

A Brief History of the Public Land Surveys in Minnesota

Why the points and lines are where they are and not somewhere else

MACS 2010

The Rectangular Surveys in Minnesota

Rod Squires, University of Minnesota
Minnesota Association of County Surveyors
October 30, 2018

The Rectangular Surveys in Minnesota A Geographer's Perspective

Rod Squires, University of Minnesota
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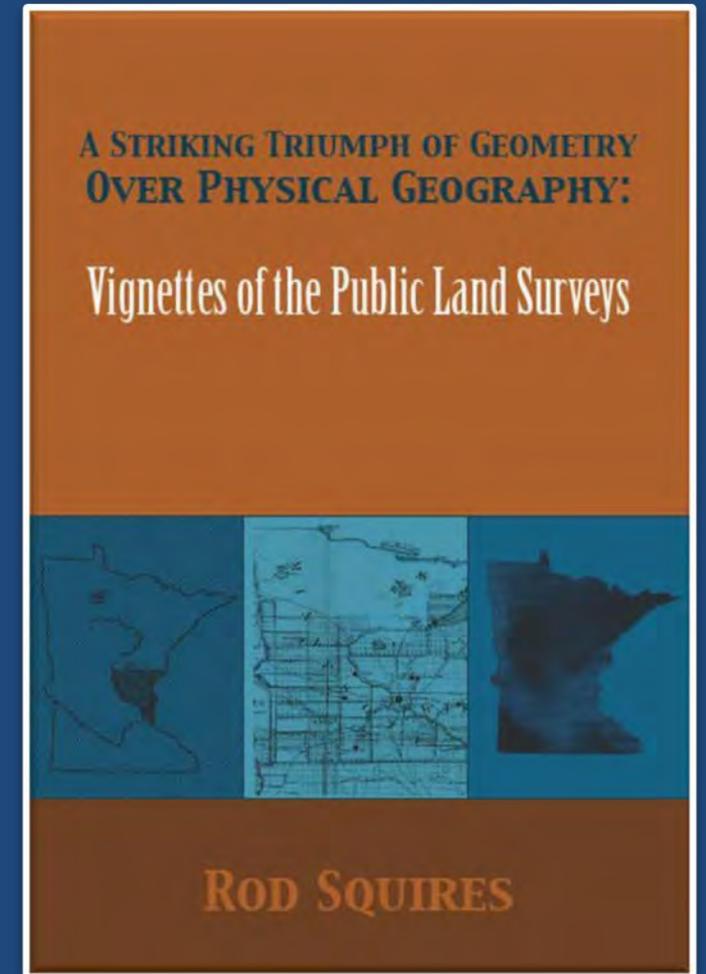
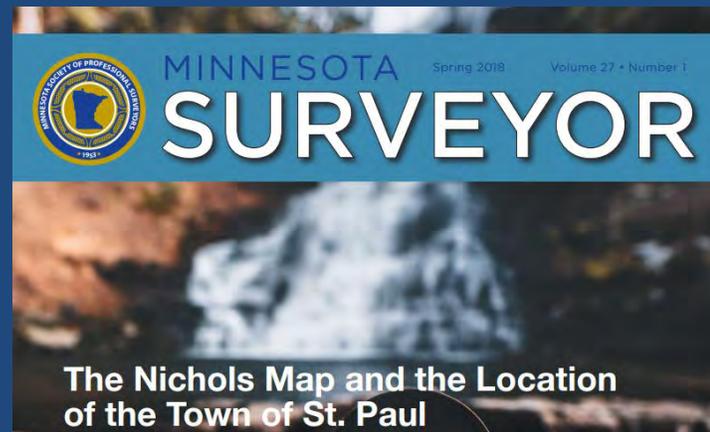


Historiography of Surveying



The Urban Jigsaw: A Paean to Land Surveyors in Minnesota

By Rod Squires, University of Minnesota Department of Geography



I am not competent to talk about corner monuments or centers of sections

I'm not fixated on

- particular records, such as field notes and township plats, although I do look at them
- specific features, corners or lines, although I do look at them

I focus on surveying process and the suite of records that are available to reconstruct that process

Look for patterns at different spatial and temporal scales

My Perspective

Detail necessary to describe and explain the public land surveying process to one audience – land surveyors of Minnesota

Of limited geographical applicability

My Perspective

Detail necessary to describe and explain the public land surveying process to one audience – land surveyors of Minnesota

Of limited geographical applicability

Generalizations to provide an overview of the surveying effort throughout the United States 1785-1925 to other audiences – non-surveyors

- many of whom take the surveying efforts for granted
- many of whom are only interested in the outcomes of the surveys

Only some of which is useful to the surveyor

How did the public land survey lines spread?
What geographies can be constructed?

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Useful generalities for the surveyor and non-surveyor?

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Useful generalities for the surveyor and non-surveyor?

Survey Lines spread in a concatenated manner throughout the United States – multiple geographies

The government system of surveying is in some respects peculiar and unlike any other, and no adequate facilities have been afforded surveyors not employed in the public service to make themselves acquainted with its rules and principles

Hence it is in many cases impracticable to make instructions intelligible to the local surveyor, without first giving some explanations as to the manner in which the public surveys are executed

Manual of United States Surveying.

SYSTEM
OF
RECTANGULAR SURVEYING

EMPLOYED IN SUBDIVIDING THE
PUBLIC LANDS OF THE UNITED STATES;
ALSO
INSTRUCTIONS FOR SUBDIVIDING SECTIONS AND RESTORING
LOST CORNERS OF THE PUBLIC LANDS.

Illustrated with Forms, Diagrams and Maps;
CONSTITUTING A
COMPLETE TEXT-BOOK OF GOVERNMENT SURVEYING.
FOR THE USE OF U. S. DEPUTY SURVEYORS, COUNTY SURVEYORS, AND ALL
WHO CONTEMPLATE ENTERING THE PUBLIC SURVEYING SERVICE.
TO WHICH IS ADDED
AN APPENDIX
CONTAINING INFORMATION IN REGARD TO ENTERING, LOCATING,
PURCHASING AND SETTLING LANDS UNDER THE
VARIOUS LAND LAWS, ETC. ETC.

By J. H. HAWES,
LATE PRINCIPAL CLERK OF SURVEYS IN THE GENERAL LAND OFFICE.

PHILADELPHIA:
J. B. LIPPINCOTT & CO.
1868.

In 1855, a manual of instructions to regulate the field operations of United States deputy surveyors, was prepared and printed under the direction of the General Land Office

Other instructions had been printed at earlier periods, but the manual prepared in 1855 embraced all the improvements suggested by the experience of the surveying department up to that time, and was much more comprehensive and complete than anything of the kind which had preceded it.

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Uncomfortable “Truths”

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What we don't know – all the details of the surveying operations during the entire 60 years, 1847-1908

- Not necessary to know
- Not had time/inclination to look
- Not had the data to investigate – i.e. digital images of the plats and the notes

Land System

Native American Land Cessions



Public Land Surveys



Public Land Conveyances

The lines and monuments (points) comprising the rectangular public land survey net provide the basis for the organization of space based on private landownership – created place from space

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They were the basis of a new geography

- They defined the location and the boundary of each parcel of land the United States government would subsequently sell or donate to individuals, corporations, and states – providing legal descriptions – some of which have been remarkably persistent

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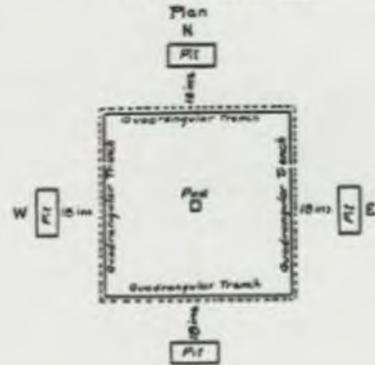
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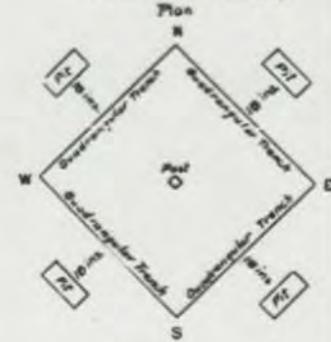
At present the monuments have assumed greater importance, particularly in urban areas

Illustration of corner boundaries.

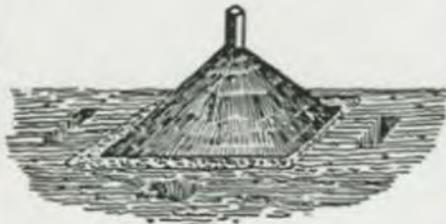
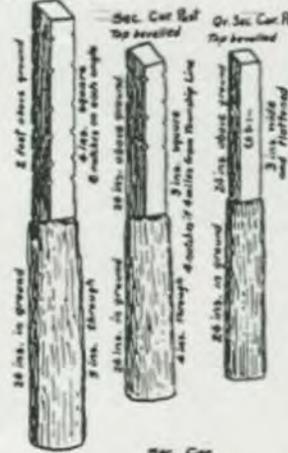
Position of Cor. Mound common to Two Twp. or Two Secs.



Position of Cor. Mound common to four Twp. or four Secs.



Township Corner Post. To be drilled to true size.



Top. Cor. Stone.

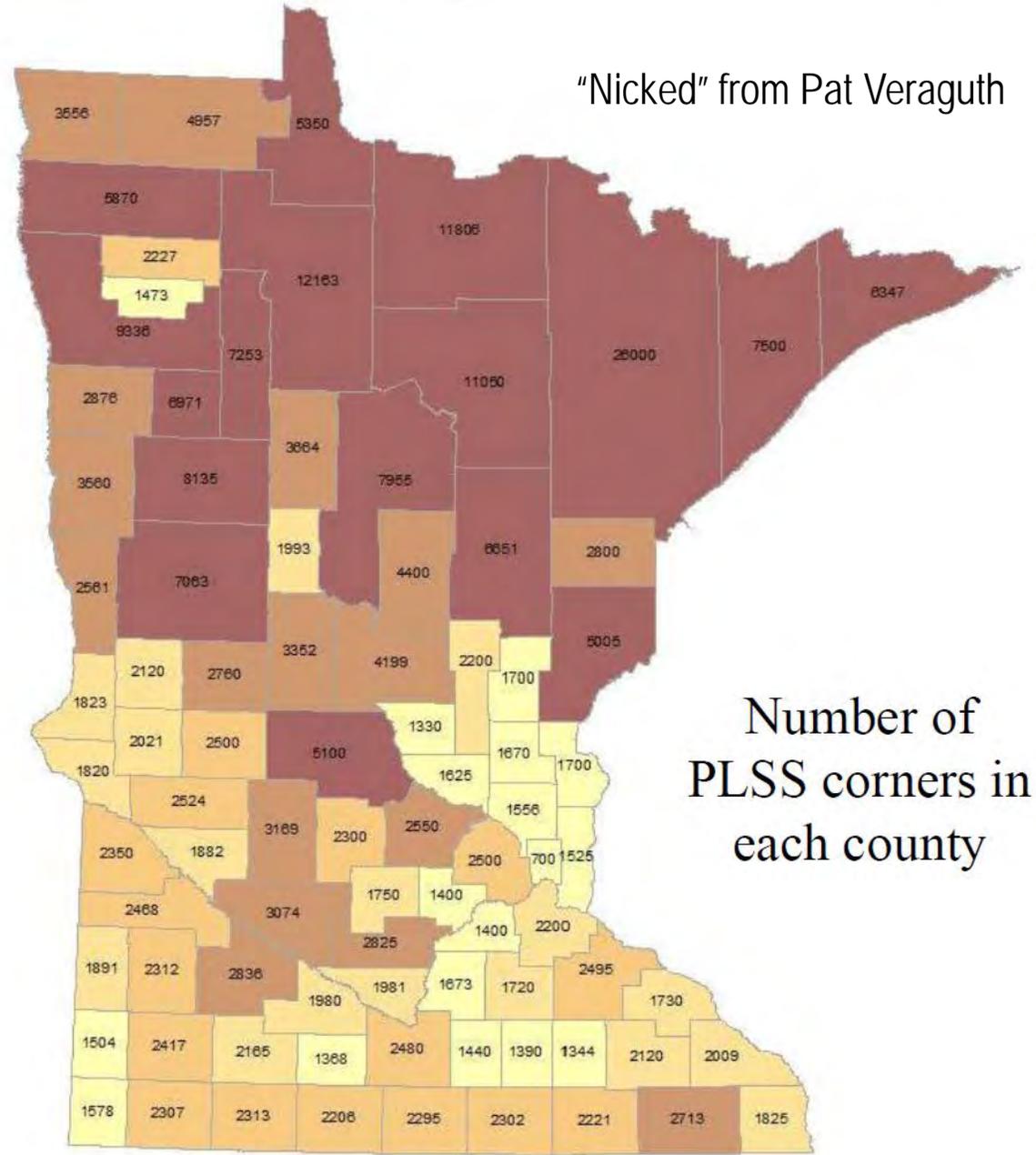


Sec. Cor. Stone.

Gr. Sec. Cor. Stone.

Sec. Cor. Plat. Stone.

From Kendall of 1857



"Nicked" from Pat Veraguth

Number of PLSS corners in each county

The PLS descriptions have shown a remarkable persistence and continue to be relevant

Land Act of February 11, 1805

“All the corners marked in the surveys, returned by the surveyor-general ...shall be established as the proper corners, of the sections, or subdivisions of sections, which they were intended to designate”

“The boundary lines, actually run and marked in the surveys returned by the surveyor-general ...shall be established as the proper boundary lines of the sections, or subdivisions, for which they were intended”

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Minnesota Statutes (2017) Statutes 389.04

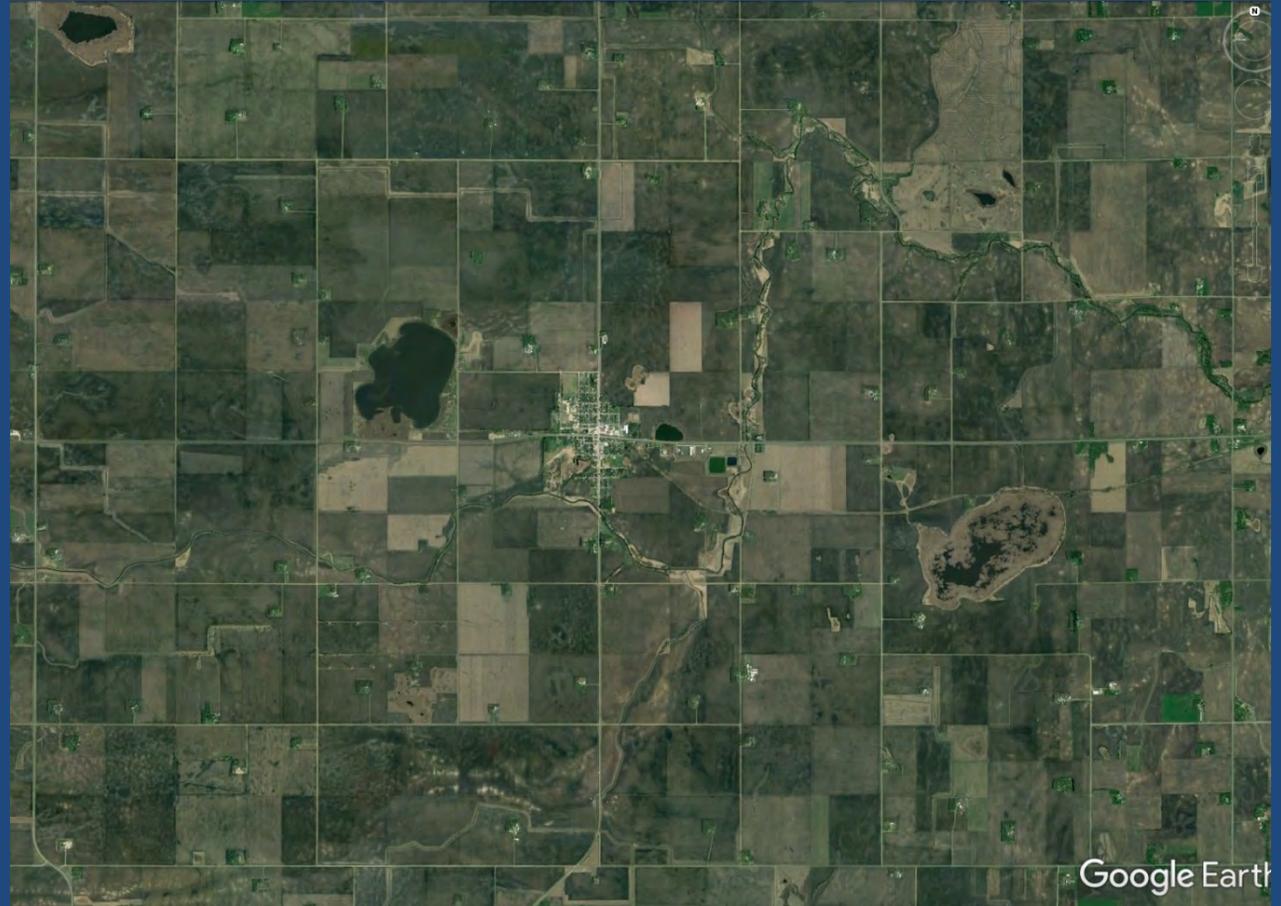
“In subdividing townships, sections, or parts of sections, as established by the United States survey thereof, and in restoring lost or obliterated government corners, the county surveyor shall follow the rules established by or pursuant to acts of Congress, and all such surveys shall be made in strict conformity to the original survey made by the United States”

Minnesota Statutes (2017) 389.05

“county boards shall procure and file with the county recorders of their respective counties certified copies of the original plats and field notes of the United States surveys”

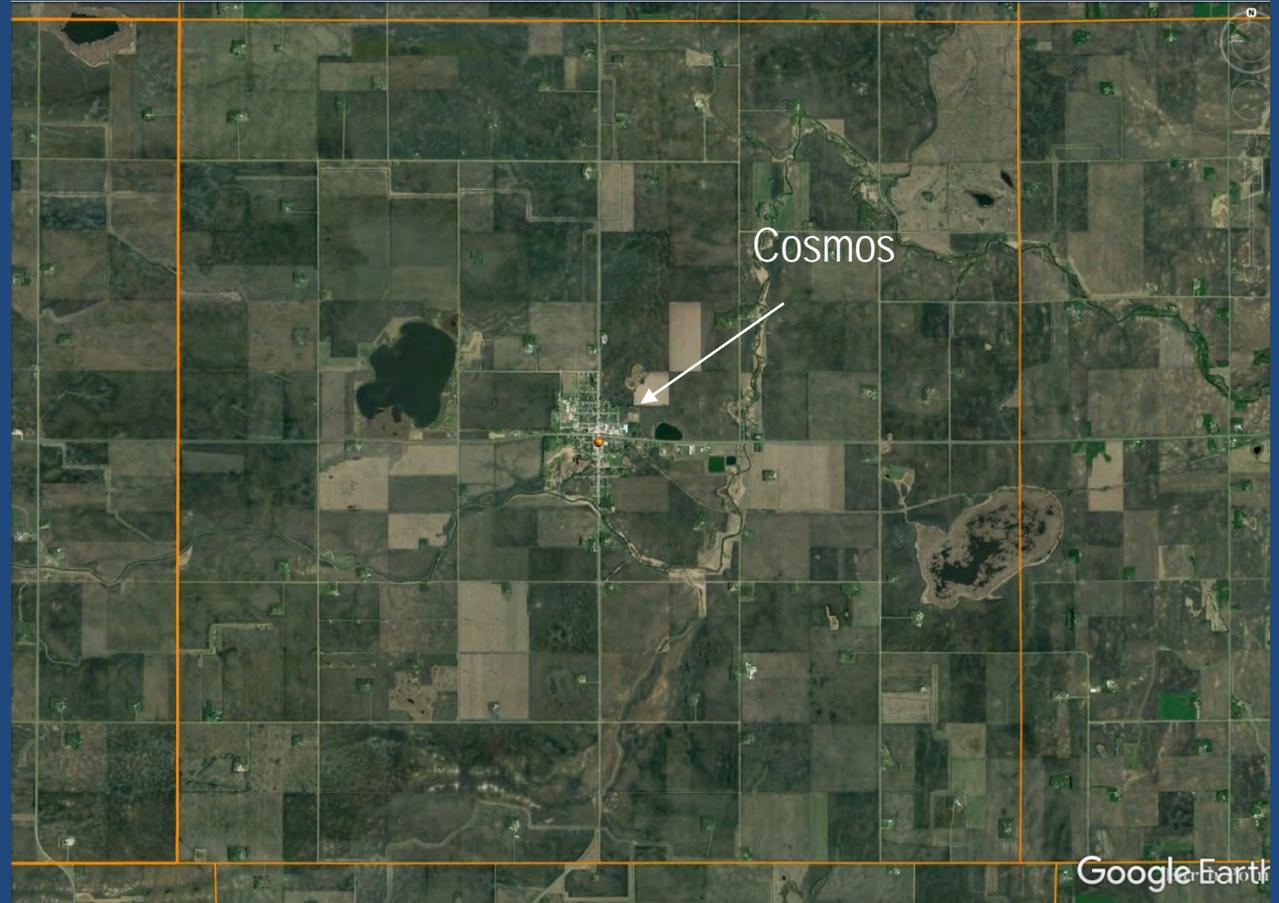
The Public Land Surveys

Transformed "formless wilderness into a remarkable national geometry of squares and rectangles"



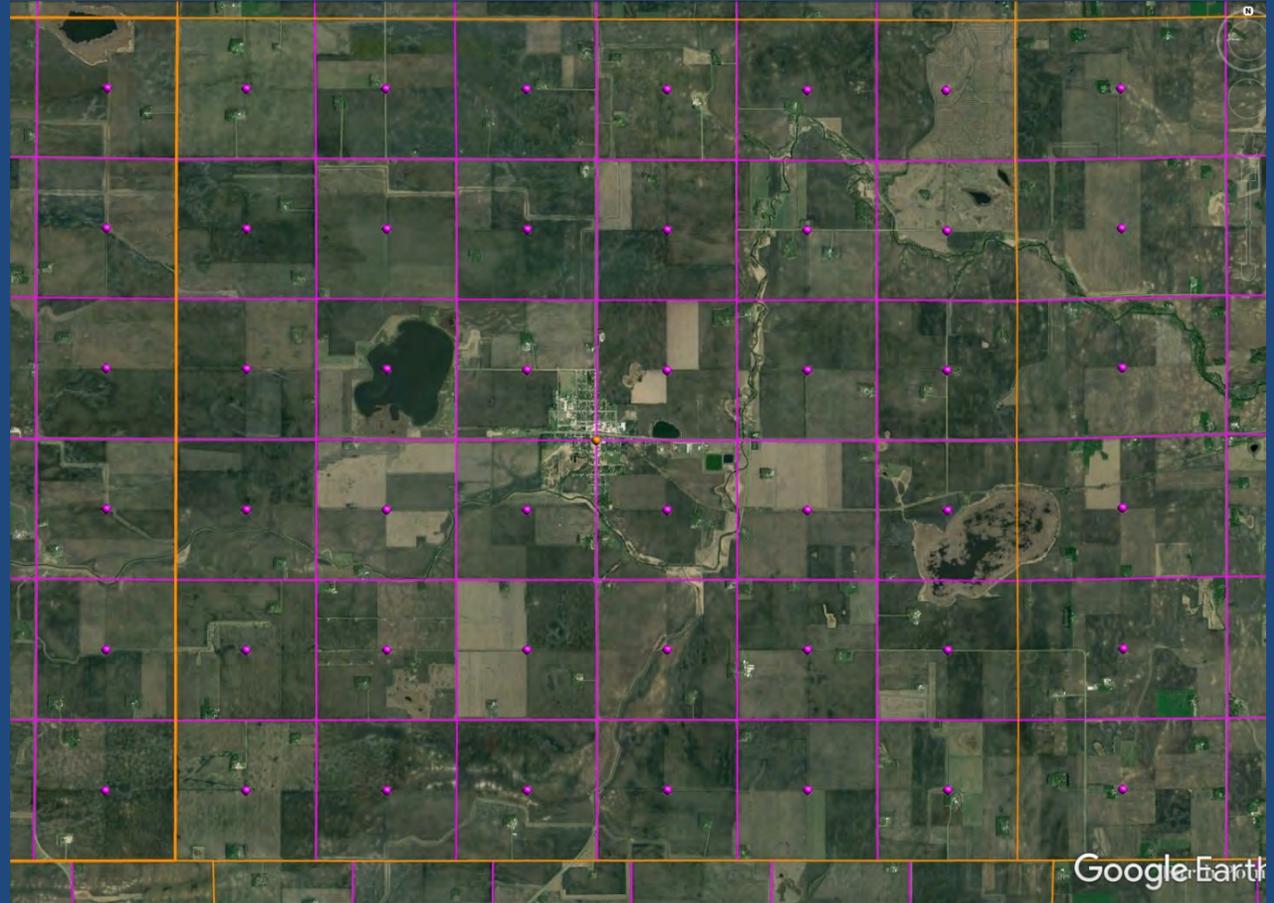
The Public Land Surveys

Transformed "formless wilderness into a remarkable national geometry of squares and rectangles" 117-32

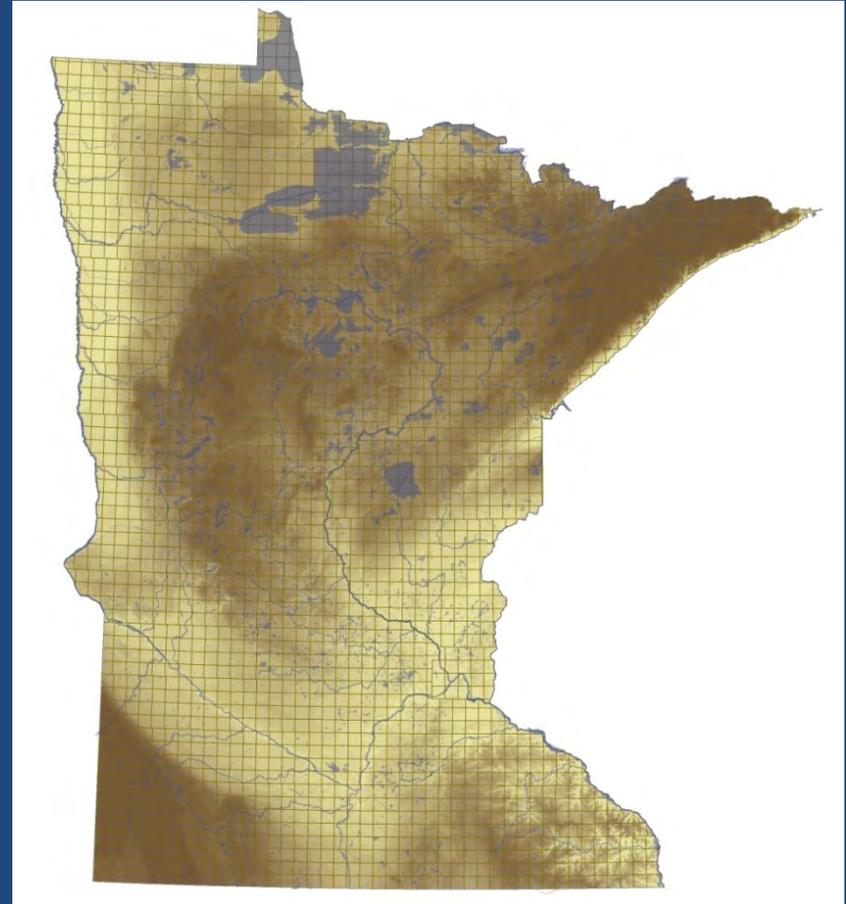


The Public Land Surveys

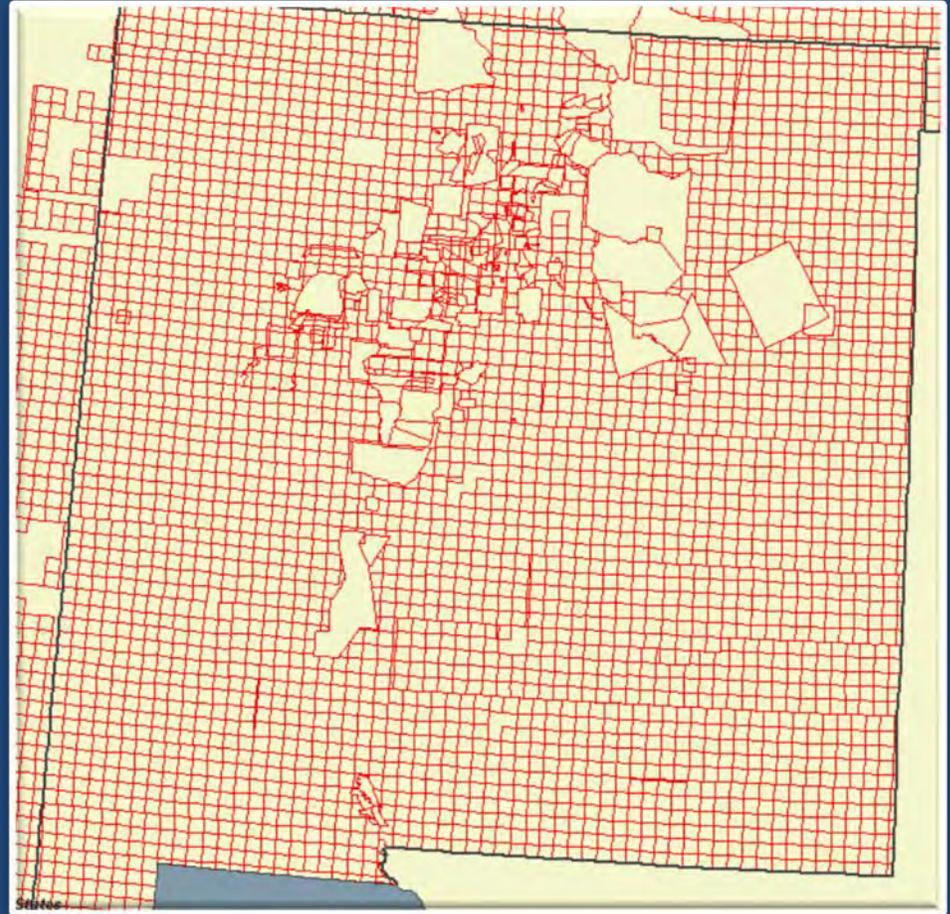
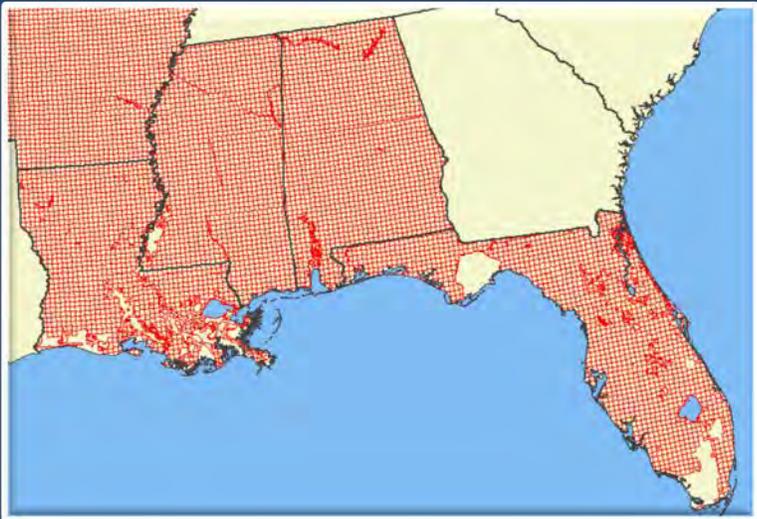
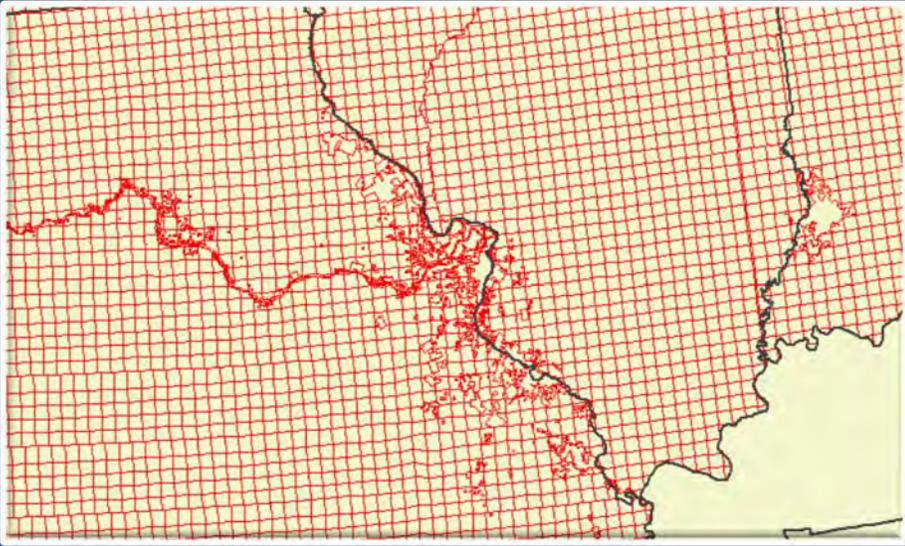
Transformed "formless wilderness into a remarkable national geometry of squares and rectangles" 117-32



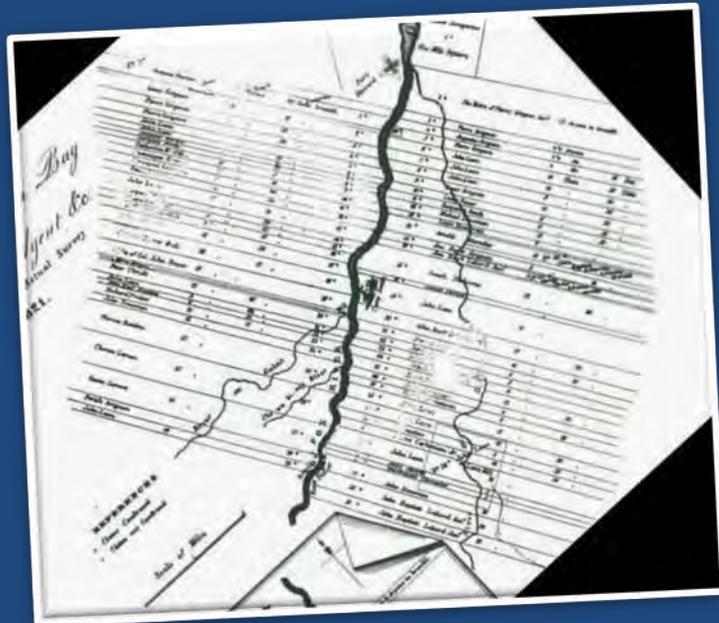
The Extent of the Geometry



Gaps in the Geometry

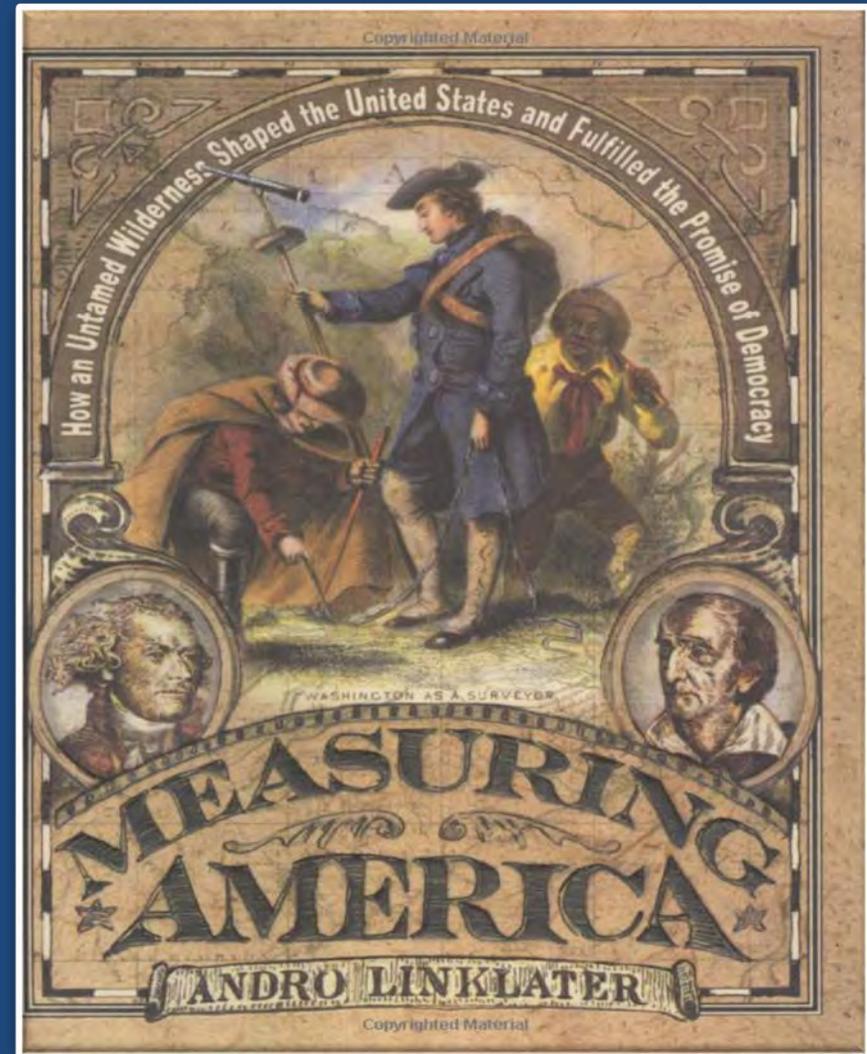


Green Bay



They “imposed a spatial frame of reference on virtually all human activities in the United States – it formed part of a democratizing effort”

“The fact that the grid could ... subdivide a continent into minute, graph-paper squares might appear to be simply a triumph of the mathematician’s art, but the ease with which it made land available to anyone who went west in search of it had an almost incalculable influence on the development of the American psyche and the American economy”



A Critique of the Public Land Survey System

Our Public Land Survey System is such an intricate part of our culture that any critique of it comes close to the condemnation of motherhood and apple pie

To make it even worse, the System did admirably what it was designed to do, to allow the government to disperse of millions of acres of public land in great haste and at fire sale prices, without giving much thought to the consequences

It has, of course, been criticized for reasons that have nothing to do with surveying



The Public Land Survey Lines Spread in a Complex Manner

Because of the Conflicting Demands

Imposed by pressure on the federal government to create landowners in widely different localities

- based upon the necessity of surveying unknown areas quickly and cheaply in the face of a demand for land from individuals, corporations, and states
- a demand satisfied by American Indian land cessions followed by migration and settlement of European Americans

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Imposed by the needs of a surveying process

- to create a coherent rectangular net
- to create a national locational scheme

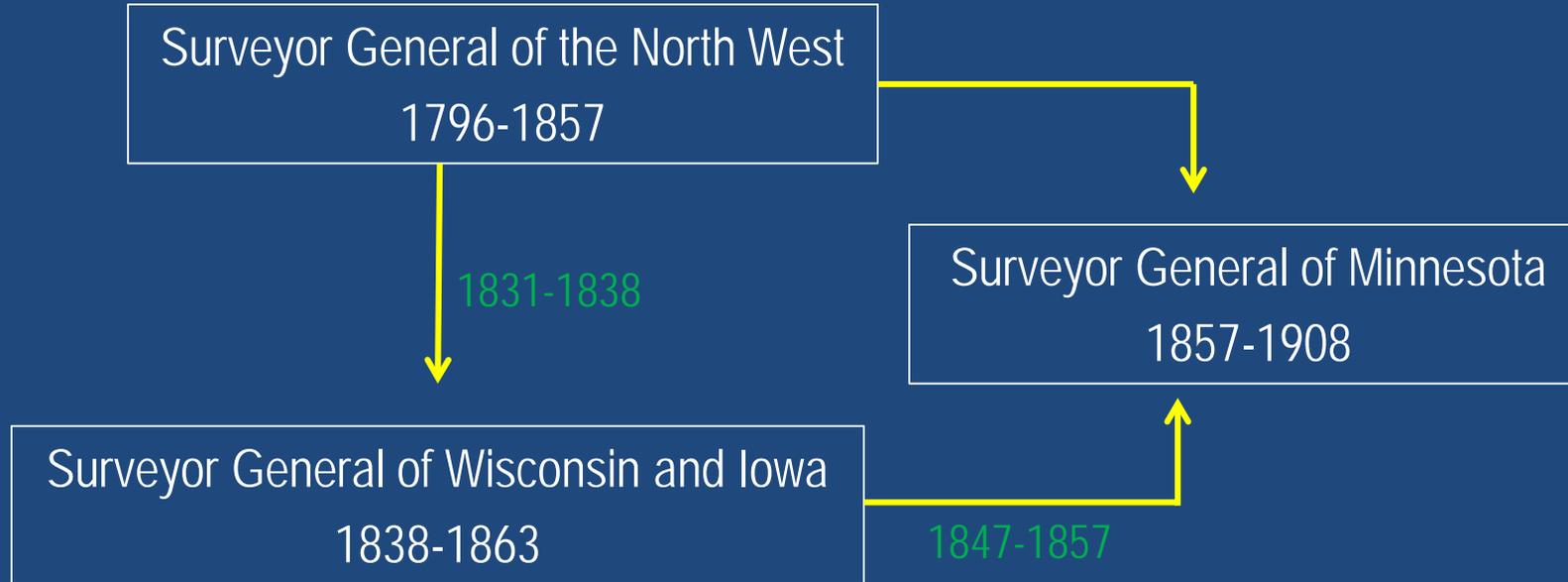
Surveys were carried out simultaneously in widely separated localities



1. An administrative system comprising statutorily defined surveying districts and Presidentially appointed surveyors general – established when necessary

But there is a coherent national network of lines and points Made Possible by Two Characteristics

An administrative system comprising offices of Surveyors General - operating fairly independently - and a cadre of contracted deputies working under a set of instructions



Surveying districts not confined to a particular state, at least initially

Surveys administered by a Surveyor General who were quite independent of each other until 1851 – Oregon Manual

Commissioner of the General Land Office awarded Surveyors General some portion of the annual appropriations Congress made for surveying in the United States (in addition to salaries)

Surveyors General made an annual report to the Commissioner of the General Land Office

The rectangular surveys lines spread throughout Minnesota between 1847 and 1908

1847-1857 Surveys carried out by the Office of Surveyor General of Wisconsin & Iowa

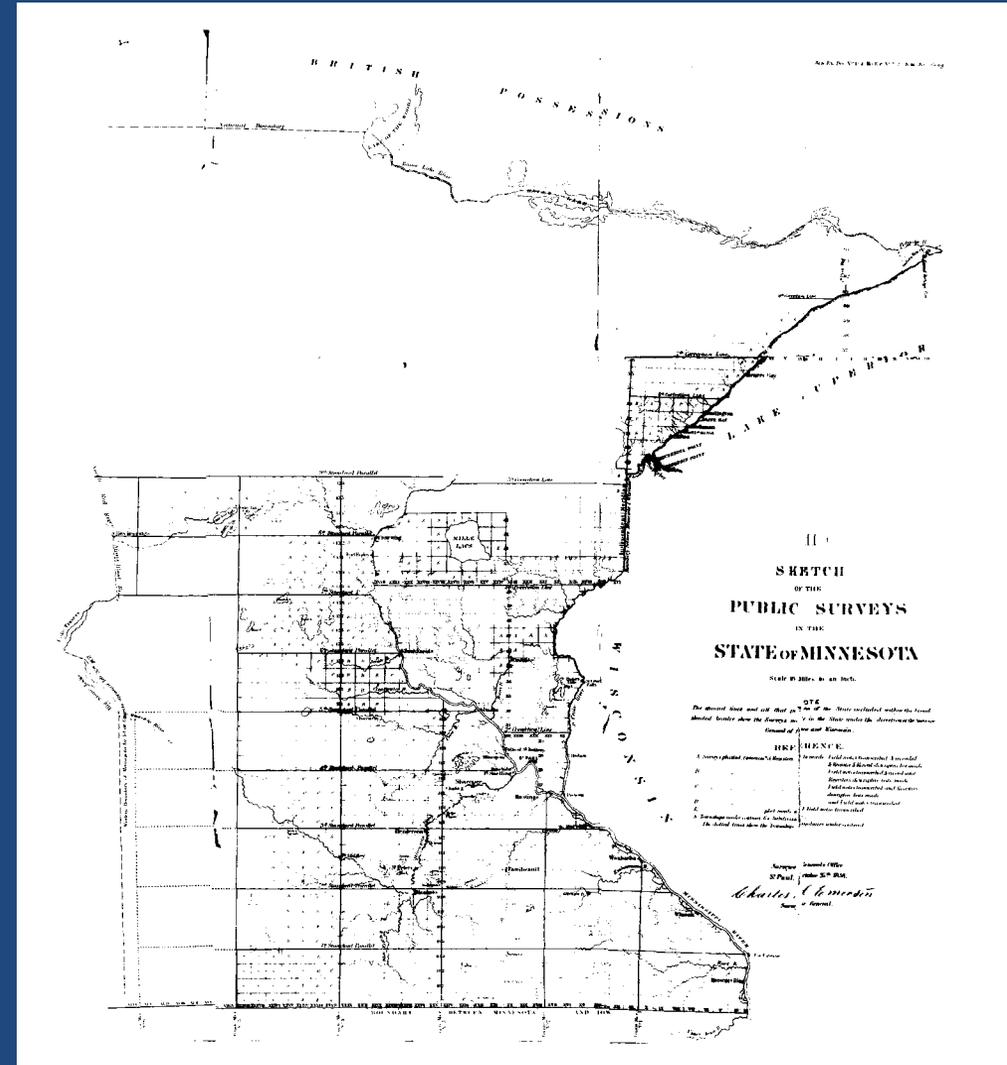
- 1846 Instructions issued by the Surveyor General of Wisconsin and Iowa
- 1851 Instructions issued by the Commissioner of the General Land Office
- 1855 Modification of 1851 Instructions issued by the Commissioner of the General Land Office

One notable omission in the 1855 Manual – guide meridian – first mentioned in 1890 Manual

The rectangular surveys lines spread throughout Minnesota between 1847 and 1908

1857-1908 Office of Surveyor General of Minnesota

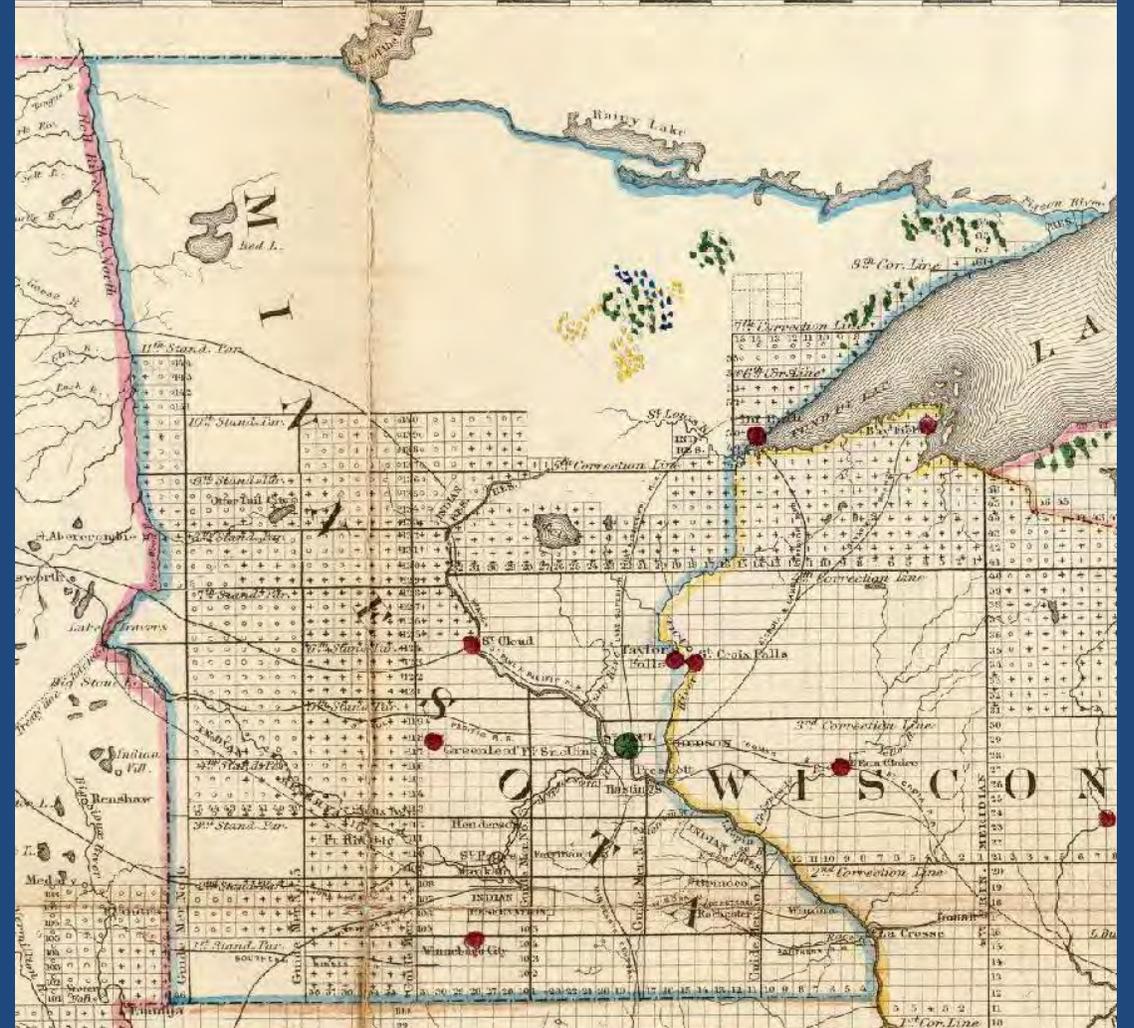
- 1855 Modification of 1851 Instructions issued by the Commissioner of the General Land Office
- Modified and republished 1864, 1881, 1890, 1894, 1902



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Minnesota only state that shows

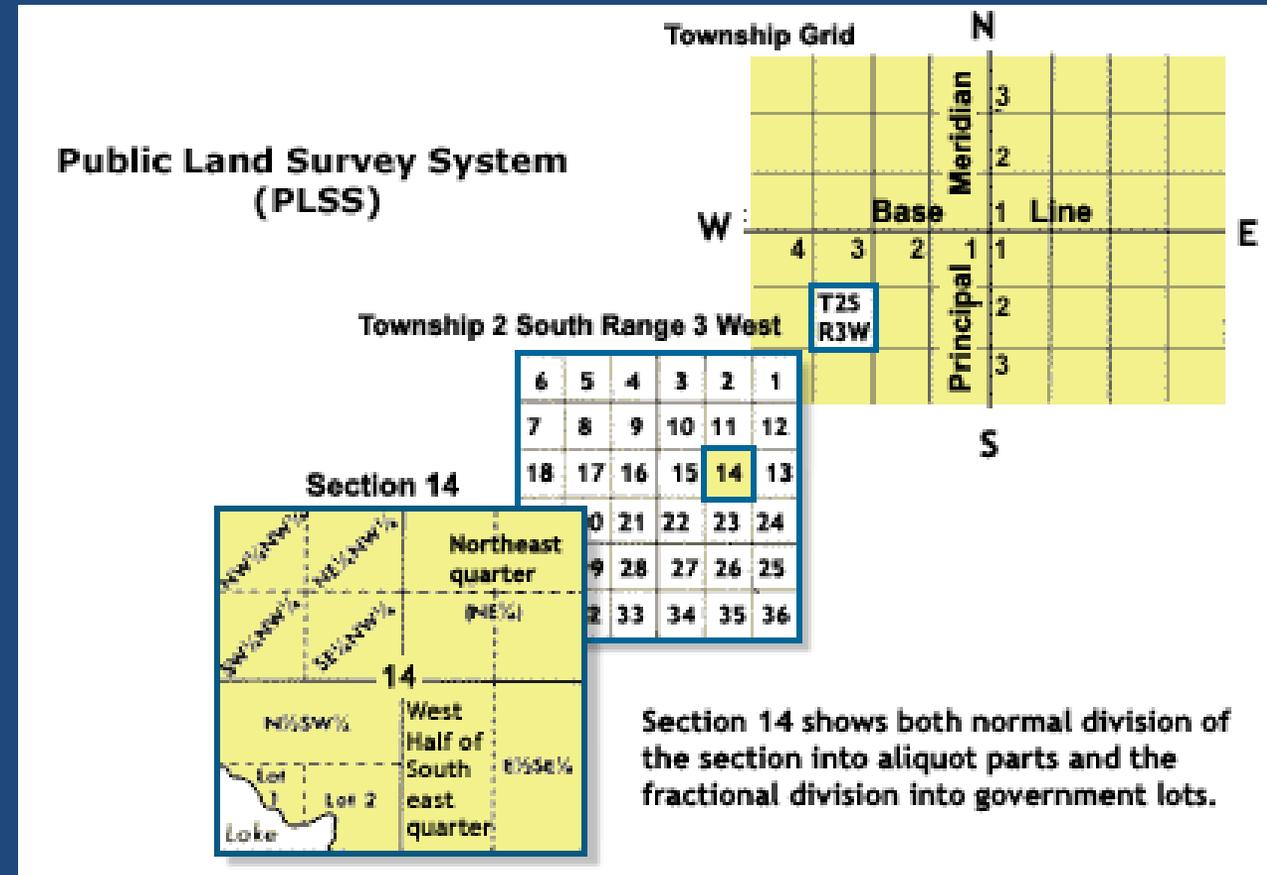
- how the Atlantic surveys were prosecuted <1851
- how the Pacific surveys were prosecuted >1851



A Locational System that involves the position of a parcel in a township

Defining boundaries and location of land parcels – legal description – with reference to

- The distance and direction of a township from an initial point and
- The location of the parcel in the township



Surveying – Field Work

Meridian



Correction



Exteriors



Subdivision

Surveying Operations

1. Contract awarded and instructions given to run a correction line – Field notes returned
2. Contract awarded and instructions & diagram given to run township exteriors – Field notes returned, diagram of exteriors drawn
3. Contract awarded/instructions to subdivide a certain number of townships & diagram of township boundaries given - Field notes and diagram returned
4. Plats and descriptive notes compiled
5. Field notes copied – notes for township exteriors and subdivisions combined – and sent to Washington DC with duplicate plats (Commissioner's plat)
6. Triplicate plat (Register's plat) and descriptive notes sent to land district office

Surveying – Office Work

Each portion of the fieldwork involved – contract, correspondence, instructions, field notes, sketches, diagrams

At end of the fieldwork – field note transcriptions, correspondence, field examination, township plats, descriptive notes

- field note transcriptions, correspondence, township plats sent to the General Land Office
- township plats, descriptive notes sent to Land District Office

[Minnesota Historical Society](#) Government Records. Minnesota Secretary of State

Minnesota Historical Society Government Records. United States. Office of Surveyor General of Minnesota

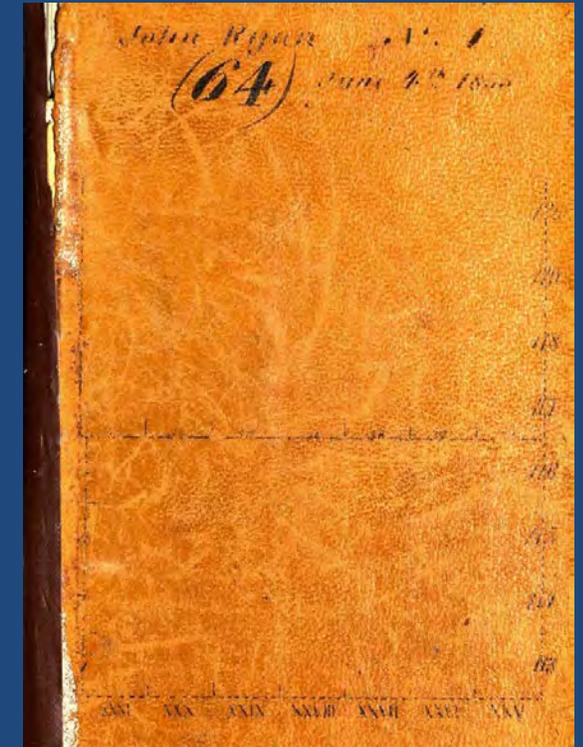
Field Notebooks

Field notes are the narrative record of the survey

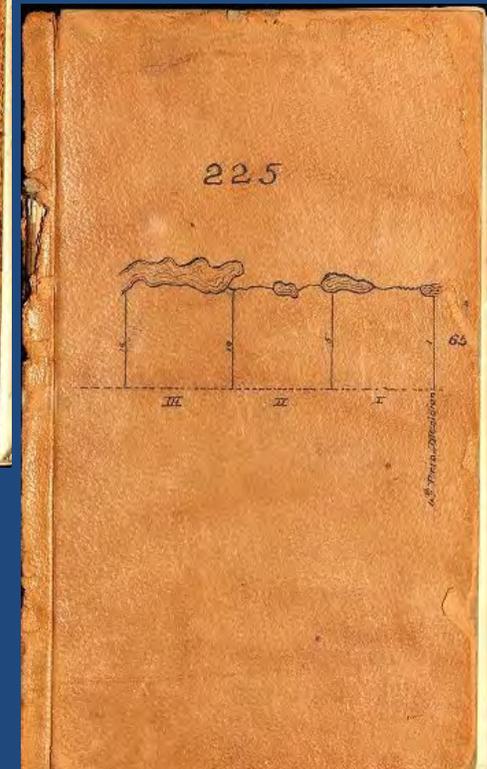
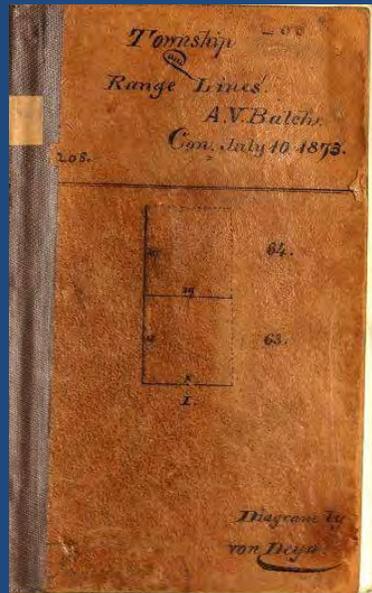
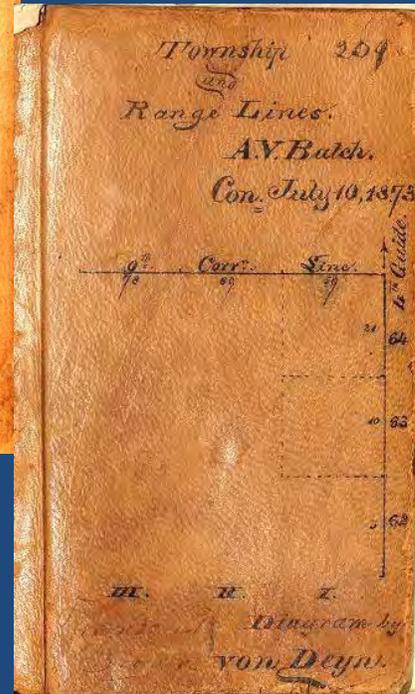
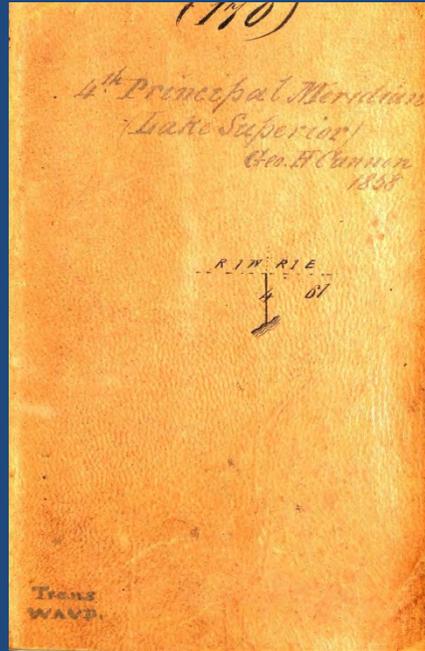
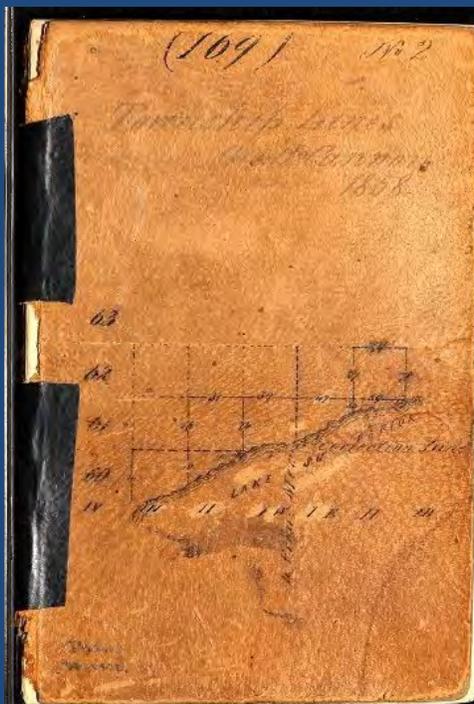
- what the deputy surveyor **said** he did, sometimes when, and when and what he saw
- what instruments he used
- who helped him

1,410 volumes totaling nearly 310,000 pages

Raw data from which the township plats were drawn and the descriptive notes compiled



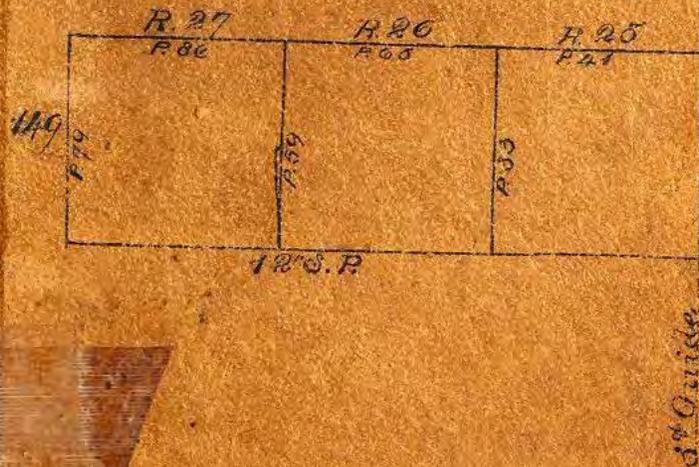
Township Exteriors



256

J.P. Hinchilwood

1875

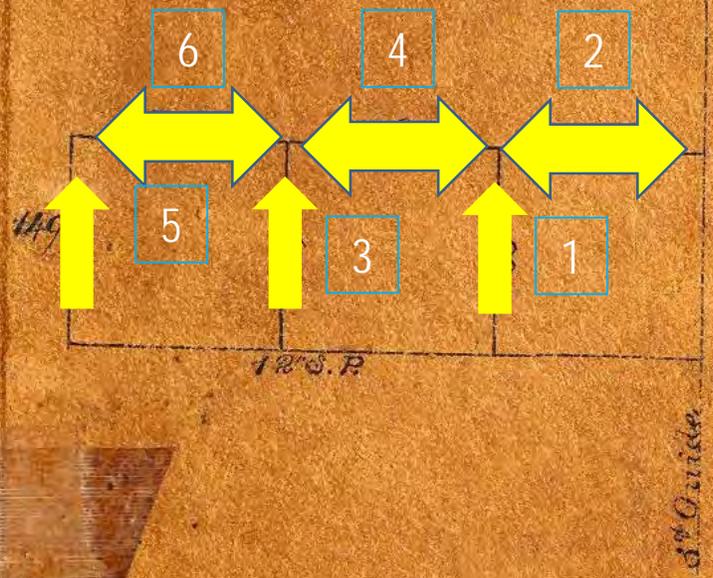


- W. 149-25 J P Hinchilwood June 7, 1875 approved May 6, 1876
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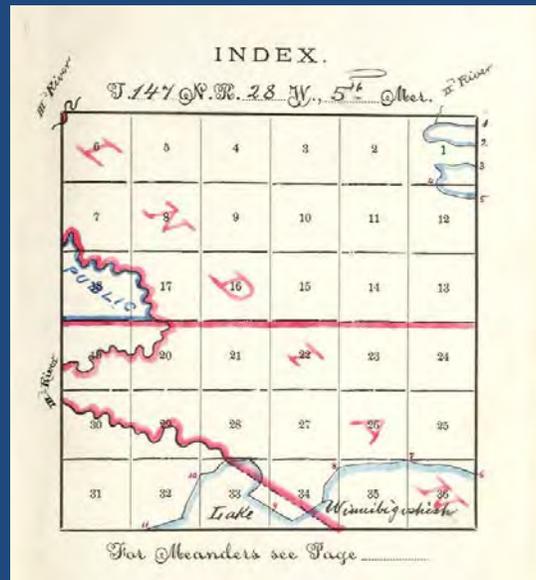
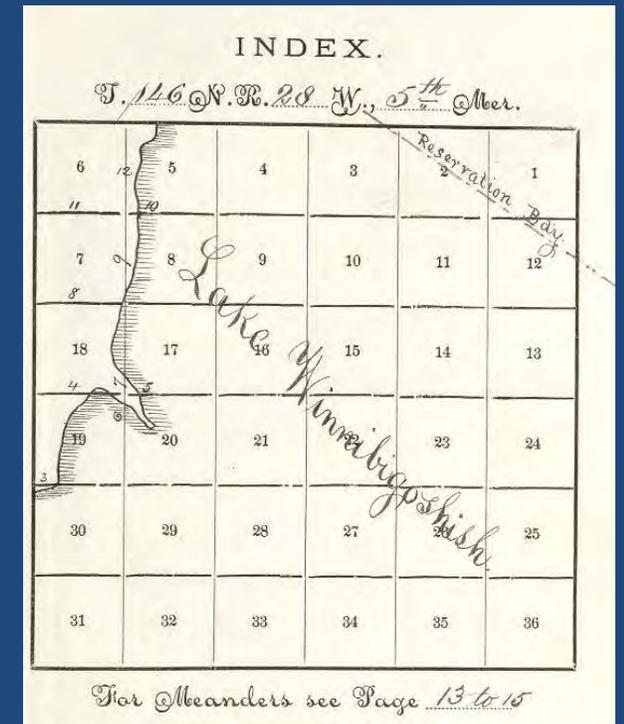
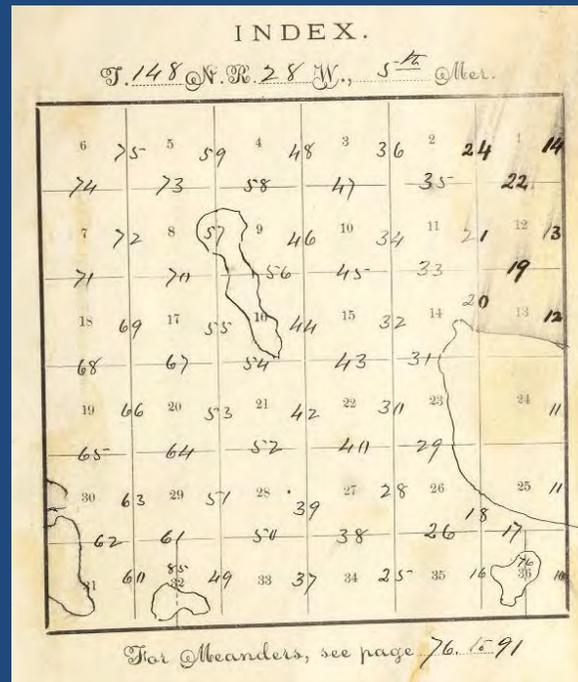
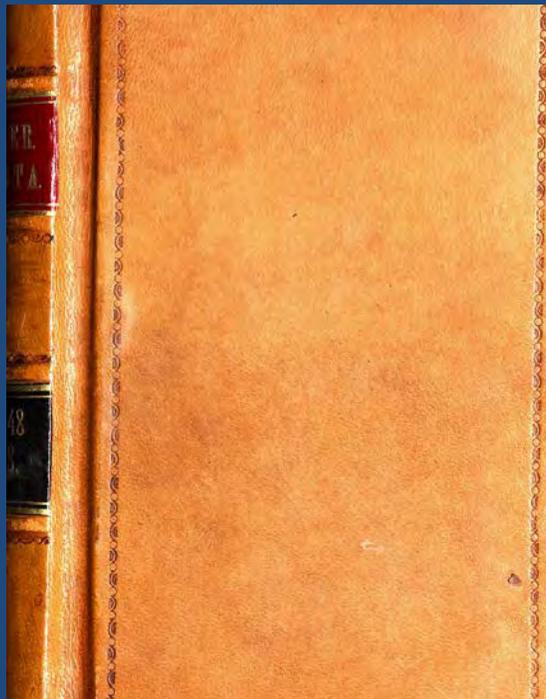
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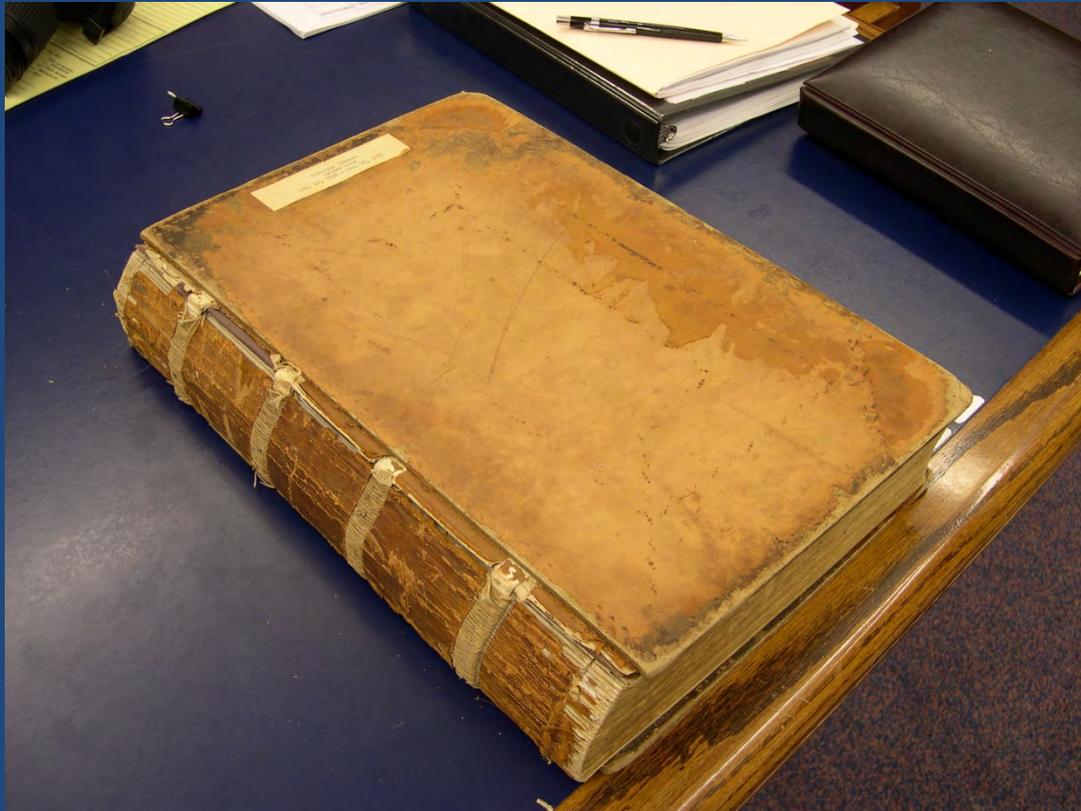


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- 146-28 P.H. Conger contract June 11, 1873; approved July 8, 1874
- 147-27 P.H. Conger contract June 11, 1873; approved July 30, 1874
- 146-28 J B C Baldwin contract June 25, 1875: approved April 18, 1876

3rd Correction Line



Special Instructions
To Henry A. Miller
Deputy Surveyor
Sic.

In your Survey of the South principal Meridian we set forth in your Contract of this day, the utmost possible skill and care we required. This meridian line is to form the basis of the greater portion of the Survey in Missouri Territory embracing, probably the most valuable Mineral District of the world. The following extract from my own instructions for the Survey of this line, are by which you are to be strictly governed; will show you in what estimation it is viewed by the Commissioners of the General Land Office "The sole detail for the service in of you must be perfect accuracy, in so far as respecting the most unyielding confidence can be placed; & that the line is Surveyed with the greatest care, both as to course & measurement. This line should be double chains and very closely and accurately marked, so it will be the guide, in all future operations in the region of country through which it passes"

3rd Correction Line



No approval page

M19

I, Henry A. Willet, Depy. Sur. do solemnly swear, that in pursuance of a contract with Geo. W. Jones, Sur. Gen. U.S., dated 22^d of May, 1847, and in strict conformity to the laws of the U.S. and the instructions of the said Sur. Gen., I have regularly surveyed the foregoing portion of the Third Correction line in the Territory of Minnesota, and I do further solemnly swear that the foregoing are the true and original ^{of the survey} field notes, executed as aforesaid

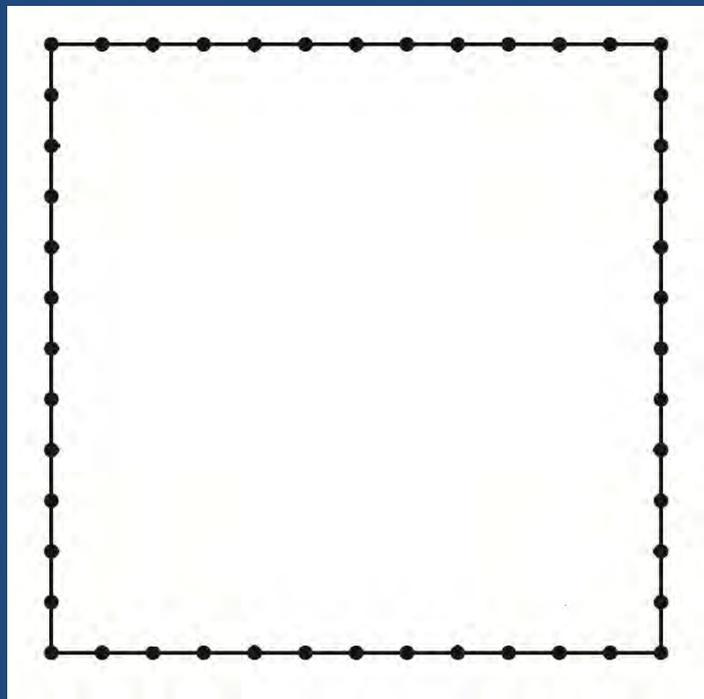
Henry A. Willet
Depy. Surveyor

Township Exteriors

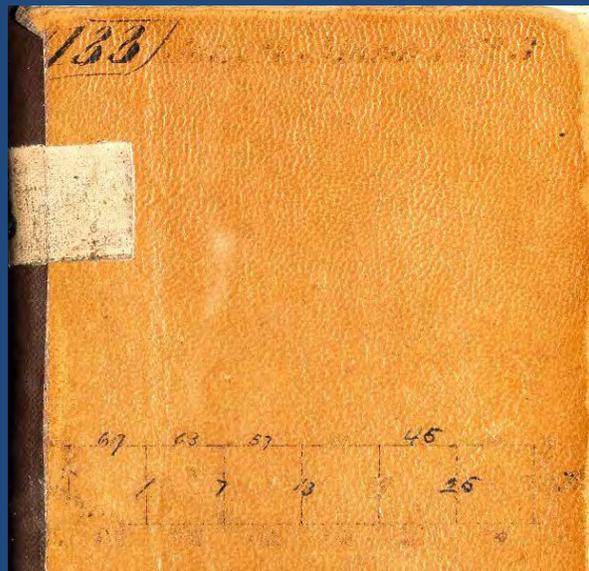
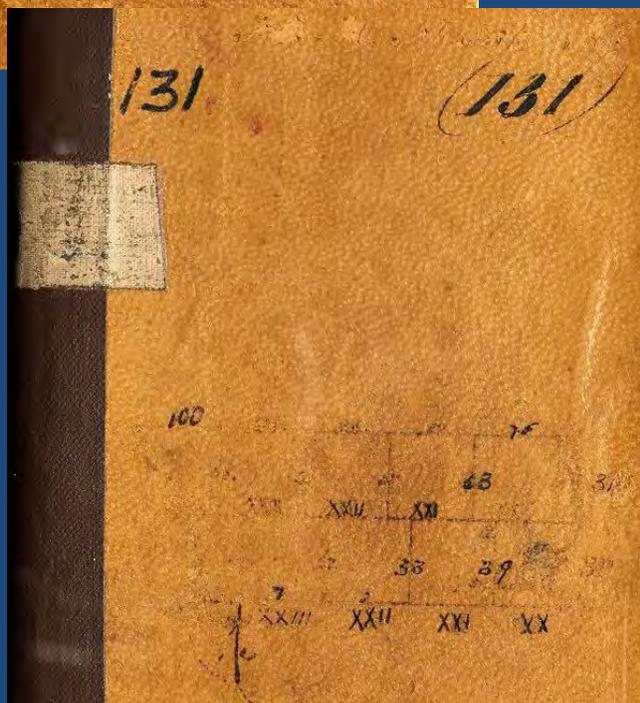
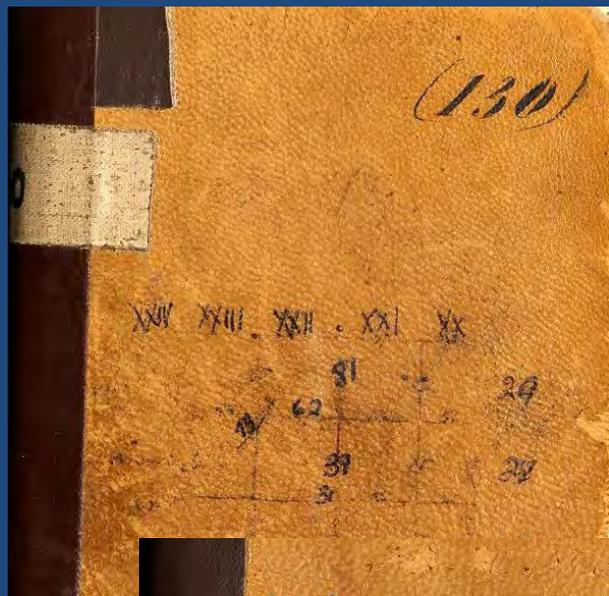
Began at an established township corner, ran north, south, east, or west in 6 mile increments setting monuments

- Every mile – 80 chains – for a section corner
- Every half mile – 40 chains – for a $\frac{1}{4}$ section corner

Ended by setting a new Township Corner



James Marsh



M57

I, James M. Marsh Deputy Surveyor do solemnly affirm that in pursuance of a Contract with Geo. W. Jones Surveyor General of the United States for Wisconsin & Iowa, bearing date the 25th day of May 1847 & in strict conformity to the laws of the United States and the instructions of the said Surveyor General, I have regularly surveyed & established the foregoing township boundaries West of the Fourth principal meridian Wisconsin Territory, and I do further solemnly affirm that the foregoing are the true original field notes of the said survey executed as aforesaid.

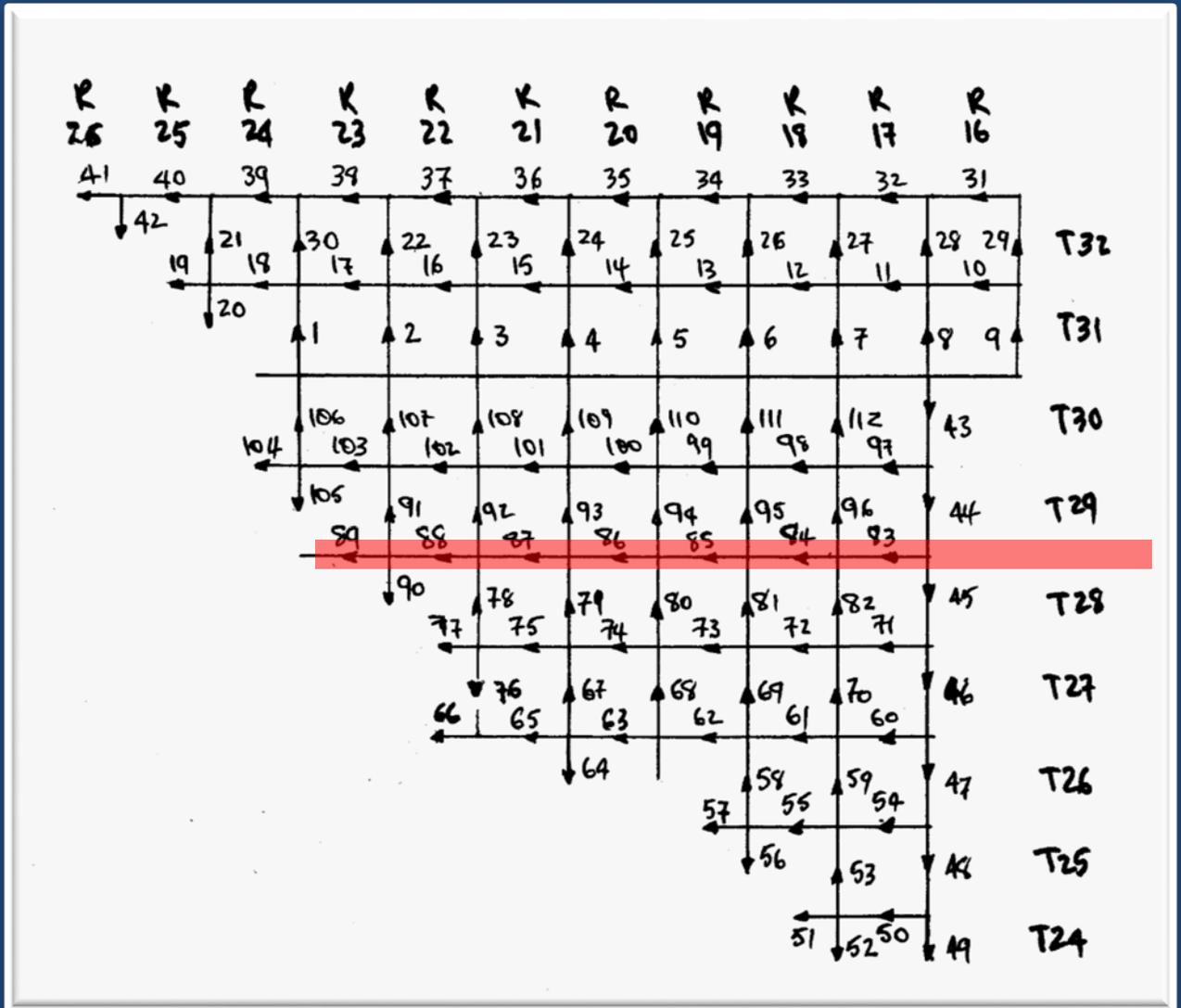
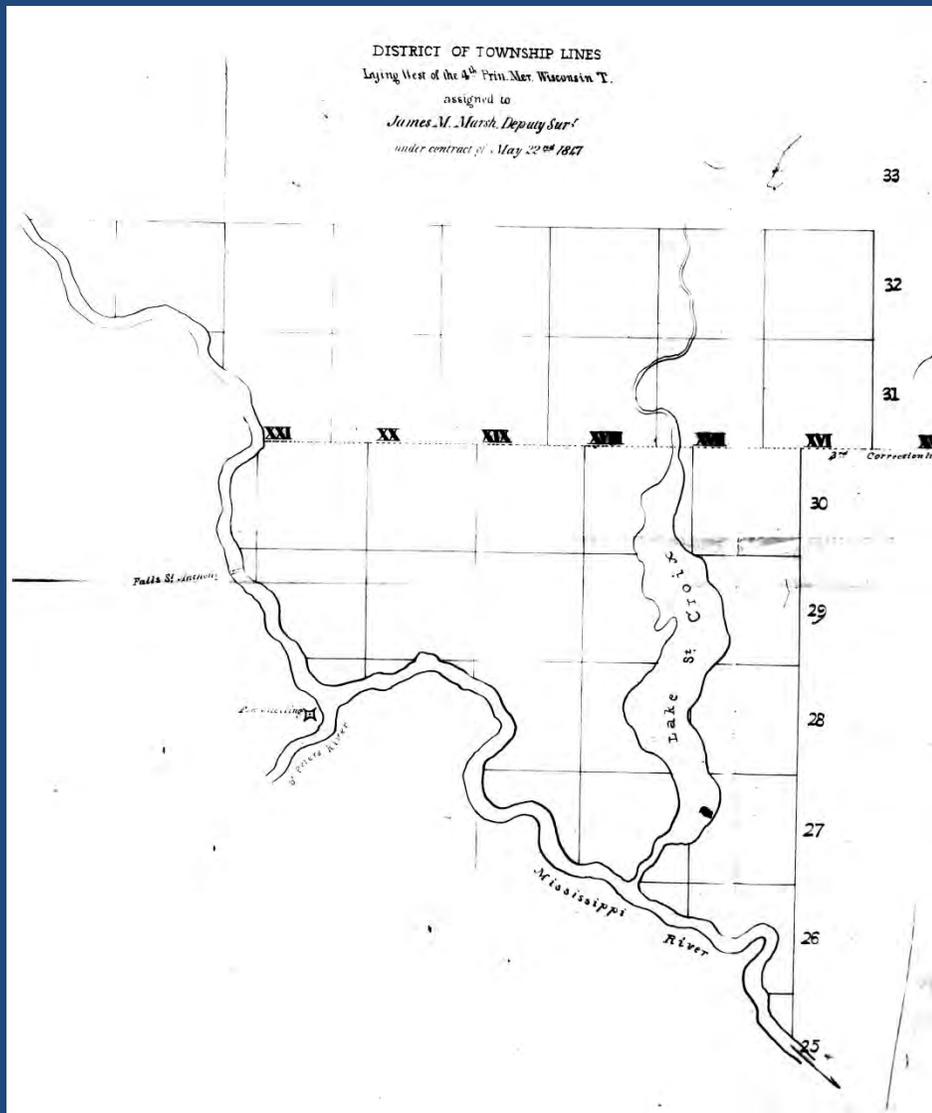
James M. Marsh
Deputy Surveyor.

Subscribed by said James
M. Marsh Deputy Surveyor and
sworn before me at Stillwater St.
Croix Co. this 30th day of October 1847
J. B. Loney
Judge of Probate

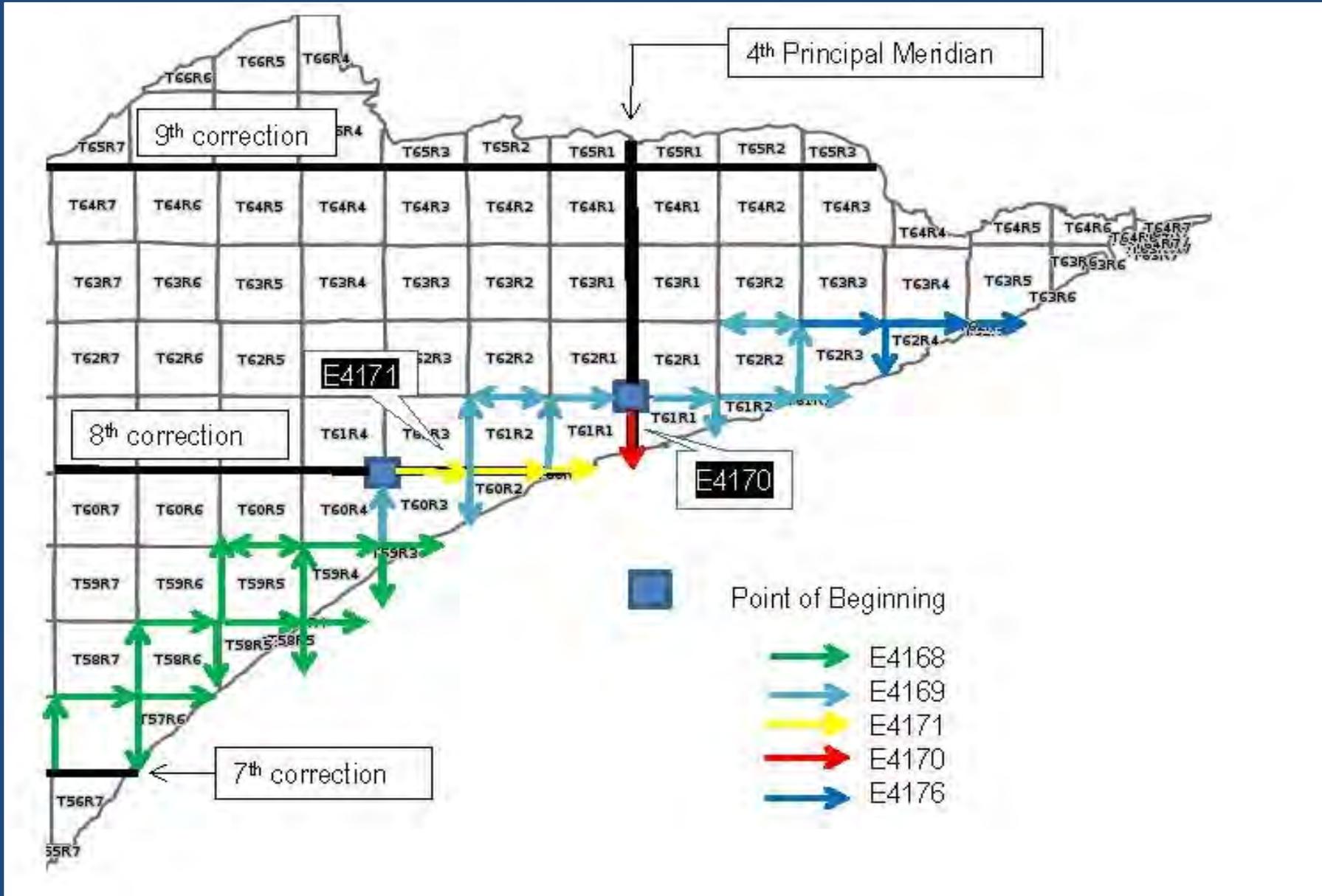
Surveyor General's Office
Dubuque Aug 21st 1850

Certify that the foregoing is a
true copy of ^{a part of} so much of the original field
books containing the surveys executed by
James M. Marsh, Deputy Surveyor, under
his Contract of May 23^d 1847 - as contain
the surveys of that portion of his District
situated West of St. Croix Lake
in the Territory of Minnesota

C. H. Booth
Surveyor General.



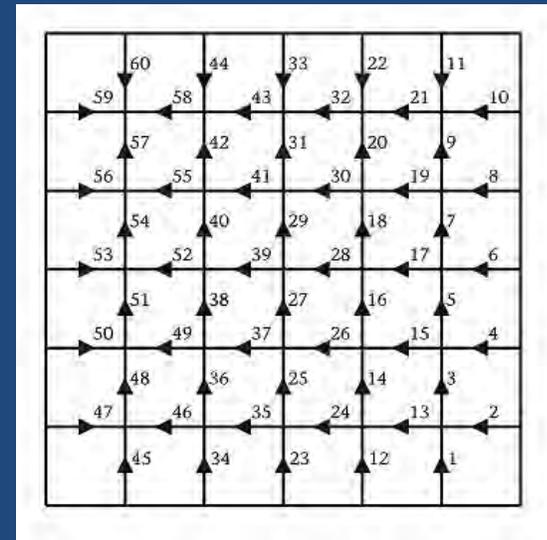
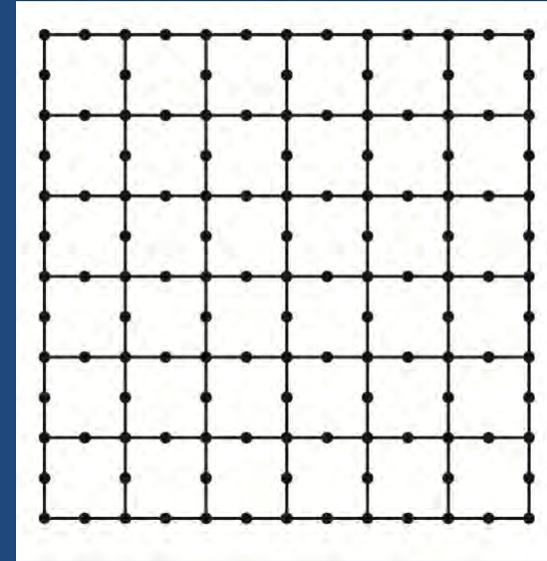
Turns out some township exteriors run in a complex manner

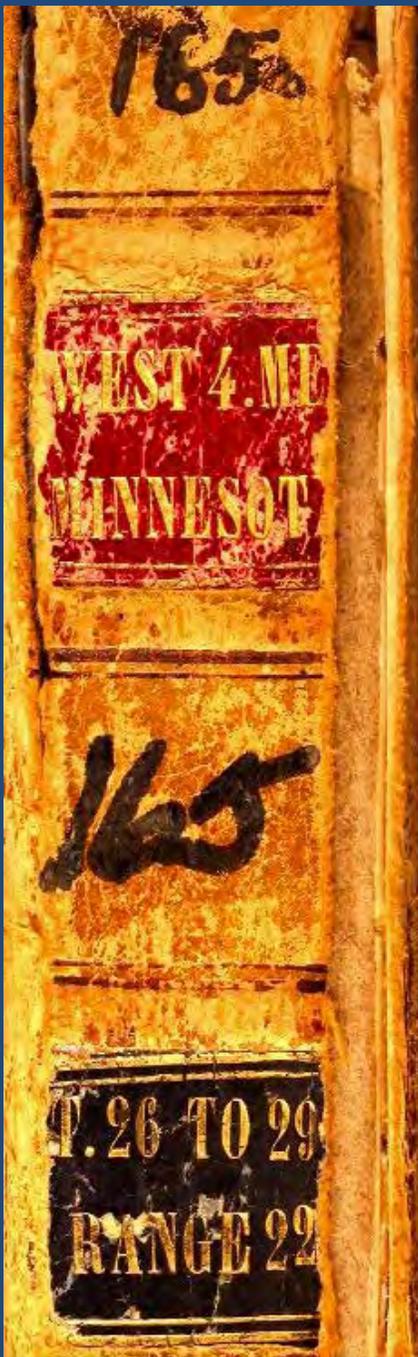


Township subdivisions

Began at an established township corner and ran north, south, east, and west in 1 mile increments setting monuments

- Every mile – 80 chains – for a section corner
- Every half mile – 40 chains – for a ¼ section corner
- Where line intersected “impassable” object
- Tied lines into existing corners on township lines





Isaac N Higbee

Contract Sept. 3, 1847

26-22 Oct. 21, 1847

27-22 Oct. 21-23, 1847

28-22 Oct 24-27, 1847

28-22 April 10, 1852

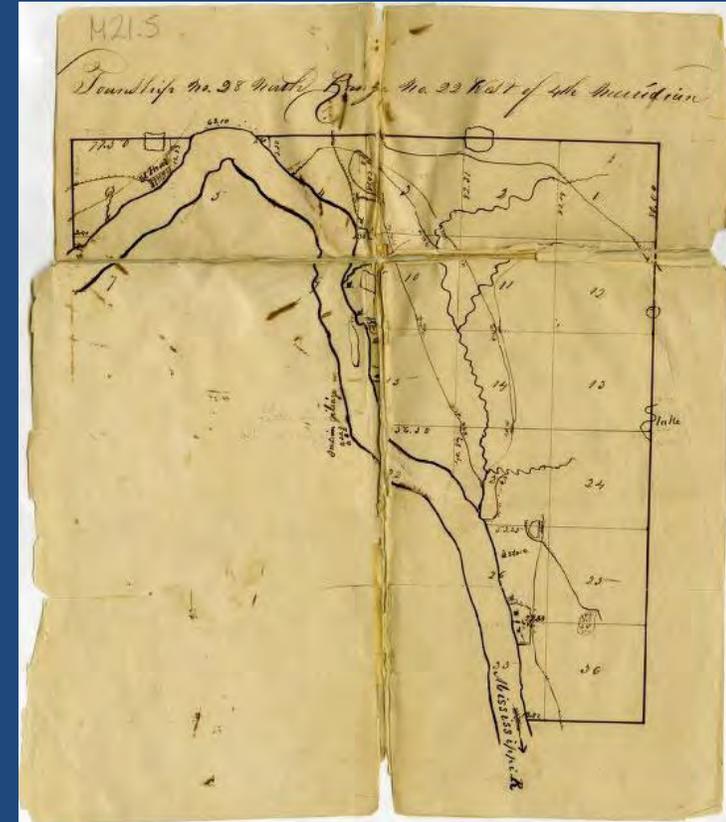
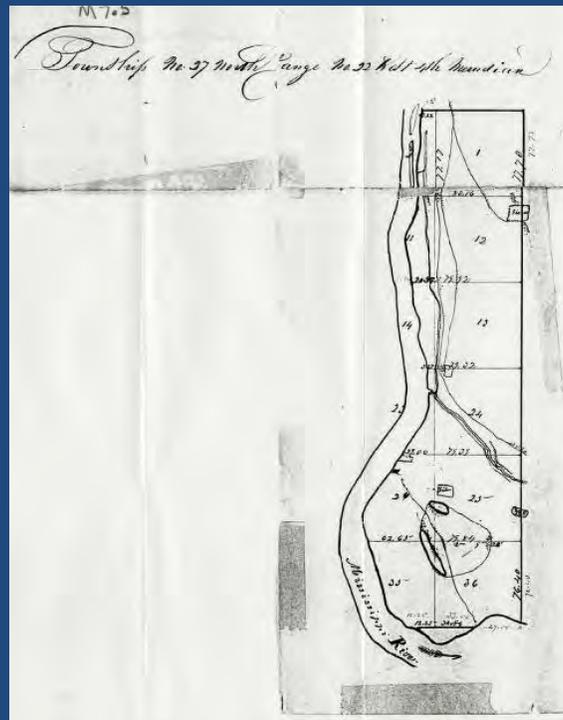
28-22 August, 1852

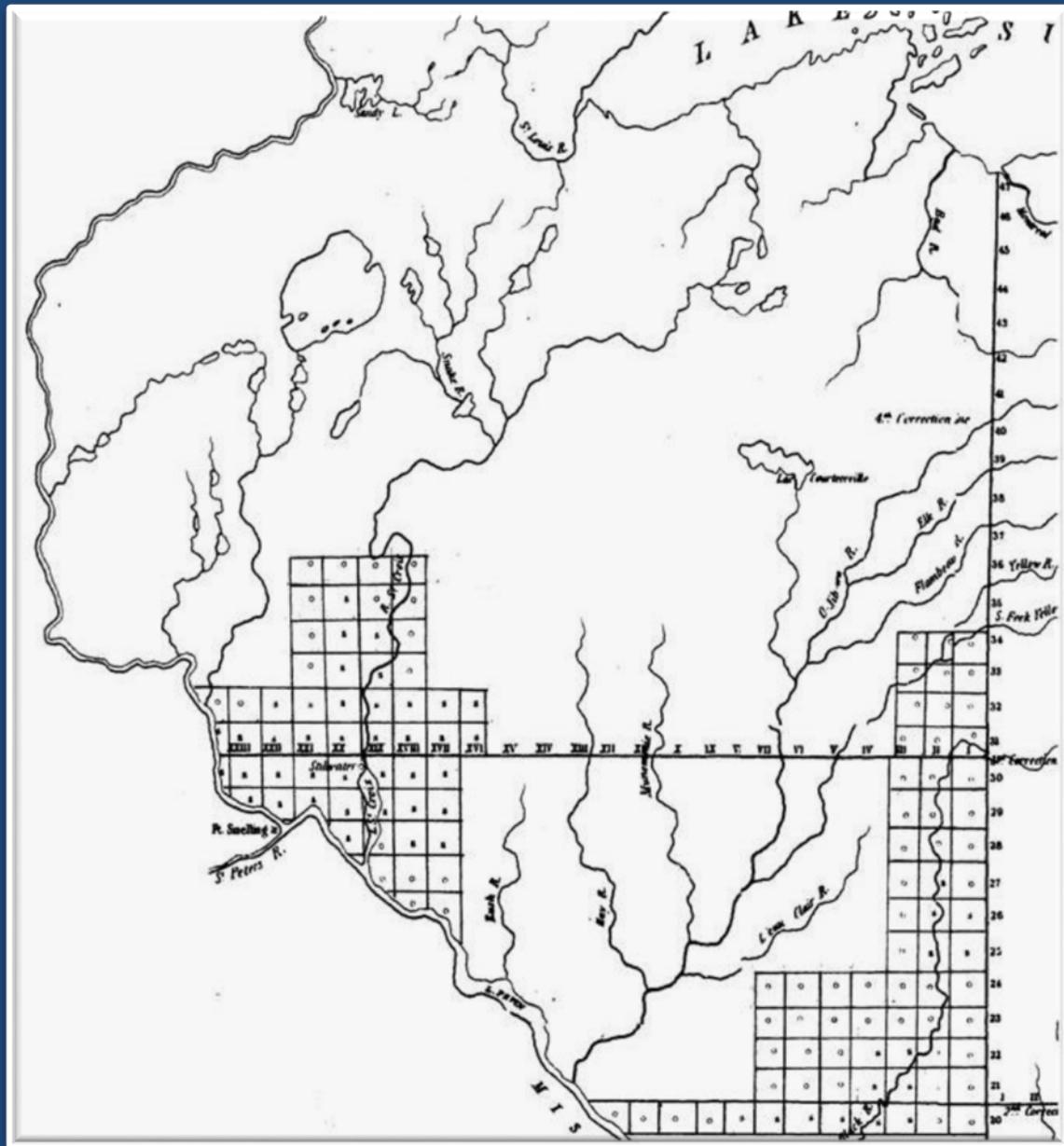
28-22 Aug. 9, 1852

29-22 Nov. 24-29, 1847

29-22 Jan. 17-18, 1853

Notes approved?





Dividing sections

Northern and western tiers – contain all errors

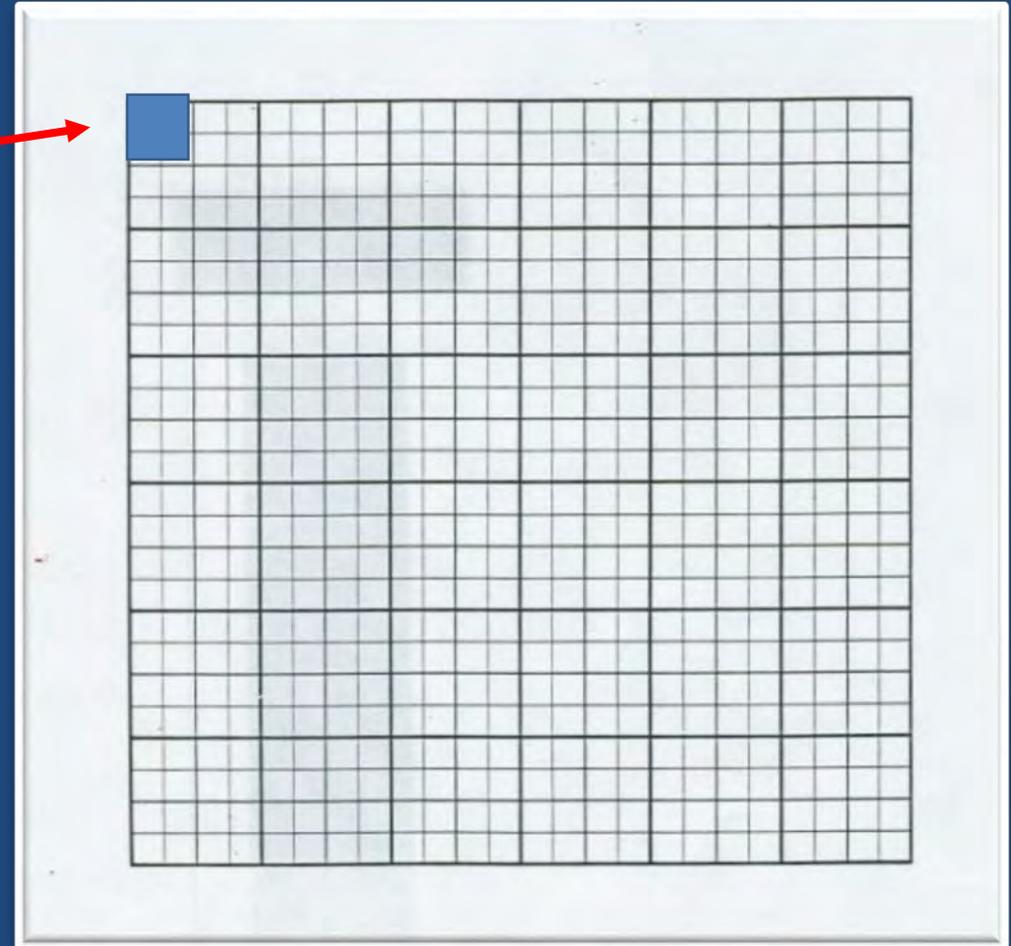
Quarter section lines protracted between monuments established midpoint along section lines

All lines subdividing a section, must be straight lines running through the section from the corner in one boundary to its corresponding corner in the opposite boundary of said section

Quarter sections divided by landowner

Government lots – have no dimensions merely an acreage

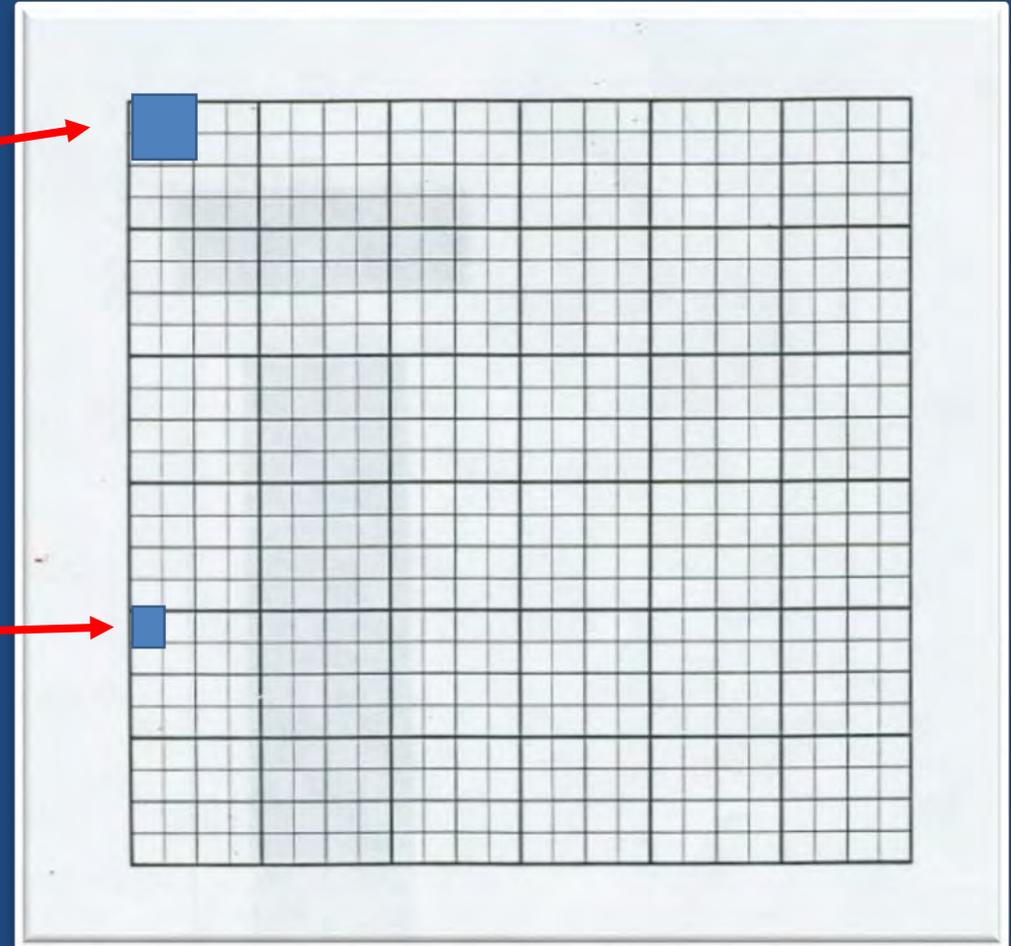
The deputies ran township exteriors and section lines
– placing monuments every half mile or where the
lines intersected and where they intersected an
“impassable object” – most often a water course –
creating townships, sections, and quarter sections



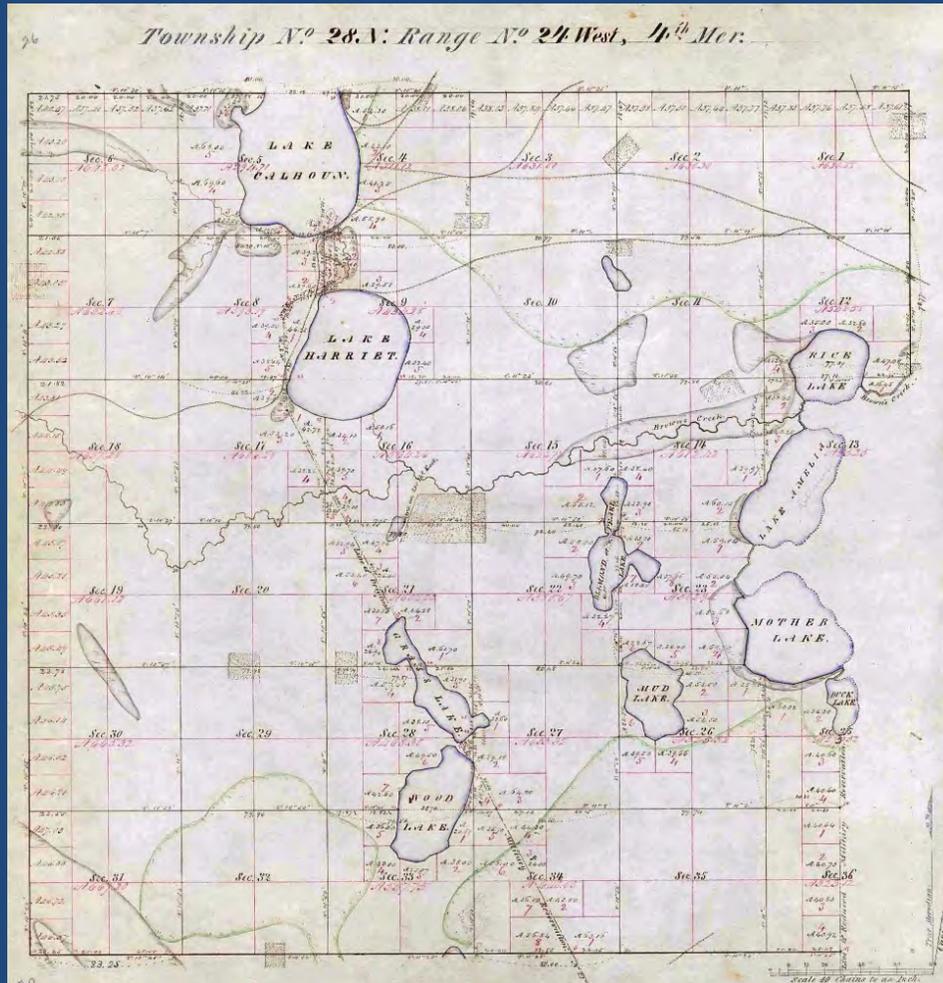
The deputies ran township exteriors and section lines – placing monuments every half mile or where the lines intersected and where they intersected an “impassable object” – most often a water course – creating townships, sections, and quarter sections

The government sold land in the smallest legal subdivisions – quarter-quarter sections, and irregular government lots

Some lines were drawn by draftsmen and later run by private surveyors hired by the landowner

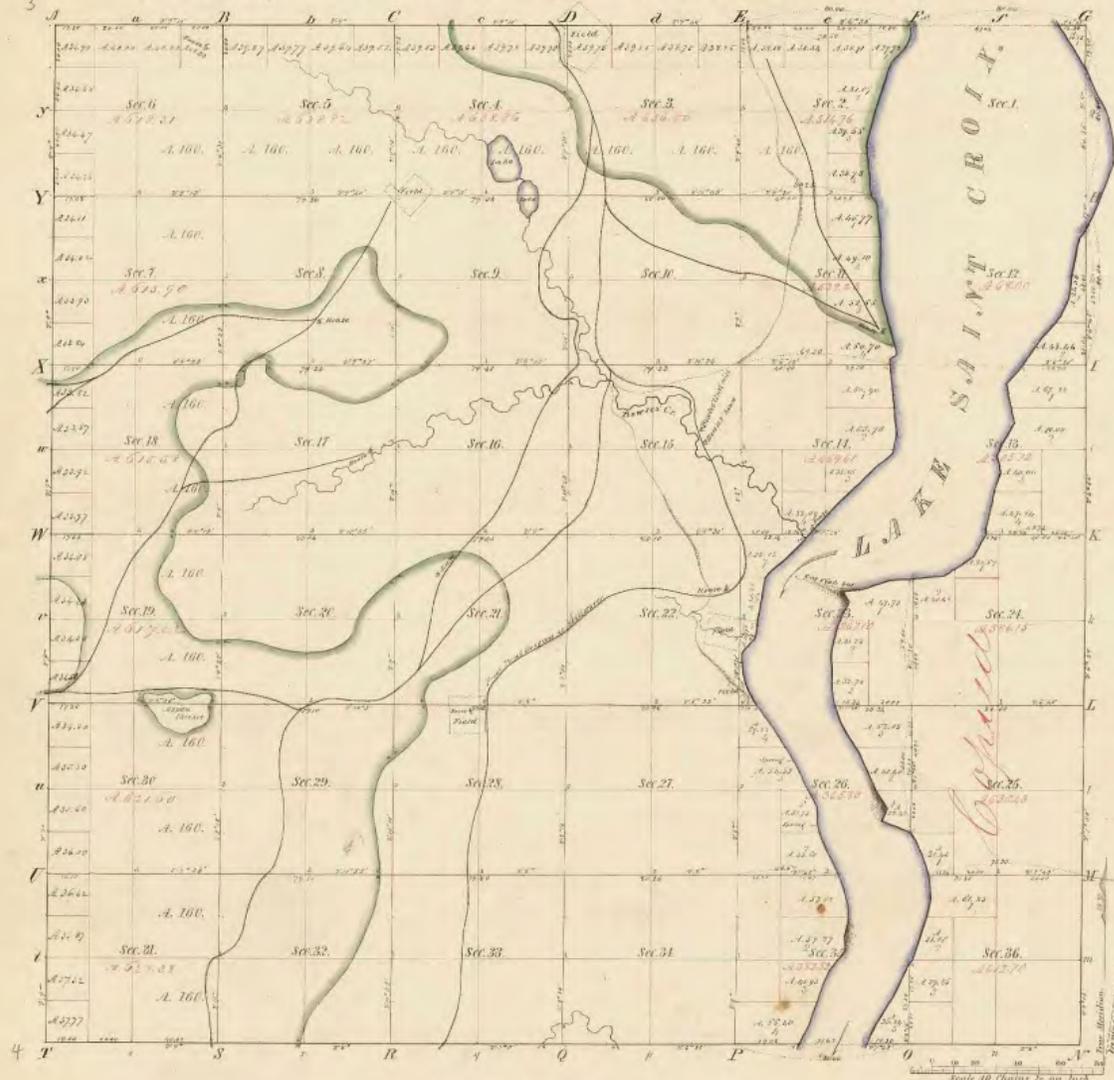


The Township Plat – the first large scale maps over much of the United States – 2 inches to the mile



- The location of the township in the United States
- The location of the boundaries to parcels of land in the township
- Specific topographic features
- A contemporary description of the land surface

Township N^o 28 N., Range N^o 20 West, 4th Mer.



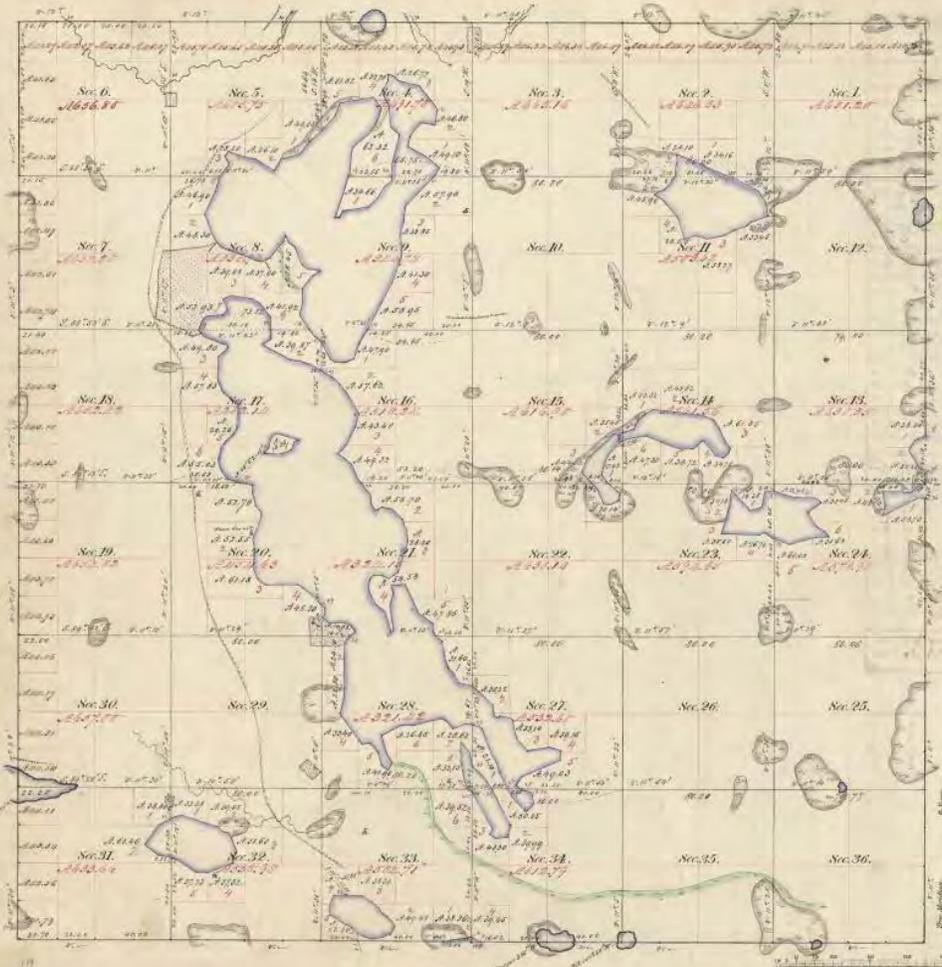
Members of Lake Saint Croix.					
Post	Course	(Ch.)	Post	Course	(Ch.)
Down side or S. bank.					
1	N 87° E	25.65	2	N 71° E	9.02
2	N 53° E	22.45	3	N 50° E	10.00
3	N 55° E	22.70	4	N 58° E	22.00
4	N 56° E	26.10	5	N 54° E	22.70
5	N 53° E	25.50	6	N 52° E	15.60
6	N 54° E	20.50	7	N 53° E	14.50
7	N 55° E	17.10	8	N 54° E	22.30
8	N 53° E	11.00	9	N 52° E	11.00
9	N 51° E	11.20	10	N 50° E	7.40
10	N 48° E	7.40	11	N 46° E	5.40
11	N 45° E	11.10	12	N 44° E	10.10
12	N 43° E	17.00	13	N 42° E	7.10
13	N 41° E	9.40	14	N 39° E	5.10
14	N 38° E	17.50	15	N 36° E	12.00
15	N 34° E	4.20	16	N 32° E	7.60
16	N 30° E	25.30	17	N 28° E	25.30
17	N 25° E	11.50	18	N 24° E	7.80
18	N 23° E	16.90	19	N 21° E	6.90
19	N 20° E	16.30	20	N 18° E	5.70
20	N 17° E	9.60	21	N 15° E	9.60
21	N 13° E	21.00	22	N 11° E	10.00
22	N 9° E	14.30	23	N 7° E	10.00
23	N 5° E	7.40	24	N 3° E	8.60
24	N 1° E	4.60	25	N 1° E	4.60
25	N 1° E	12.00	26	N 1° E	7.20
26	N 1° E	19.70	27	N 1° E	7.40
27	N 1° E	19.60	28	N 1° E	13.00
28	N 1° E	5.20	29	N 1° E	27.30
29	N 1° E	5.00	30	N 1° E	6.00
30	N 1° E	5.00	31	N 1° E	2.20
31	N 1° E	16.20	32	N 1° E	30
32	N 1° E	16.20	33	N 1° E	30
33	N 1° E	20.00	34	N 1° E	20.00
34	N 1° E	20.00	35	N 1° E	20.00
35	N 1° E	20.00	36	N 1° E	20.00
36	N 1° E	20.00	37	N 1° E	20.00
37	N 1° E	20.00	38	N 1° E	20.00
38	N 1° E	20.00	39	N 1° E	20.00
39	N 1° E	20.00	40	N 1° E	20.00
40	N 1° E	20.00	41	N 1° E	20.00
41	N 1° E	20.00	42	N 1° E	20.00
42	N 1° E	20.00	43	N 1° E	20.00
43	N 1° E	20.00	44	N 1° E	20.00
44	N 1° E	20.00	45	N 1° E	20.00
45	N 1° E	20.00	46	N 1° E	20.00
46	N 1° E	20.00	47	N 1° E	20.00
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48	N 1° E	20.00	49	N 1° E	20.00
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52	N 1° E	20.00	53	N 1° E	20.00
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59	N 1° E	20.00	60	N 1° E	20.00
60	N 1° E	20.00	61	N 1° E	20.00
61	N 1° E	20.00	62	N 1° E	20.00
62	N 1° E	20.00	63	N 1° E	20.00
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99	N 1° E	20.00	100	N 1° E	20.00
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102	N 1° E	20.00	103	N 1° E	20.00
103	N 1° E	20.00	104	N 1° E	20.00
104	N 1° E	20.00	105	N 1° E	20.00
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106	N 1° E	20.00	107	N 1° E	20.00
107	N 1° E	20.00	108	N 1° E	20.00
108	N 1° E	20.00	109	N 1° E	20.00
109	N 1° E	20.00	110	N 1° E	20.00
110	N 1° E	20.00	111	N 1° E	20.00
111	N 1° E	20.00	112	N 1° E	20.00
112	N 1° E	20.00	113	N 1° E	20.00
113	N 1° E	20.00	114	N 1° E	20.00
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121	N 1° E	20.00	122	N 1° E	20.00
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125	N 1° E	20.00	126	N 1° E	20.00
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181	N 1° E	20.00	182	N 1° E	20.00
182	N 1° E	20.00	183	N 1° E	20.00
183	N 1° E	20.00</			

Missing - The Register's Plat



Anatomy of a Township Plat

Township N^o 114 N, Range N^o 28 West of 5th Mer.



Boundaries of Lakes & Islands

Point	Course	Dist.	Point	Course	Dist.	Point	Course	Dist.
Lake crest 1015.00	N 88° 30' W	1.00	1015.00	S 88° 30' E	1.00	1015.00	N 88° 30' W	1.00
1015.00	N 88° 30' W	2.00	1015.00	S 88° 30' E	2.00	1015.00	N 88° 30' W	2.00
1015.00	N 88° 30' W	3.00	1015.00	S 88° 30' E	3.00	1015.00	N 88° 30' W	3.00
1015.00	N 88° 30' W	4.00	1015.00	S 88° 30' E	4.00	1015.00	N 88° 30' W	4.00
1015.00	N 88° 30' W	5.00	1015.00	S 88° 30' E	5.00	1015.00	N 88° 30' W	5.00
1015.00	N 88° 30' W	6.00	1015.00	S 88° 30' E	6.00	1015.00	N 88° 30' W	6.00
1015.00	N 88° 30' W	7.00	1015.00	S 88° 30' E	7.00	1015.00	N 88° 30' W	7.00
1015.00	N 88° 30' W	8.00	1015.00	S 88° 30' E	8.00	1015.00	N 88° 30' W	8.00
1015.00	N 88° 30' W	9.00	1015.00	S 88° 30' E	9.00	1015.00	N 88° 30' W	9.00
1015.00	N 88° 30' W	10.00	1015.00	S 88° 30' E	10.00	1015.00	N 88° 30' W	10.00
1015.00	N 88° 30' W	11.00	1015.00	S 88° 30' E	11.00	1015.00	N 88° 30' W	11.00
1015.00	N 88° 30' W	12.00	1015.00	S 88° 30' E	12.00	1015.00	N 88° 30' W	12.00
1015.00	N 88° 30' W	13.00	1015.00	S 88° 30' E	13.00	1015.00	N 88° 30' W	13.00
1015.00	N 88° 30' W	14.00	1015.00	S 88° 30' E	14.00	1015.00	N 88° 30' W	14.00
1015.00	N 88° 30' W	15.00	1015.00	S 88° 30' E	15.00	1015.00	N 88° 30' W	15.00
1015.00	N 88° 30' W	16.00	1015.00	S 88° 30' E	16.00	1015.00	N 88° 30' W	16.00
1015.00	N 88° 30' W	17.00	1015.00	S 88° 30' E	17.00	1015.00	N 88° 30' W	17.00
1015.00	N 88° 30' W	18.00	1015.00	S 88° 30' E	18.00	1015.00	N 88° 30' W	18.00
1015.00	N 88° 30' W	19.00	1015.00	S 88° 30' E	19.00	1015.00	N 88° 30' W	19.00
1015.00	N 88° 30' W	20.00	1015.00	S 88° 30' E	20.00	1015.00	N 88° 30' W	20.00
1015.00	N 88° 30' W	21.00	1015.00	S 88° 30' E	21.00	1015.00	N 88° 30' W	21.00
1015.00	N 88° 30' W	22.00	1015.00	S 88° 30' E	22.00	1015.00	N 88° 30' W	22.00
1015.00	N 88° 30' W	23.00	1015.00	S 88° 30' E	23.00	1015.00	N 88° 30' W	23.00
1015.00	N 88° 30' W	24.00	1015.00	S 88° 30' E	24.00	1015.00	N 88° 30' W	24.00
1015.00	N 88° 30' W	25.00	1015.00	S 88° 30' E	25.00	1015.00	N 88° 30' W	25.00
1015.00	N 88° 30' W	26.00	1015.00	S 88° 30' E	26.00	1015.00	N 88° 30' W	26.00
1015.00	N 88° 30' W	27.00	1015.00	S 88° 30' E	27.00	1015.00	N 88° 30' W	27.00
1015.00	N 88° 30' W	28.00	1015.00	S 88° 30' E	28.00	1015.00	N 88° 30' W	28.00
1015.00	N 88° 30' W	29.00	1015.00	S 88° 30' E	29.00	1015.00	N 88° 30' W	29.00
1015.00	N 88° 30' W	30.00	1015.00	S 88° 30' E	30.00	1015.00	N 88° 30' W	30.00
1015.00	N 88° 30' W	31.00	1015.00	S 88° 30' E	31.00	1015.00	N 88° 30' W	31.00
1015.00	N 88° 30' W	32.00	1015.00	S 88° 30' E	32.00	1015.00	N 88° 30' W	32.00
1015.00	N 88° 30' W	33.00	1015.00	S 88° 30' E	33.00	1015.00	N 88° 30' W	33.00
1015.00	N 88° 30' W	34.00	1015.00	S 88° 30' E	34.00	1015.00	N 88° 30' W	34.00
1015.00	N 88° 30' W	35.00	1015.00	S 88° 30' E	35.00	1015.00	N 88° 30' W	35.00
1015.00	N 88° 30' W	36.00	1015.00	S 88° 30' E	36.00	1015.00	N 88° 30' W	36.00

Total number of Acres 5,000.00

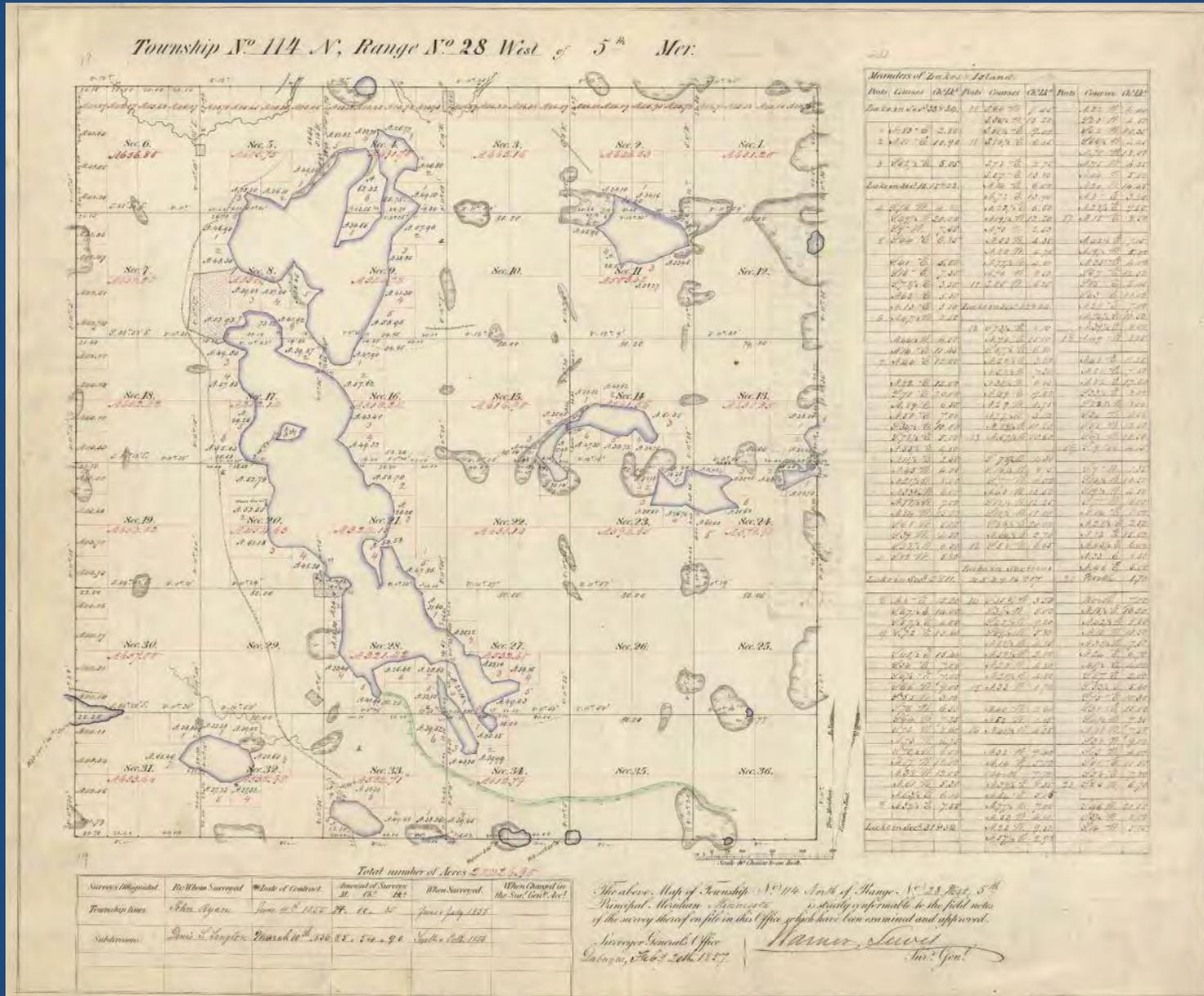
Survey Abrogated	By Whom Surveyed	Date of Contract	Amount of Survey	When Changed to the Stat. Gen'l. Act?
Township lines	John A. Boyer	Nov 21 st 1855	36. 00. 00	Jan 1 July 1855
Subdivisions	Amos A. Boyer	March 10 th 1856	500. 00. 00	Sept 1 st 1856

The above Map of Township N^o 114 North of Range N^o 28 West 5th Meridian, Meridian & Bearings is truly conformable to the field notes of the survey thereof on file in this Office which have been examined and approved.

Surveyor General's Office
 Lansing, Feb 2nd 1857

Warner, Sec'y
 Sur. Genl.

Anatomy of a Township Plat



- Sketch diagram from the exterior deputy
- Sketch diagram from the subdividing deputy
- Township exterior diagram
- Field notebook from the exterior deputy
- Field notebook from the subdividing deputy

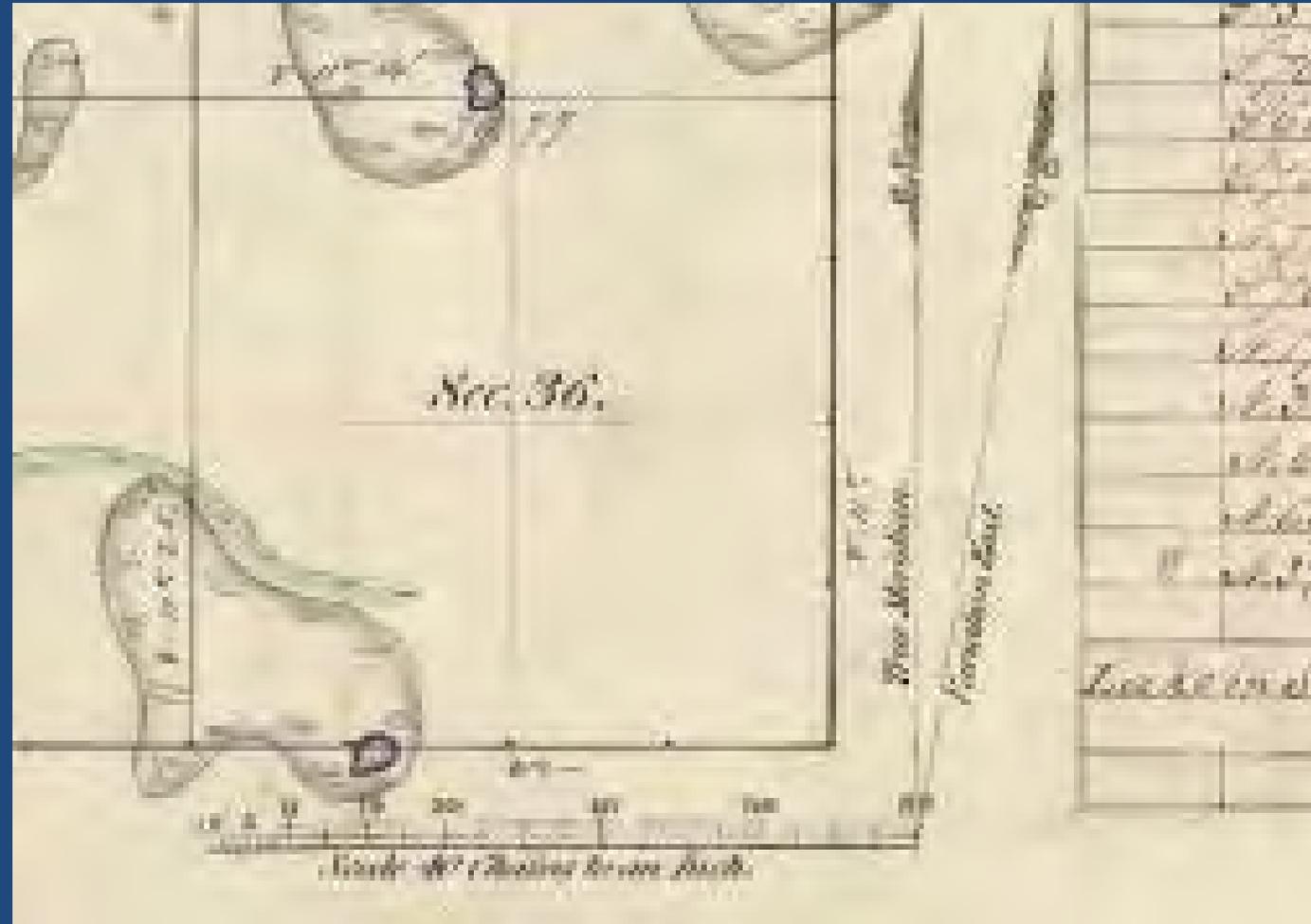
A Unique Location in the United States

Township N^o 114 N, Range N^o 28 West of 5th Mer.

The above Map of Township N.^o 114 North of Range N.^o 28 West, 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, Feb. 20th 1857

Warner Sweet
Sur.^r Gen.

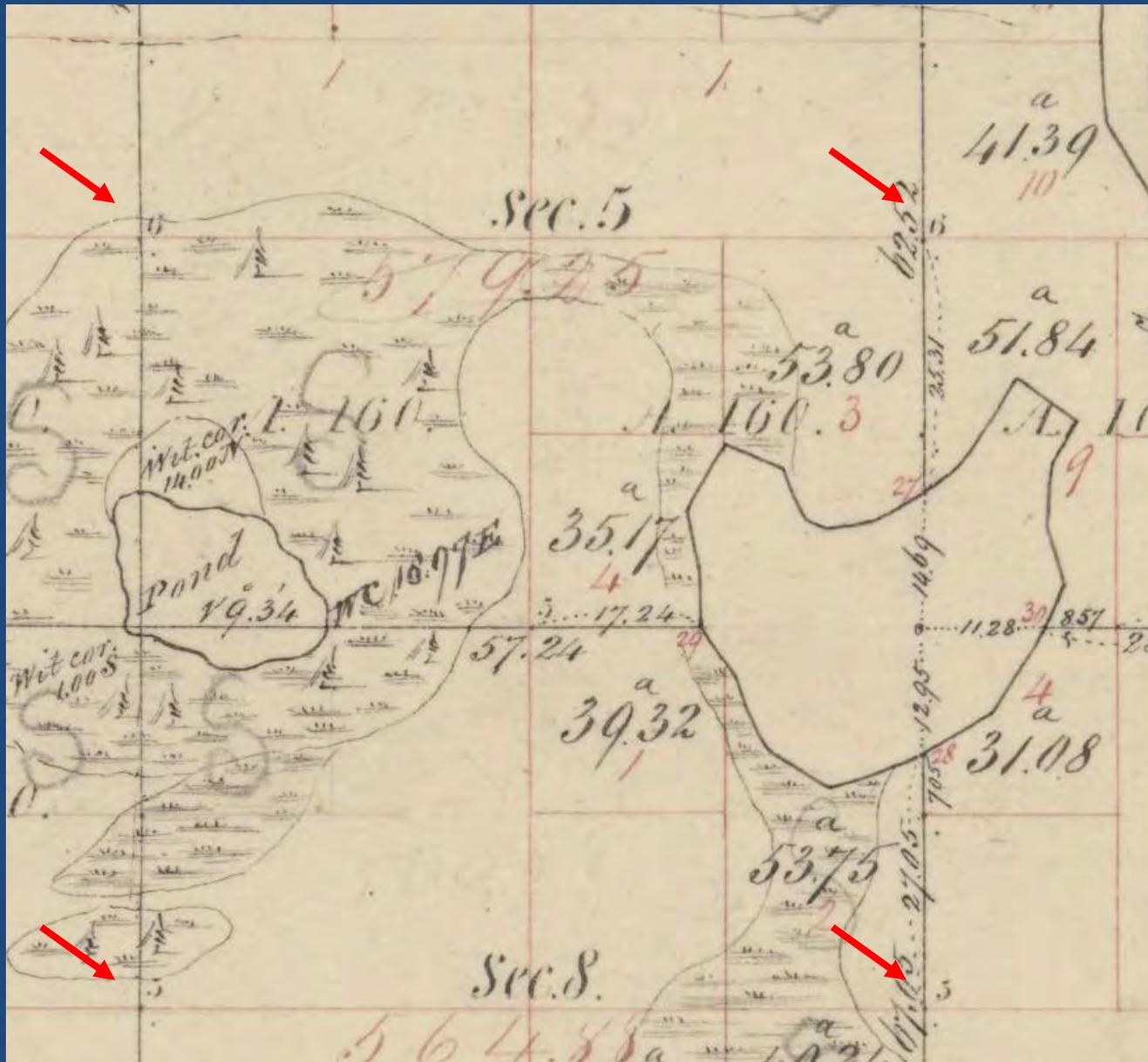


133-32 – thanks to Terry Freeman (Cass County)

Line	Deputy	Field Note Vol.	Contract Date	Survey Date	Approved Date
North	Harvey Mellon	E5141 4-10	July 19, 1858	June 26	
West	Harvey Mellon	E5141 11-19	July 19, 1858	June 27	
East	Oscar Taylor	E5125 49-107	Dec. 27, 1857	ND	
West R resurvey	Geo. Wright	E5316 179-201	July 23, 1863	Sept. 16	April 23, 1864
Subdivisions	Geo. Wright	I5425	July 22, 1862	Sept. 3-17	Nov. 10, 1863

133-32 - I5318





133-32

The way in which sections were subdivided and designated changed through time, even during the sixty years of the surveys in Minnesota

Previous to about 1858 parcels on the northern and western exterior of townships were not give numbers – except if a water body lay in the parcel - although the acreage was noted on the plat

In 1863, when the plat was drawn, and in 1862 you have this bizarre system.

In 1870 the lots in sections were numbered sequentially in an anticlockwise manner

Obviously, there's more work to do, for example on your plat and other, later, plats the interior quarter section corner are numbered on the plat.

Digital Data

Bureau of Land Management General Land Office Records

- Survey Plats and Field Notes
 - search by county, land description, surveyor
 - search by location – township
 - search by identifier – a unique numeric code automatically assigned during document indexing, when the record is initially created

Minnesota IT Services Geospatial Information Office

- Historic Plats
 - GLO Historic Plat Map Retrieval System

Sometimes a different perspective is Useful