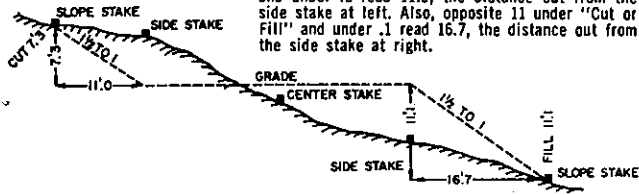


CWC Field Book
No. 1

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

FROM

Crow Wing County Highway Engineer

P.O. Box 308

Brainerd, Minnesota 56401

To CROW WING COUNTY SUPERVISOR OFFICE

202 LAUREL STREET

BRainerd, MINN. 56401

529-1706

INDEX

2. Z-17, T.43, R.28, SOUTHWEST CORNER OF SECTION 34.

3. X-17, T.43, R.28, EAST $\frac{1}{4}$ OF SECTION 34.

4.

5.

6. TIES TO 2-14-43-28

7.

8.

9.

10.

11.

12.

13.

14.

15.

INDEX

LD-82-01A

TERRY BETLEY-CSD CORNER SEARCH FOR
(12-21-82)

DEAN MACKAY-CLD 2-17-43-28

(SOUTHEAST CORNER OF S.35 OF SAID TWP)

IN 1849 A POST WAS SET 80 LKS WEST OF

POINT FOR CORNER IN LAKE (OR SECTION COR.)

TWO TIES WERE RECORDED: PINE - 18" - NB9W 50 LK

PINE 10" - S88W 40 LK.

IN 1921 NELS PETERSON SET A CONCRETE

MONUMENT FOR SECTION CORNER

IN 1926, LOUIS RHODGERI-COUNTY SURVEYOR FOUND

A CONC. MONUMENT IN PLACE

IN 1982, MYSELF AND DEAN MACKAY MADE A SEARCH

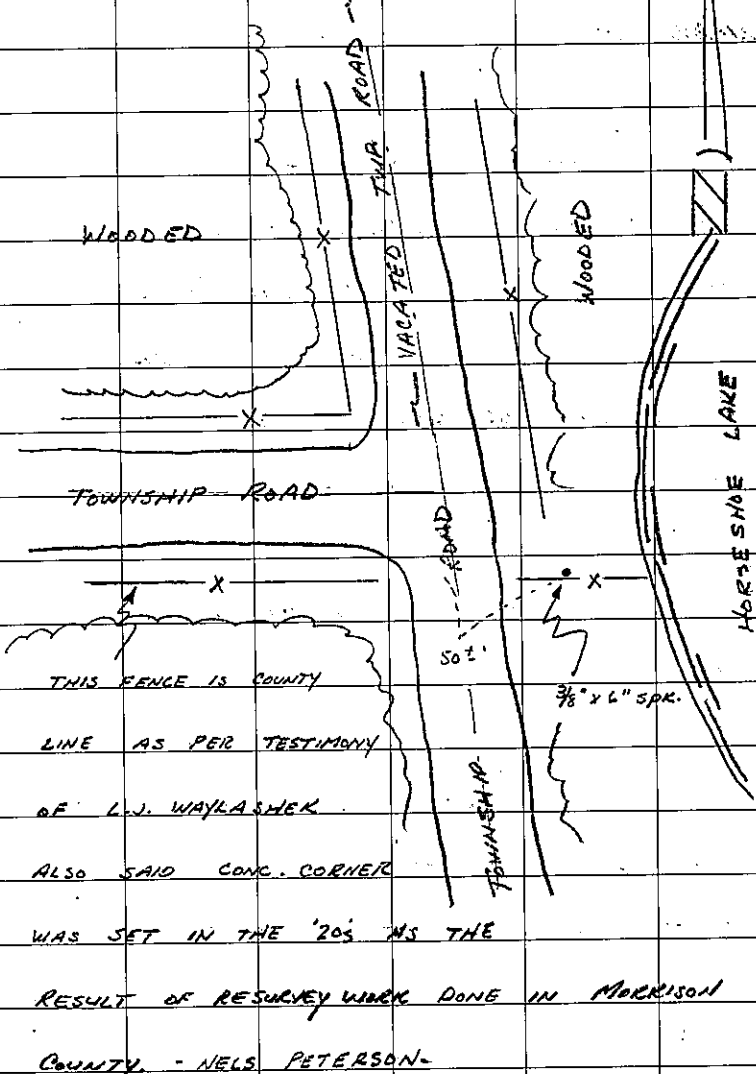
FOR SAID CORNER. NO CONC. COR. FOUND

OIO FIND A 3/8" X 6" SPIKE WITH RIBBON.

SOUTHEAST COR. OF S.35-43-28 C.W.G. 2

NORTHEAST COR. OF S.3, -42-28 M. CNTY

SEE PG. 70 FOR TIES TO W.C.



THIS FENCE IS COUNTY
LINE AS PER TESTIMONY

OF L.J. WAYLASHAK

ALSO SAID CONC. CORNER

WAS SET IN THE '20s AS THE

RESULT OF RESURVEY WORK DONE IN MORRISON

COUNTY. - NELS PETERSON-

LD-82-01A 20° 1" OF SNOW ON GRD

TERRY BETLEY

DEAN MACKAY

12-21-82

CORNER SEARCH FOR X-17, 43-28

EAST 1/4 CORNER TO SEC. 34

IN 1859, A POST WAS SET FOR THE CORNER

AND TWO TIES WERE RECORDED

A YELLOW PINE - 14" N35E - 67 LKS

A YELLOW PINE - 12" N60W - 29 LKS

IN 1926 - LOUIS KNUDSEN SET OR FOUND

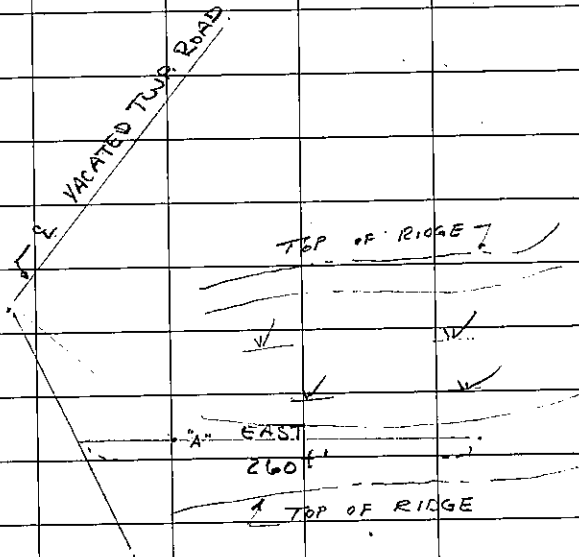
A WH. STAKE STATES NO EVIDENCE OF ORIG

CORNER

IN 1982 - MYSELF AND DEAN MACKAY

MADE AN EXTENSIVE SEARCH FOR

CORNER - NO EVIDENCE FOUND



"A" IS THE LOCATION L.K. CLAIMS HE FOUND

WHITE STAKE THIS LOCATION DERIVED FROM

RETRACING L.K. 1926 SURVEY OF TOWNSHIP

ROAD WHICH NOW HAS BEEN VACATED.

NUMEROUS PINE STUMPS WERE FOUND BUT,

AS OF THIS DATE HAVE MATCHED FOR PTS

- SEE PAGE 5 FOR P.L.S. TEMPLATE -

LD-82-01A

SKETCH OF P.L.S. TIES 4

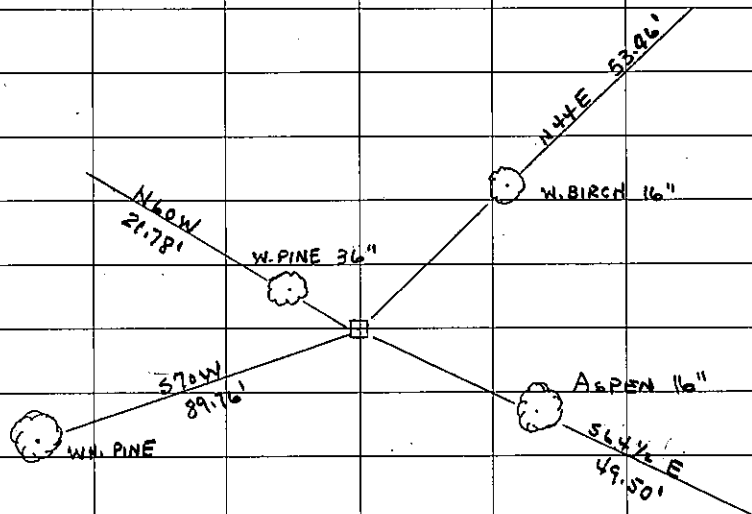
V-17-43-28

HISTORY

IN 1859 A POST WAS SET TO MARK

THIS LOCATION

IN 1982,

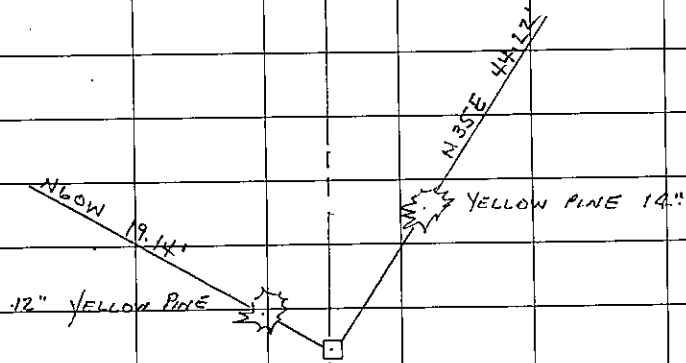


X-17-43-28

P.L.S. TIES

SKETCH 1"=50'

FROM PAGE 3



SEE PAGE 16

P.L.S. TIES

5

SKETCH

FROM PAGE 2

SIC

1/4

W.P.

M.C.

2-14-43-28
TERRY BETLEY
12/30/82

HISTORY

1849 - P.L.S. A 13" PINE WAS DESIGNATED

AS THE M.C. AND TWO B.T'S WERE

RECORDED. 13" PINE S30W 10 LK.

14" PINE N25W 7 LK.

1918 - NELS PETERSON (LITTLE FALLS)

SET A 6"x6" CONC. MON

1968 - D.M.A. FOUND 6"x6" CONC. MON

1980 - W.S.N. FOUND 6"x6" CONC. MON

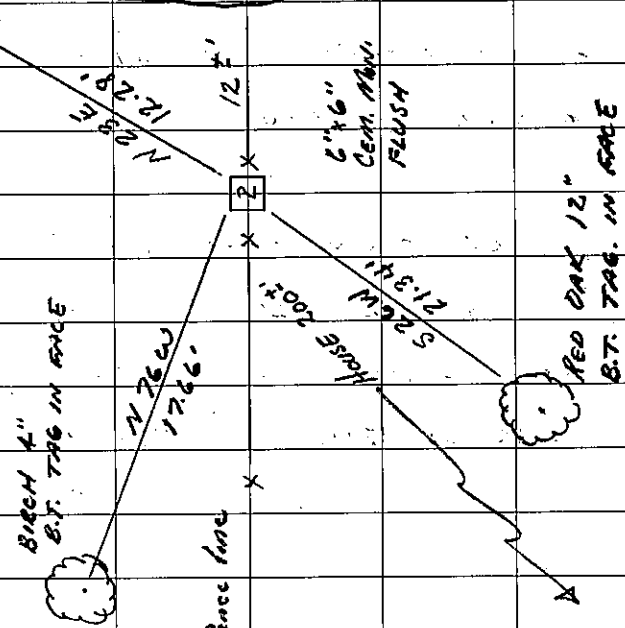
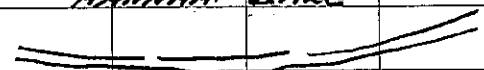
1982 - C.S.O. FOUND 6"x6" CONC. MON. AND

W.S.N. B.T'S IN PLACE. ALL TIES CHECK

S. 34-T-43, R. 28, 4th P.M.

12" RED OAK
B.T. TAG IN PL.

HANNAH LAKE



BIRCH 4"
B.T. TAG IN PLACE

old fence line

6"x6"
CONC. MON.
FLUSH

HASE 200 FT

RED OAK 12"
B.T. TAG. IN PLACE



LD-82-01A

BEGIN FIELD TRAVERSE TO TIE INTO DMA

BS. P.I. D 00-00-00 CH. V 358-52-20

TO 2-9 R 113-17-15/15 F 131.78

F.S. M-1 R 293-17-15/15 M 40.167

6" SPK D 180-00-03/03 H = 131.75

113-17-14

BS. 2-9 D 00-00-00 V 359-56-00

TO M-1 R 155-43-40/40 F 1664.95'

TO M-2 R 335-43-40/40 M 507.478

6" SPK D 180-00-00/00 H = 1664.94'

TIES 10" R.O. N70E 6.0'
20" R.O. N20E 5.12'

BS. P.O.L. D 00-00-00 V 29-03'

TO M-2 R 138-45-05/00 F 533.54'

TO M-3 R 318-45-00/00 M 162.626

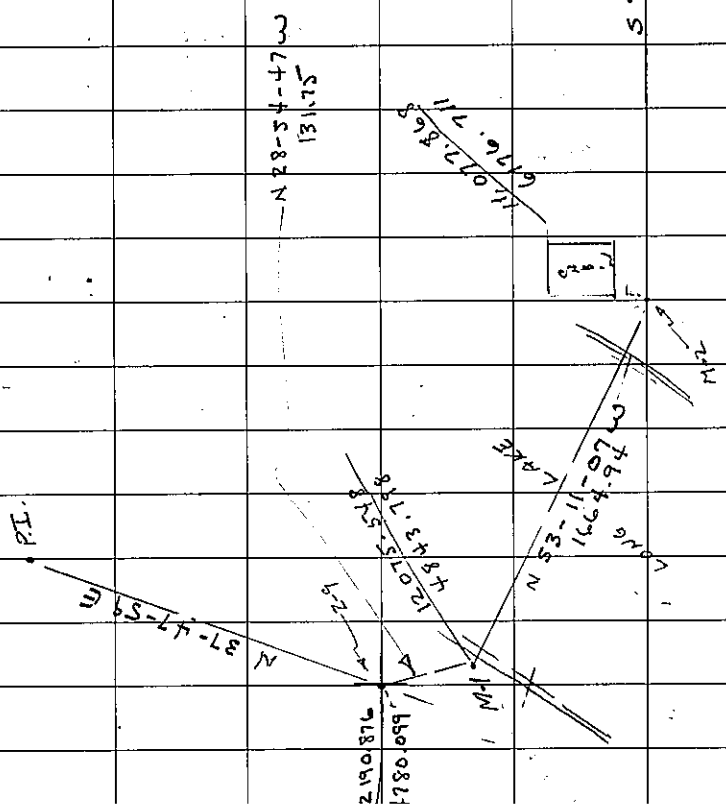
6" SPK (138-45-03) D 179-59-60/55 H = 533.20

TIES

16" W.O. N15W 11.80'

10" R.O. N70W 31.35'

→ I.P. over Conc. Mon.
CH-D BITS INTACT 7/13/83



7
M-3

585-33-54 W
533.20

N 28-54-47 W
131.75

N 107-27-56 S
1664.94

N 53-11-07 W
1664.94

N 37-47-56 W
162.626

2190876
17800816

1/5/83 DB 30°±
L.O. SZ-01A CONT.

BS. MC D 00-00-00 V 359-53

TO "A" R 08-28-00 F 1551.9699

TO M.C. R 188-28-00/00 M 473.041

(7-1A) D 180-00-10/10 (H=1551.96'99)

(8°-27'-55") NOTE M.C. W.S.N. TIEC
INTRACT AND CHECK OK.

B.S. NS D 00-00-00 V 00-47-00

TO "A" R 186-31-00 F 599.74

TO A; R 6-31-10 M 182.802

D 179-59-50 (H=599.68)

TIES (186-31-10)

B.S. A D 00-00-00 V 2-42-30

TO A, R 180-38-25 F 496.15

TO "B" R 0-38-35 M 151.227

D 180-00-10 (H=495.59)

(180-38-20)

1/11/83 15° WNW

B.S. A' D 00-00-00 V 000-10-00

To B R 179-43-20 F 1121.16

to C R 359-43-20 M 341.731

179-43-18 D 180-00-05 H=1121.15

1100
1100
1100
1100

B.S. B D 00-00-00 V 353-24

To C R 181-01-50 F 43.78

to DMANNA R 1-01-50 M 13.347

D 180-00-00 H=43.49

to C' D 00-00-00 V 354-35

249-01-35 R 249-01-35 F 358.89

R 69-02-00 M 109.390

D 180-00-20 H 357.28

to "D" D 00-00-00 V 358-20

R 81-55-30 F 843.55

R 261-55-30 M

D 180-00-00 H 843.19

2" R.O. S20W S'5"

10" P.O.P. N80W S'5"

B.S. C D 00-00-00 V D-53-20

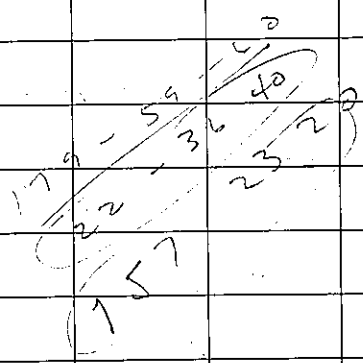
To D R 202-36-40 F 610.10

to E R 22-36-40 M 185.960

TIES D 180-00-00 H=610.10

4" I.P. S-72 E 8.66'

F.P. S-30 W 25.85'



B.S. D ^{00 00 00} D 157-25-30 V 01-25-30

To E R ~~XXXX~~ F 1079.91

to F R 337-25-30 M 329.158

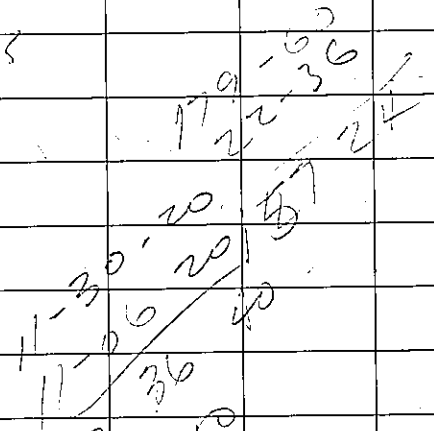
D 180-00-00 H=1079.57

TIES

BIRCH 12" N 45 E 18.20'

TRIP. MARK 4" EAST 11.0'

158-35



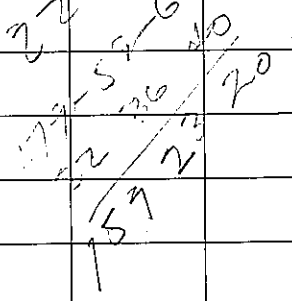
B.S. E D 00-00-00 V 358-01

To F R 166-04-25 F 229.74

to G R 346-04-25 M 70.027

TIES D 180-00-00 H 229.60'

6" T.R. 0 S10E



B.S. F D 00-00-00 N 359-08

To G R 235-32-50 F 405.23

To H. R 55-32-50 M 123.517

D 180-00-00 H=405.19'

TIES 6" OAK EAST 19.80'
8" OAK S.E. 22.30'

B.S. G D 00-00-00 V 000-03-00

To H R 183-10-00 F 456.21

To J R 003-10-00 M 139.054

D 180-00-00 H 456.21

TIES - 10" N.P. 580 E 10.33

5" MAPLE 60 E 22.85'

B.S. H D 00-00-00 V 356-38-00

To J R 175-54-50 F 144.59

K R 355-54-10 M 44.073

D 180-00-20 H 144.34

B.S.J D 00-00-00 U 359-57-00

Te K R 148-52-30 F 198.42

TL R 325-52-40 M 60.480

D 180-00-10 H = 198.42

TIES Twin Buret Westly

SIDE - 4.33

N. SIDE - 4.85

B.S.K D 00-00-00 U 357-53

Te L R 124-27-40 F 325.71

to M R 304-27-50 M 99.279

D 180-00-00 H 325.49

TIES 8' Pop 550 W 8.33

12' Pop NZOW 5.25

D 00-00-00 V 002-43-00

B.S.W R 212-25-50 F 213.87

To M R 32-26-00 M 65.188

To N D 180-00-10 H 213.63

2" MAR NE 14 66
" " SE 13%

B.S.M D 00-00-00 D 357-25-

To N R 196-29-00 F 517.93'

to D R 16-29-00 M 157.868

D 180-00-00 H 517.41

Ties 4" top NW 6.75

6" " SW 14 66

B.S.W P 00-00-00 V 2-09

To O R 182-42-30 R 308.72

to P R 2-42-30 M 94.099

D 180-00-00 H 308.50

TIES

1/17/82

LD-82-01A

SEARCH FOR DIMA CONTROL

NOTE: These Coords are from an un-adjusted loop. TJB

SEARCH FOR DIMA CONTROL CONT.

15

D.M.A. "B"
12,596.360
13,931.73

Note these comps were to try and find Control See actual notes this page for actual tie in data if any!

"CSO B"
12574.472
13930.679

112° 41' 33" N
195.55'

N 86° 50' 52" E
195.55'

CSO "A"
12577.2203
13346.0217

Note records used are for Search Purposes only! See Accurate tie in notes. TJB

12641.564
15030.088

N 86° 34' 10" E
112.115'

CSO "B"
12574.472
13930.679

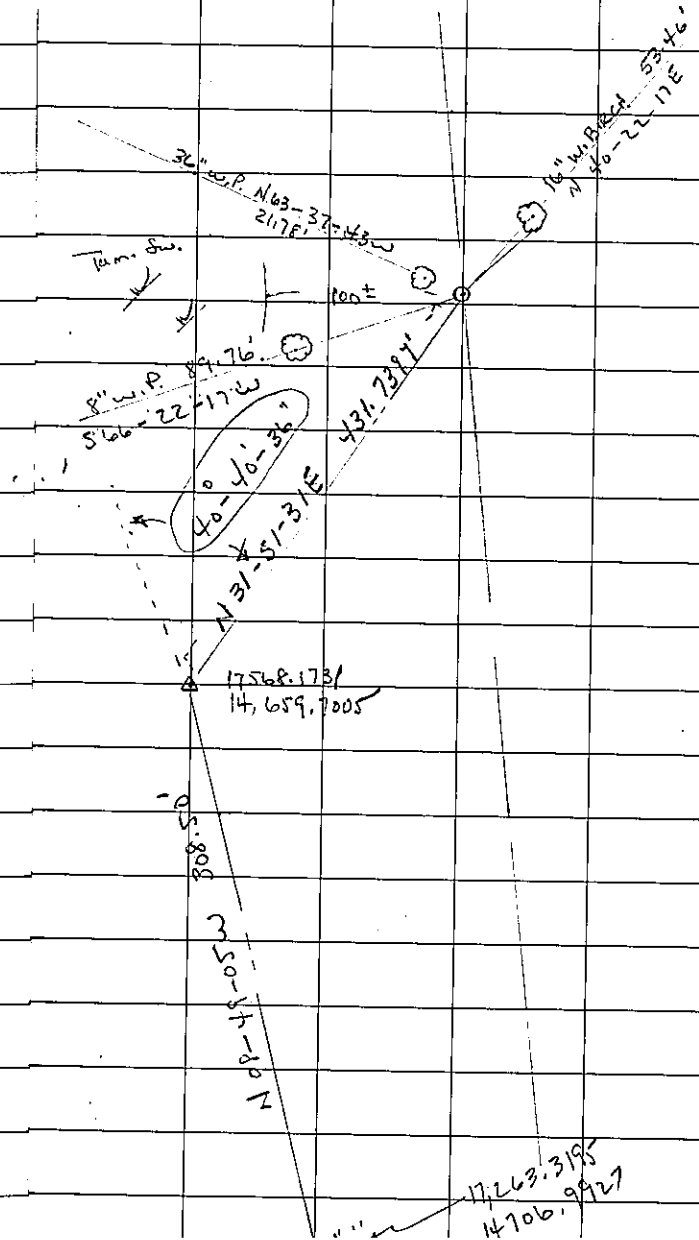
12336.2003
13157.4226

632.01
513-05-34

110° 18' 39" DEF ANGLE

12274.4400
13211.9400
"D.M.A. Spk"

SEARCH FOR NE COR. 34-43-28 17



CHD-83-04A

19

2/15/83 TDB, SG.

B.S. P.L. D 00-00-00 V 0 —

to P.I R 91-02-20 F 495.75'

to P.O.L R 271-02-20 M —

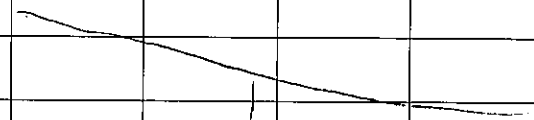
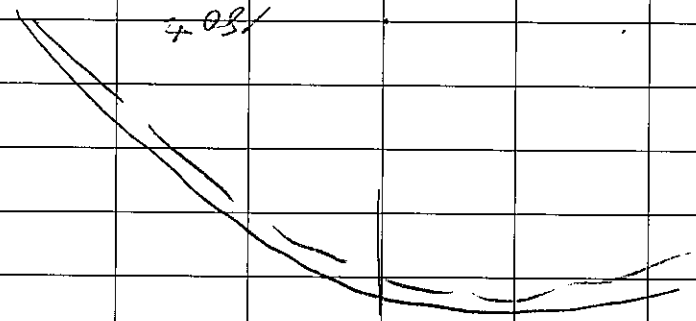
D 180-0005 H A

B.S. P.I

P.O.L 180° — 143.68'

to Approx 14

4.08/



1979

East Quarter Corner S. 31, T. 136, R. 22

4/13/93 T.O.B.-54.

TRUE CORNER WITNESSED BY:

MR. & MRS CHAMBERLIN - RES.

MR. ROBERT CURTIS - TWP OFFICER

DEAN M. ANDERSON - COUNTY SURVEYOR

ON SAID DATE I, TERRY J. BETLEY
 P.L.S. # 15811 FOUND A 6"X6" X 24"
 CONC. MONUMENT IN PLACE APPROX
 20" BELOW EXISTING GRADE. ALSO
 AT BOTTOM OF SAID MONUMENT
 FOUND THE REMAINS OF AN
 OLD POST. I THEN LOWERED
 THE POST REMAINS & SAID MONI.
 AND PLACED A CURE/CIM. OVER
 THE TOP. THE TOP OF SAID
 CURR IS FLUSH WITH THE
 BOTTOM OF SAID BIT.

FOUR NEW B.T.'S WERE RECORDED
 AS SHOWN NEXT PAGE

T. J. Betley

