Historical Surveying Instructions and Their Influence On Surveys Of The 3rd and 4th Correction Lines, 4th Principal Meridian

John Dahl
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Introduction to the PLS

A Few Terms:
GLO – General Land Office
PLS – Public Land Survey
Commissioner
Surveyor General
Deputy Surveyor

Dark shaded area surveyed from 4th PM.
Light shaded area surveyed from 4th PM.
Initial point of the 4th Principal Meridian

3rd and 4th Correction Lines

Typical County Line
Mississippi River

4th Correction Line
3rd Correction Line

Layout of Townships Between the 3rd and 4th Correction Lines.

Township 37 North Range 22 West of the 4th Principal Meridian Showing Typical Section Numbering.

A Regular Section Nominally 640 Acres
The Footstep Thing

• “Following in the footsteps of the original surveyor simply means following the evidence of the footsteps”. “The evidence should include the instructions, field notes, the plats and any other evidence, both documentary and physical that can be found at the time of the retracement” (Robillard, Wilson and Brown, 2003, p. 256).

Documentary Evidence

Documentary Evidence
Written Prior to the Survey

Contract
General Instructions
Special Instructions
Letters

Documentary Evidence
Written During/After the Survey

Field Notes
Plats
Examination Notes
Letters

Minnesota History Center
St. Paul, Minnesota

• Original Field Books
• Letters, Contracts, Examination Notes, Maps.
• Almost no letters from before Minnesota’s statehood (1858)

Iowa Historical Society
Des Moines, Iowa

• Field Books
• Letters, Contracts, Examination Notes, Maps.
• Most of the documents from before Minnesota statehood (1858)
Prairie LaCross July 1st 1847
Gen G. W. Jones

Dear Sir,

I have been somewhat unfortunate thus far with my hands for yesterday four of them quit work owing entirely to the annoyance of the gnats & musketoes. No money would induce them to stay & I could not blame them for two of them were nearly blind. I stand it very well myself, but they are a great annoyance. I shall make an effort to get hands here. Should I fail I shall be under the necessity of asking for an extension of time, say to the first of December.

I am very well pleased with my contract & should like to complete it & will do so within the specified time if possible.

Please inform me by first boat.

Very respectfully Yours,

C.S. Woodworth
Reports / Instructions

1847, June 7, Dubuque, IA
H.A. Wiltse to G.W. Jones
Wiltse describes the country and the difficulties in extending the 4th P.M. to Lake Superior. Letter No. 61 Encl.
GLO SGLR 4pp

1851, Sept. 12, Dubuque, IA
H.A. Wiltse to G.B. Sargent, Dubuque
Wiltse reports on the character of the country along the St. Croix, Kettle and Snake rivers and the progress in settlement. Letter No. 34 Encl.
GLO SGLR 6pp

1849, Aug. 6, Dubuque, IA
C.H. Booth to Theodore Conkey, Fond du Lac, Wis.
A copy of Booth's instructions for surveying north of the base line and west of the 4th P.M., Minnesota Territory. Letter No. 50 Encl.
GLO SGLR 2pp

1846, Dec. GLO
J.H. Piper to G.W. Jones.
Instructions re the survey of lands bordering on the St. Croix River.
GLO LBSG Vol. 12, p. 37

1848, June 30, GLO
R.M. Young to G.W. Jones.
Re the survey of the townships embracing the Falls of St. Croix.
GLO LBSG Vol. 13, p. 1

Special Instructions

- Written in letter form and accompanied most contracts.
- Example:
  - "The very name of this survey will suggest to your mind the necessity of great care and precision in its execution, while the price paid you per mile contemplates difficulties of the worst character ever encountered upon a survey, except perhaps that of the Fourth Principal Meridian in Wisconsin."

Theodore Conkey

1850, April 30, Dubuque, IA
C.H. Booth to Theodore Conkey, Fond du Lac, Wis.
A copy of Booth's instructions for surveying north of the base line and west of the 4th P.M., Minnesota Territory. Letter No. 50 Encl.
GLO SGLR 2pp

Letter Books of the Surveyor General

1846, Dec. 18, GLO
J.H. Piper to G.W. Jones.
Instructions re the survey of lands bordering on the St. Croix River.
GLO LBSG Vol. 12, p. 37

1848, June 30, GLO
R.M. Young to G.W. Jones.
Re the survey of the townships embracing the Falls of St. Croix.
GLO LBSG Vol. 13, p. 1

1851, April 23, GLO
J. Butterfield to G.W. Jones.
Instructions re surveying operations in Wisconsin and Minnesota.
GLO LBSG Vol. 14, p. 166-168

Special Instructions

Example to Wiltse:
  - In your survey of the 3rd Correction parallel, when you arrive at the township corner dividing ranges 16 & 17 North of the said line, you are to take an accurate observation of the latitude at that point from which & other data in your possession you will calculate and make the requisite offset.....

3rd and 4th Correction Lines

Mississippi River

Typical County Line
4th Correction Line
3rd Correction Line

Deed Date, April 30
Dubuque, IA
Theodore Conkey

Grand Chute, April 1st, 1850
To the Hon. C. H. Booth,
Surveyor General Iowa.

Sir:

After a protracted delay of months I send to your office the Field Notes of the survey of my District in Minnesota. The cause of this long delay has been a severe attack of inflammatory rheumatism which has rendered me helpless from the second week after my return home until within a few days since.

I am still unable to travel, hence I am compelled to use the mail as the only means of transmitting. I had to encounter countless difficulties and embarrassments in the process of my work which I have never before had to contend with. After the water becomes cold and the weather severe I had great difficulty in keeping a party together. The survey of the North Eastern part of the district is badly surveyed and had I thought as much of it before leaving the country as it has distressed me since I certainly should correct it. I will however hold myself ready to make the correction should you think proper to advise it. It was so near the Correction Line and the country entirely valueless and being wholly destitute of supplies I passed over it with too little forethought for my own good or reputation.

There is no necessity for sectionalizing any part of the district excepting that portion lying immediately upon the Mississippi and Road from St. Paul to Fort Gaines (now Camp Ripley). No benefit could possibly ever come to the Government by subdividing any more than the fractional townships along the river.

Considerable pine exists along Rum River but generally of inferior quality. Meander corners were established as far up as it was thought possible for a board raft to run. The anxiety to forward my notes has induced me to omit their platting and mapping, as it would require too much delay in my present enfeebled condition to do it.

You will please direct my draft or Warrant to be made payable at the Land Office at Dubuque and sent to me at Appleton, Brown County, Wisconsin and

Respectfully Your
Obtd. Servt.

Theodore Conkey
General Instructions

• Prior to 1846, the full general instructions were hand copied to accompany most contracts.
• After 1846, a book of instructions was written by George Jones to accompany survey contracts in this area.

Provisions of the 1846 General Instructions

• Elimination of double corners.
• Section numbering scheme defined.
• Correction lines are defined.
• Curvature of the earth.

Provisions of the 1846 General Instructions

• Instruments were to operate "Independently of the magnetic needle."
• Explicit and extensive instructions for setting and marking section corners.
• Chain specifications.
• Horizontal measure.
• Obstructions.
• Meander corners.

Provisions of the 1846 General Instructions

• How to establish Township lines.
• Observe magnetic variation every mile.
• How and what to meander.

Physical Footsteps
Physical Evidence
Coordinates Used to take the Long View of These Lines.

- 3rd Correction Line
  - Washington County
  - Ramsey County
  - Anoka County

- 4th Correction Line
  - Pine County
  - Kanabec County
  - Mille Lacs County
  - Morrison County

Questions Raised During The Research

- Possible "bad" work done on some original surveys.
- The Tapering Township issue
- Minnesota / Wisconsin border issues
Bad Work - Good Work?

Tapering Townships

3rd and 4th Correction Lines

Mississippi River

Typical County Line

4th Correction Line

3rd Correction Line

Layout of Townships Between the 3rd and 4th Correction Lines.

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A Regular Section Nominally 640 Acres

Minnesota / Wisconsin Border

T40N – R17W Wisconsin
Minnesota – Wisconsin Border

1846, Dec. 10
J. H. Piper to G. W. Jones.
Instructions re the survey of lands bordering on the Saint Croix River
GLO
LBSG
Vol. 12, p. 37
1895
ceef
p. 485

1848, June 20
R. M. Young to G. W. Jones.
Re the survey of the townships embracing the Falls of Saint Croix.
GLO
LBSG
Vol. 13, p. 1
1788
cdef
p. 492

1849, July 4
G. W. Jones.
Instructions to keep the field notes of surveys in Wisconsin separate and distinct from those in Minnesota
GLO
LBSG
Vol. 13, p. 175
1889
cedef
p. 496

1851, April 23
J. Butterfield to G. B. Sargent.
Instructions in surveying operations in Wisconsin and Minnesota
GLO
LBSG
Vol. 14, p. 188-188
ceedef
p. 504

The Footstep Thing

• “Following in the footsteps of the original surveyor simply means following the evidence of the footsteps”. “The evidence should include the instructions, field notes, the plats and any other evidence, both documentary and physical that can be found at the time of the retracement” (Robillard, Wilson and Brown, 2003, p. 256).

Summary

• The original records, letters and instructions sometimes provide answers to the question “how did this get like this?” Answers that may not be apparent in recent survey records.
• Other times they just provide more clues.
• The Records should be consulted.
• The Records must be preserved.

St. Cloud Technical College
Land Surveying and Civil Engineering Technology

We have student openings for fall semester 2009

Contact any of the following people for more information:

John Dahl – jdahl@sctc.edu
Rich Antony – rantony@sctc.edu
Jody Mies – jmies@sctc.edu
(320) 308-5012 or 308-5061