesota for 1893, Chapter 168.](#)

¹⁰ [Black’s Law Dictionary, Prima Facie Evidence](#)

¹¹ [Session Laws of Minnesota for 1961, Chapter 379.](#)

FIRM MEMBER DIRECTORY

Bolton & Menk

Janele Fowlds
1960 Premier Drive
Mankato, MN 56001
P: (507) 625-4171

Carlson McCain, Inc.

Thomas Balluff
3890 Pheasant Ridge Drive NE, Suite 100
Blaine, MN 55449
P: (763) 489-7900

Cornerstone Land Surveying

Dan Thurmes
1970 Northwestern Avenue, Suite 200
Stillwater, MN 55082
P: (651) 275-8969

E.G. Rud & Sons

Jason Rud
6776 Lake Drive NE, Suite 110
Lino Lakes, MN 55014
P: (651) 361-8200

Egan, Field & Nowak Inc

Lee Nord
475 Old Highway 8 NW
Minneapolis, MN 55112
P: (612) 466-3300

Hakanson Anderson Associates

Brian Person
3601 Thurston Avenue
Anoka, MN 55303
P: (763) 427-5860

Honsa Surveying

Denny Honsa
1592 Pacific Avenue
Eagan, MN 55122
P: (651) 492-6725

Houston Engineering Inc

Curtis Skarphol
1401 21st Ave. N.
Fargo, ND 58102
P: (701) 237-5065

ISG

Dan Stueber
115 East Hickory Street, Suite 300
Mankato, MN 56001
P: (507) 387-6651

James R. Hill

Marcus Hampton
2500 W Cty Rd 42 Ste 120
Burnsville, MN 55337
P: (952) 890-6044

JPJ Engineering

Jennifer Tarnowski
425 Grant St., P.O. Box 656
Hibbing, MN 55746
P: (218) 969-9890

Landform Professional Services, LLC

Lynn Caswell
580 Dodge Avenue
Elk River, MN 55330
P: (612) 252-9070

Landmark Surveying

Milo Horak
PO Box 65 21090 Olinda Trail N
Scandia, MN 55073
P: (651) 433-3421

Loucks

Max Stanislawski
7200 Hemlock Lane, Suite 300
Maple Grove, MN 55369
P: (763) 424-5505

Moore Engineering

Chris Heyer
1808 E Fir Avenue
Fergus Falls, MN 56537
P: (218) 998-4041 | F: (218) 998-4042

MSA Professional Services

Curt Schley
60 Plato Blvd East Suite 140
St. Paul, MN 55107
P: (612) 548-3132

Myriad Lakes, LLC

Tim Holperin
PO BOX 201702
Bloomington, MN 55420
P: (612) 314-9417

Northern Engineering & Consulting

Terry Freeman
111 South 6th Street, PO Box 292
Walker, MN 56484
P: (218) 547-1296

Otto Associates

Paul Otto
9 West Division St
Buffalo, MN 55313
P: (763) 682-4727

Rehder & Associates

Christine Larson
3440 Federal Drive
Eagan, MN 55122
P: (651) 452-5051

Sathre-Bergquist

Stephanie Grotbo
150 S. Broadway Ave
Wayzata, MN 55391
P: (952) 476-6000

Schoborg Land Services

Kelly Brouwer
8997 Co Road 13 SE
Delano, MN 55328
P: (763) 972-3221

SEH

Krista Snyder
3535 Vadnais Center Drive
Saint Paul, MN 55110
P: (651) 490-2000

Stantec

Bruce Skipton
3303 Fiechtner Drive, Suite 100
Fargo, North Dakota 58103
P: (701) 297-9600

Stonebrooke Engineering

Aaron Mages
12279 Nicollet Avenue S
Burnsville, MN 55337
P: (952) 402-9202

Stonemark Land Surveying

Patrick Trottier
30206 Rasmussen Rd Ste #1
Pequot Lakes, MN 56472
P: (218) 568-4940

The Gregory Group

Gregory Prasch
7601 73rd Ave N
Brooklyn Park, MN 55428
P: (763) 560-3093

Trosen Land Surveying

Scott Trosen
236 Lewis Street S
Shakopee, MN 55379
P: (612) 990-1182

W. Brown Land Surveying

Woodrow Brown
8030 Cedar Avenue S, Suite 228
Bloomington, MN 55425
P: (952) 854-4055

Westwood Professional Services

Nathan Carlson
12701 Whitewater Drive
Minnetonka, MN 55343
P: (952) 937-5150

Widseth Smith Nolting

Bryan Balcome
610 Fillmore Street
PO Box 1028
Alexandria, MN 56308
P: (320) 335-5023 | F: (320) 762-0263

SUSTAINING MEMBERS

95West Aerial Mapping

Miles Strain
3535 S. 31st St. Suite 202
North Dakota, ND 58201
P: (701) 738-8486

Frontier Precision

Steve Richter
10900 73rd Ave N Ste 120
Maple Grove, MN 55369
P: (763) 496-1366

Leica Geosystems

Chris Rotegard
4107 158th St. W.
Rosemount, MN 55068
P: (651) 385-6067

Peter W. Blethen, LS, Memorial Scholarship



The Minnesota Land Surveyors Foundation is accepting donations to the Blethen Memorial Scholarship in memory of long-time MSPS member Peter W. Blethen.

board member, secretary and president. Peter was recognized as MSPS Surveyor of the Year in 2006 for his contributions to the land surveying profession in Minnesota.

Throughout Peter's career, he supported the work of the MLS Foundation. He believed there was no better way to promote the surveying profession than to support surveying students in their education. In 2002, he was the first owner of the prestigious MSPS Traveling Bearing Tree Trophy.

Peter was a graduate of the University of Colorado, Boulder; he was a dedicated employee of Bolton & Menk, Inc., for more than 31 years until his retirement in 2014. Peter passed away in January 2016 following a courageous battle with cancer. He was a Registered Land Surveyor in both Minnesota and Iowa. Peter worked very hard in advancing survey technology within Bolton & Menk as well as in the surveying industry. In addition to his MSPS membership, Peter served in multiple capacities within the society — including as chapter secretary, chapter vice president, chapter president, MSPS

Further demonstrating his strong belief in surveying education, Peter served on the South Central College Civil Engineering Technology Advisory Committee and on the MnDOT Survey Technical Workshop Committee.

The Foundation is working with Peter's family to determine the criteria for the Blethen Memorial Scholarship. In the meantime, we encourage members to make a donation to the scholarship fund.

.....

Yes, I wish to donate to the Peter W. Blethen Memorial Scholarship

Donor Information:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Email Address: _____

Send checks and/or correspondence to:

MLS Foundation

c/o Dennis J. Purcell, PLS
1399 Wood Duck Trail
Shakopee, MN 55379-9430
dpurcell20@hotmail.com

Make checks payable to: MLS Foundation

Please note that your donation is for the Blethen Memorial Scholarship.

The Minnesota Land Surveyors Foundation is a 501(c)3 nonprofit corporation. A tax deduction receipt will be provided to each donor.