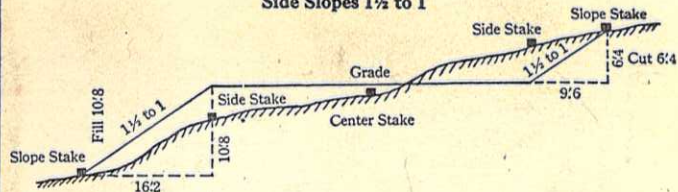


DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING
Roadway of any Width
Side Slopes 1 1/2 to 1



In the figure above: Opposite 6 under "Cut or Fill" and under .4 read 9/6 the distance from the side stake to the slope stake at right. Opposite 10 under "Cut or Fill" and under .8 read 162, the distance from the side stake to the slope stake at the left.

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

EUGENE DIETZGEN CO.

South side #5 Bill Spain. 2003
BM between Woman Lake Lodge & Senior sed.
USC&G B.M. 184 Elev. 1336.55
1935
Bridge Shingobee 1310.34

Property of Bill Spain. RL3 2003 SP

Address North Star Camp

Hackensack, Minn.

Phone 218-682-2566

This Field Book is manufactured of a High Grade 50% Rag Paper having a WATER RESISTING SURFACE, and is sewed with Bing Special Enamel Waterproof thread.

Made in U. S. A.

INDEX

1

Govt Lot G & SE⁴/SW⁴ Sec. 15-140-29.

31 Aug. 72. a l e m i d M D o l 3

Survey for parts of Govt.

Lot 6 E SE⁴/SW⁴ section 15 T. 140N.

R. 29W

31 Aug. '72. Myron E /

6					
Date	Sta	+S	H1	-S	Elev.
8/13/62	BM	10.22	1397.22		1387.0
	Top stk. C Tower			9.85	1389.37
	stk top 5+50			0.95	1392.27
	5+50			1.49	1395.73
	F	4.15	1400.42		1390.27
	8+50			4.41	1396.01
	8+50			4.87	1395.55
8/14/62	BM	2.80	1389.80		1387.0
	Ground C Tower			3.20	1386.60
				2.40	1387.40
	5+50			6.85	1382.95
				6.00	1383.80
	F	4.02	1388.44	5.38	1384.42
	BM			4.11	1384.33
	F	4.82	1389.24		1384.42
				6.74	1382.53
				6.01	1383.23

7	
Top 1/2" IP in ground	625' So = 5 E 1000' E
Top of stk C Tower	-----
Top of stk 5+50	-----
NW Leg ground	-----
Top of stk 5+50	-----
Top of stk 8+50	-----
ground NW leg	-----
	.03 diff.
Top iron pipe	-----
Ground at stk for center tower	-----
Top of stk Ctr Tower	-----
South leg ground at stk	-----
Top of stk	-----
Top 4" Poplar stump 5+78	-----
3 PIKE in 12" Oak	72° E of 5+50
Top 4" Poplar stump 5+78	-----
ground 8+50	-----
Top of stk 5+50	-----

Sta	+S	H.I.	-S	Elev
BM.	4.58	1391.58		1387.0
5+50			7.73	1383.85
stk top 5+50			7.05	1384.53
P	7.35	1391.88		1384.53
8+50			7.14	1384.24
stk top 8+50			6.37	1385.51

Note use 6182 N to #5
 " 1025 W to #45.

14 Aug '62. Clear & Warm. PM. cldy & cool. 9
 15 Aug '62. AM. early cldy. clear afternoon.

Top. I.P. 625' to SARE 5 & 1000' E of K Rd south

NE leg anchor ground

Top of stake

Top stake 5+50 NE leg.

Ground 8+50

Top of stake 8+50.

14 August '62 Mendell, Ky. To #1
 re check Ls on 3 legs & alignment.
 run elevations on south leg & NE.
 Mr Hunt came out. saw G. Harvey.
 We set 3cc cor. Tamp & 1/4 1M in
 road 24402 & 13201 for 1/4.

15. Set 1x14" 1M for 1/4 cor.
 chain #5 30 to C Tower. 6182
 " 1/4 SW to " " 6879
 From our C Tower W 90° line to #5. 2485
 " " " " 30 732' S 90° W 2485
 To I.P., their C Tower.
 Harvey finished Rd. Am.

1121-458
 Hub on E. Road 1121.0' E 1M to hub
 Hub W of Rd 1075.2' to hub
 1M at 1321[±], H₂O^{OPEN} 1803[±]

8 sept. clear. 4 sept. 72 c1 & mild
 5 " " " cldy
 7 " " " c1 & 72 cool

Jim S.
 WJ S Jr II

11

Survey for South 375' Cont.

Lot 5 Sec. 5 T. 140 N. R. 23 W.

4 sept. 1972 Jim & I open section line E to
 bog & line for south 375' from road E to
 lake. 3 hrs.

5 sept. 72. Jim & I open section line W to
 1/4 cor. (Real wide) (6th Rain Jim 1/2 hr)

7 sept. 72. 1030-1900. Jim & I run Transit line
 W from old hubs, hit 1M. 0530 at center
 set on 1M. W to N. 89°45', run 375' set
 wood hub. From hubs on sec. line ran
 E. set hubs at 1075.2 for turn to N. E
 at 1121 on E. edge of road

8 sept. 1972 Jim & I set on 1075[±] hub
 turn 89°45' W to N run 375.0' set hub,
 set on hub, N to W 89°45' plunge
 hit 1M. for Fox line E. edge of road.
 chain to 1M 1613', 1795' between
 1M. & road to shore & 9'± to H₂O.
 North line 1416.0 + 9'± to H₂O.
 set on 1075[±] hub on south line at
 1121[±] hub E of road, at 1321[±] set
 1M. & at 1803[±] to H₂O (482' Bog).
 1030-1330. 1500-1730.

147.3 18°13' int L next to 1022 / back 3 or 4th sk.

1st leg rd Lt 31° 350'±
 2nd " Rt 38°15' 375'
 3rd " Rt 25° 187'
 4th " Lt 20° 490'
 5th " Lt 28° 100' End Rd or 100'
 6th " Lt 27° $\frac{125}{108}$ + 30. line

75' from 1st 100' w/ 20' to start of road

10/20/72 Trip to Long Lake chain L to lake 220±

Note 2/19/73. check LN line & Road & south line & back line lot 11.

1400-1645
 2/24/73 Geo. Clay & I to Lake jiggle in MC & SW corner of lot 11 + 3 to E 77°12', 154°24' 3399 to 1st of Lake from +.

2/25/73 91°04' Lt N line & back lots. 182°08'

1400-1800 2396 + north line & back lot 1 + 75' to 1st MLK
 ∴ N line lot 1 is 315.0'

Survey for Plot of Govt. Lot 4-33-140-29, Pine Park:

1030
 9/14/72 Cal. Geo. Schulte & I check lines & shore line. set on MC NE corner int L 93°43' run 164⁴²' set back Rt 4°00' run 264⁷⁴' Lt 50°00' run 247²²' Rt 90°43' run 223⁵⁶' Lt 23°30' run 85¹¹' Rt 17°27' run 143¹²' Rt 21°00' run 163⁷⁴' Rt 9°15' run 139³⁷' Lt 19°45' run 233⁵⁵' Lt 11°00' run 104²¹' Lt 47°24' run 102¹¹' to SW cor.

1400
 9/27/72 G.S., C.S., me chain shore line as above #'s. checked S line. got Rt. deflection 103°05' 102¹¹' Rt. S. to W. on R. line. 1800
 1030
 9/30/72. Geo. Schulte & I look for Lennie Davis carry equipment in, check approx. to. To Hk church ham dinner, Geo. paid. Pick up Lennie. start at approx. intersection (+) road line & north line lot 4 Lt. (rd. line) 31° or E to S lot line 88° run 350'± Rt 38°15' run 314' need 375±. 61' to go. quit 1930

Schulte. 3/11/73 B. Hammer
with

Lot 16445 along shore

RT 2650

LT 243

L 1472 to Lot 4/5

RT 2234

LT 852

RT 1432

RT 1638

RT 1399

LT 2334

LF 1040

LT 1019

RT Lv Lake.

11/12/73. clear & mild. Bill Hayden 2 hrs.
w/DDR, etc.

Point BS Hl. F3 Elev

BM. 3.52 103.52 100.0

(Heo Elev. for Pine Park.) 8.07 95.45

400 2pk
root 27" w/2
NCS 0.15. 3w cor
L 1170
Top ice 8"
from shore

29 Sept. 72 Frank Brown, Miss J. K.
2 Oct 72 Bill Hyland, Miss J. K. 17

survey for lots 70 & 71 Interlachen

Lodge, Lots 6, 7, 8, & 9 for (Mrs Saltzman),
& Lots 10 & 11 for (Mrs Dorholt), Block 8
Interlachen Lodge, Incorporated.

29 Sept. 1972 Frank & I open east line of
Thomas Ave from 1M_s north find Koffie
& platts corners had been moved.

2 Oct. 72 Bill Hyland & I recheck
above, locate original & some 1M_s
set by me 8-10 yrs ago from which we
set front stakes for lots 70 & 71.

4 Oct. 72 Bill H. & I set back 1M_s for
70 & 71, found 1M for SW cor 71.

set 11 lines & pickets for W. side of
Thomas Ave. which is E. & S. edge or line
of Block 8. find no 1M_s

Nothing to go on for Block 8. Block
shows angles & distances, but from
there on nothing.

25 Jan 73 cl & warm 46° 1030.
 Δ 10' around oak 9" on N line
 Then 16" placed 3/4" x 30" IM.
 Lt. 72° 35' 37' nail, slope 11° 50'.
 106' = 97.99' or 134.99' nail, Rt.
 26° 00' — nail. 7' to of sign.

7 Dec. 72 cl & cold
 16 Jan 73 warm
 24 " " warm
 25 " " warm

¹³⁰⁰ 7 Dec. 72. Survey for Plat ^{part} Govt. lot
 5 sec. 25, & part Govt lot 1 sec. 36 T. 140N
 R. 31W. (Gisvold 301 Strand)
 Bill Hyland & I jiggle in between
 Brass Cap, USGLO & 1/2 set by Pete
 Meyer # 3628., after opening true
 line. (Hubs do not line up.) set nails
 on line. quit. 1730.

¹³⁰⁰ 16. Dec. 72 same crew. straighten
 1M. west of road on line between
 Breezy Point & N. K. Gisvold property.
 Finished opening section line. 1630.

¹³⁰⁰ 24 Jan. 1973. Bill Hyland & I jiggle in between
 1M's West of road for line between Breezy Pt.
 & Gisvold set nail on hill & 1M on road
 edge. 9 inch oak on line 30' from break.
 for slope to lake. check alignment
 for back line. Mr. G says cut tree. (next
 dm. change mind).

¹³⁰⁰ 25 Jan 73. Bill Hyland, Myron Dell & I
 Δ around oak, 10', chain line
 93.9' road 1M to Pates 1M's 322.78 to
 1M Δ pt. 10' Δ + 16' placed 3/4" x 30" IM.
 348.78 between 1M's, Lt. 72° 35' ran 37' nail,
 + 97.99' = 134.99 nail Rt. 26° 00' ran ^{1873'} nail.
 7' South of sign. 1700.

continued

RT 14° 00'

26 Jan 187.3 L RT. N 3.3 picket, 300'
 picket, 52.0' L on pt, Lt 30° 00'
 run 52.6' L, Lt 48' picket, 53.6' L
 ? Lt 22° 45' run 94.4 picket & 100' pin
 294.0' L on spit to k on hi board to
 house

1100 24 Jan. Bill Hill, chain front.

276' L Lt 57° 119 End Tract,

29^{30° 10'} 121^{10'} L to nail on hill, or 2175'
 to L Lt 10° 48' run 59.25' End Tract

200' run N of E End is 58.

to of nail on hill

3 Feb 73

Lt. 25° 10'

2/5/73

105° 32°

277 04

Back Lot 3 112.4' L, then Lt
 Ls, then 20.0' L to run 3/4

6 Feb 73 ^{6 hrs} Bushed Lot run L sec line $\frac{25}{30}$ N run 97.52' + 5¹' N of lotstraddle & 4⁴⁵ so of 2nd straddle

set on + sec line & back line N & W. 97.52'

93² back from L N & back line to +

26 Jan 73 clear mid

27 Jan 73, 5 hrs of L, mainly cool

29 " " " " "

25

WIS K. land

B. V. land

3 Feb. clear

5 " " " "

1300 26 Jan 73, same crew chain shore line
 nail at 100', 125', & 134.99 L, 26° 00' Lt. 100'
 picket, 189.7' L, Lt 20° 00' picket, 300' picket,
 52.0' L = (452.0 from NW cor), 164.3 from
 2nd L Lt 30° 00', 48' picket, 53.6' L Lt 22°
 45' (22' check) 413177 94.4, picket, 100' spk, dot
 294.0' L Rt. 30° 15' 278' Lt 10° 45-6' 59.25'
 267'

29 Jan 73, 13.11, 19 front / set on L
 post spit so of house Lt 30° 10' run
 270.0' L Lt 10° 48' run 59.25' 1/4 End Tr

1100
 30 Jan 73 same crew set on sugar Lt.
 72° 56' run 224.78 (22' ± 1M w to lake)
 Lt. 104° 05', 100' RT, 60' L nail,
 Lt 9° 30', 360' 1/4. 238' spk L Lt 53°
 10' ; 90.7' spk.

1300 3 Feb 73. same crew set on nail in string
 run 281.57, 290.15' straddles sec. line, of
 379.90 L Lt 28° 10' run 96.0' L Lt. 32° 20'
 run 157° L Lt 6° 32' run 450' Rt. 9° 35'
 run 343.95 NE cor lot 1.

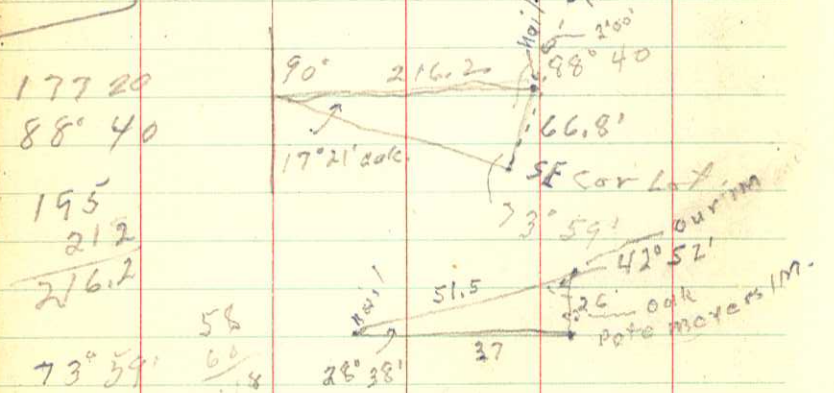
2/5/77 same crew check L of 9° 34' 10" run
 343.95' to contract, on NE cor Lt 105° 32'
 wly to Lake, 112' back Lot 1, 120'
 back Lot 2 run 177.4' back Lot 4. 4/0A

←

26
 3/19/73 c/dy E Mc 1d N Bell
 on lake shore WSSJKT
 2 L N line w to SW 42° 53'
 103 42° 51' 30" 85° 43'
 (old MC to nail 27' so. our MC) 42° 52'
 42° 51' 36" 85° 43'
 28° 38'
 76' 28° 38' 57° 16'



At South end on MC
 179.60 Lt. 90° 00' run 216.2' & Rd.
 71.30 17th Lt 88° 40' run 66.8' to SE cor
 108.30' Lot.



177.20
 88° 40'
 195
 212
 216.2
 58
 73° 39' 60/18
 147° 58'
 73 59
 53.29
 94.05
 147.34

Bill Hyland 3 Apr checked MD 27
 W.S. / P.M. 7 May 73 claworn AM B.H. W.S.K.

8/27 B.M. Bridge 3600 1310.34
 73 H2O 15.83' below = 1295.17 H2O
 9.80 H.I. 1304.97 H.M. 1.6 toward bk 1298.87
 6.10 3/4" x 30" Elbow Top. B.M. for post 1308.87
 1030 3 April 73. Myron, B. d #1 replace
 SE cor of 3/4" x 30" capped.
 L So. line Lt. (E to N) 106° 00' to nail
 L So. line Lt. " to back lat line 104° 00'
 Re ran shore traverse setting 3/4" x 16" IMs
 for lot corners & 1/2" x 12" IMs for k.s. 1830

7. May 73 M.D. B.H. #1 check Traverse
 set on SE cor Lt 103° 59' + run 144' Lt.
 9° 30' run 36' IM. Lot cor, then 201° 85' Lt. Rt.
 53° 10' 90.65' spk in stamp, 285.45 IM
 + sec. line, 93.18' Lt. Lt. 28° 10' run 96.0'
 Lt. Lt. 32° 20' run 137' IM. Lot cor. & at 157° Lt.
 Lt. 6° 30' run 44.86' Lt., Rt. 9° 38' run 112.1' IM
 Lot cor., then 126' Lot cor., then 112' Lot cor
 NE cor Lot 1. Lt. 105° 32' run 94.05 IM
 (in place), & at 147.34 spk on hill;

8/27/73 3-100', 1-200' G.S.V.
 & 2-100' S.W. End.

28

10' to H₂O

N 150'

Slope dist 1062'

45.500'

26°30'

28' IM to T₁ ct

in stamp

5/11/73 windy & cool BH¹⁰⁰⁰ N 150' E, 1400

L 28°55' slope 110.3' from 187'

w of line

350' along trap road

175

1973 1/26 m of clay & coal

27 " cl & coal

Govt lot & sec. 9 - 140-29.

Scott Fra 29

John Fraser

WJS R

1500
26 March 73. Scott, John & I Juggle in 1/4

cor & N.C. 1/16 cor. Chain 200' N

set spk, 350' set 2pk E try wood stk W

on hill, misses 1M on lake 20'± south. (NG)

1000
27. March 73 Scott Fraser & I check N

line N. strand left (ok) set on 350'

2pk stow. 89°02' 33' set 3/4" x 18" 1M

14" Black oak on line.

set on 200' spk 89°02' (stow) set

spike 437' 90° N 150' spk. Lt. 90°

328' spk on hill 24°00 slope dist 1118

1M. + 25'± to H₂O.

set on spk 350' N. of 1/16 cor continue N

150' to pt 500' N of 1/16 L 89°02' stow

run 28' cut 10" NP set back in stamp

set overfact open line to lake

slope 26°30' 1062' ± 10'± to H₂O.

showed Scott N 1/4 cor & BTs.

30

8 May 1973 c/w warm

4/17/73 c/w warm 5/4/73 c/w m. ⁶⁻¹⁵⁻¹⁴⁰⁻²⁹
^{524/SW4}
 264.3. SW cor Lot 3 to sec
 line, + 86³ to + line 1/2
 sec. line for 40' street.

4/18/73 Rt. 27° 38' run W along sec line
 160' 86³ to Port Fox Tract. 90° RT
 40' for street. Lt 95° 76' to sec line
 + NW edge rd to sec. line. Then
 27° 38' RT & 231 to Port Fox SE cor.

On shore set out 100' 200' markers

Lt 2° 45', 100' IM, 200' IM, RT.

10° 45', 100' IM, 165° Lt RT.

5/4/73

42° 15' run 35.0' IM, run 85° Lt.

30° 30' run 15' IM, run 100' IM, End.

Then on back line start at SW cor

for Main Lodge (lot 3) 100', 100', 100'

(Lot 4, 5, 6) then ^{50.5'} to Lt RT 27° 38'

49° Lot 7, 100' Lot 8. End.

148° 24' start at end Lot 8 Base line Rt 74° 12'

74° 12'

run 278³ to rd NW cor 8. Rt 122° ¹⁸ 20'

244° 36'

5/8/73 1100

Myron & I sat 1200 AM. PM.

Set on SE cor Lot 3 Rt. 87° 30' run 55.5' Lt

Rt. 16° 45' run 229³' to SW cor Lot 3.

88° 04' S to E SW cor 3 to L. 229³'.

31

Survey for Plat of Sleepy Hollow,
 part of Govt. Lot 6, SE⁴/3W⁴ Sec. 15-140
 29-5th St. Parallel, MN.

nail at + near $\frac{1}{4}$ is. 2624.97

Sec. cor N to sec cor 5285.4

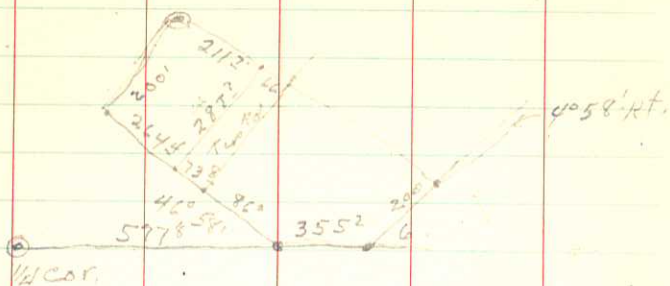
2642.7

2642.70

2624.97

17.73

Survey for N. $66\frac{2}{3}$ of Lot 4
Plat of Millers Point.



6/17/73

6/21/73

6/22/73

Bruce Hanson

Bill Hyland

Survey for parts of Govt. Lot A

Sec. 15 T140N R. 29W. 5th P.M. MN.

17 June '73, Bruce Hanson & I to Aakers,
open east, south & westerly lines.

on 30' line lot 4 set on IM, 577'
E. of 1/4 cor. sight IM on Squaw Lake,
plunge Rt. 46°58' set hub on E edge
road, jiggle in between IMs, set 3/4"
x 20" pipe on west edge of Trip. road,
continue 2644' to IM. at Child Lake.

1400

21 June '73, Bill Hyland & I to Aakers

⑤ 1' on each IM E. side to miss 14" oak
at 93°58' open old line, jiggle in
between IMs., set hub west edge Rd.

1400

22 June '73 Bill Hyland & I open line on
west side of road, chain same 2872'
chain NEly line to Lake 2113'

1190 ✓

23 Aug. 1973 clear & cool cldy AM.
24 Aug. 1973 cldy & cool37
W.S.B.
B. Hyland
Mike Sycks

23 Aug 73, Survey for part of Govt. lot
6 Sec. 28 T.140N. R.30W. 5th. PM. Minn.
1100 23 Aug 73 Bill & I to Chick Stuarts,
go to NE cor Govt. Lot 6, NW cor Govt Lot 5
sight IM MC Lot 5, plunge run W on
N line Lot 6 600' set $3\frac{1}{4}'' \times 18''$ IM,
set on same sight NE cor. Rt. $89^{\circ}45'$
(E to S) run N-E N- $3\frac{1}{4}''$ line, 6-700'. 1430

1000 24 Aug 73. Bill Hyland & I to Job site.
continue south on line. Chick
sets iron fence posts on line.
Mike Sycks & Bill break line.
set $3\frac{1}{4}'' \times 18''$ IM near swampy
shore of bay of Pleasant Lake
1430.

Survey for two tracts in NE $\frac{1}{4}$ SW $\frac{1}{4}$

28-140-30.

Bill Hyland
W.S.B. Jr. &

1400
8 Nov. 73 Bill Hyland & I to Pleasant Lake set on
SE cor NE $\frac{1}{4}$ SW $\frac{1}{4}$ run W on $\frac{1}{16}$ line 230' set IM.
Rt. $89^{\circ}45'$ run 140.2' set IM. line parallel with
N- $3\frac{1}{4}''$ line, continue N set straddles for
NW cor for intersection Echus N line
Projected NWly. 1790.

1400
19 Nov. 73 Extend Echus N line Wly 184.5' set IM. N use cor.
chain sides 184.5' N, 213 W, & 230.30. 16.2'
along $\frac{1}{16}$ line between Echus property & his new
SE cor, ran old well pipe set on $\frac{1}{16}$ line years
ago. 1730 (Will set fence posts on lines.)

LAND O'LAKES

CREAMERIES, INC.

MILK AND ICE CREAM DIVISION
PINE RIVER, MINNESOTA 56474

85
78
577

48.68
36.41
100.27

38.54
77.58
17.115
60.18
47.70
9.60
4.90
975.6
325.2
47.45-1
71.0

Doad Hasty Story

Joe Kusaek
Min



Dave Mastell.

350
306.1
439

224.75

19

Old (ew) Road

6/11/64

lots 1-10 & 15 thru 20

13 Brennon's Addn.

lot 18 19 & lot 19 SW 2 St
car,

6/11/64

6/12/64
WAS
C/O WSS
C/O warm.

We set trap. stk for 28 car
lot 20 121 & 30' N set bus on
bank for rest & to go to lot
18 19

18-
75
<hr/>
93-
13
<hr/>
106-
200
<hr/>
306-

P.P.

NW cor.

219

14" Oak

77.7' E line 33' S 1/4

427 West End

2 March 1974 mild - Warm
 27 " " cl & mild.
 29 " " cl & cold windy

Rog. Mustang #39 R
 Bill Arthur
 W.J. Sperry, M.C.

⁵⁰⁰
 2 March 1974, Rog, Bill & I hunt for corners Lot 12 Block 2 & part of Out lot A Braunson's Addn, Vil. Hackensack, MN. locate 5 corners, 1800.

¹⁰⁰⁰
 27 Mch 74 Bill Arthur & I hunt for LMs on E-W 1/4 line sec. 18-140-30. Deep snow. Set flag on 1/4 cor 20/21 & E 1/4 cor. Jiggle in on hill W of 1/4 cor set nail under it & W on crest of hill.

Open E. line of Paulys tract in SW cor of Out Lot A N to open garden. 1700.

29 Mch 74, Bill Ar Paulys & I continue lines West, set straddles for Paulys E line & W on Alley. Transit on Paulys NE cor project his E line N to E-W 1/4 line & set 1st 35' south on N line Lot 66. Auditors Plat.

Do same for West end, hit rock, place spike & flagging in 219' W from line so edge 14" Oak & P.P. Nudge W of spike.

9/10/73

9/12/72 Rt 110° 35' (to N) SE
 cor to new cor. 4463' E 20° E
 E to our pipe. (should be 20.0)

11 Sept - 12 worm Bill Myland 41

12 Garney Brown 77

Survey for part of NE 1/4 SW 4.
 section 25. T. 14 N. R. 31 W. 5th P.M. - M.H.

31 July Hot. 22 Oct. BH
 4 Aug. 73 Hot. 23 Nov. 73. cldy & cold. BH 43
 5 Nov. 73 cold-windy. SURVEY for parts of Govt. Lot. WJST

4 section 5 T. 140 N. R. 27 W. 5th. PM. Main -

31 July 73. 1400. Bruce Hanson & I to R. Edwards
 get descriptions (not official) later fract. No.
 Locate NW cor sec 5, $\frac{1}{2}$ sec & $\frac{1}{4}$ line, M.C.
 been moved. Set flag on M.C. east
 shore Inguadona Lake. 1800.

4 Aug. 73. 1030. Bruce Hanson & I to
 Inguadona. Open north line E to lake
 find spike in line on west shore. 1800.

22 Oct. 73. 1400 Bill Hyland & I to Edwards
 set on NW cor. sight M.C. on E. shore
 turn $90^{\circ} 04'$ E to S. set 1 nail N. of $\frac{1}{2}$ cor
 & 2 nails south of $\frac{1}{2}$. Chain 450' N from
 $\frac{1}{2}$ cor set nail, chain 575' so. from
 $\frac{1}{2}$ cor set nail, E at 675'. 1745.

3 Nov. 1973 1400. Bill Hyland & I to
 Inguadona, nails bent by grader, so
 siggled in between $\frac{1}{2}$ & sec. cor at point
 675' south of $\frac{1}{2}$ cor. Turned 90° E &
 brushed to lake. Set $3\frac{1}{2} \times 24$ qt Lake &
 33' E of sec. line. quit dark 1715+

5 Nov. 73. ¹⁴⁰⁰ Bill Hyland & I to Edwards, set on nail
 at point 450' N of SW cor Govt. Lot 4, 90° E
 33' Rd RW. 392.2 to 1M on shore, in place.
 Chain 346.5 on sec line, 288.4 N line. 385+15+
 along lake, flooded near point. 1700-

6094 Lake NW to R/W -
 347 to Twp line
 125' along Twp line

7 Dec. 73 P.C. & cold.

11 Dec 73 clear mild

Survey for part of Gov't. Lot

2 section 30 T. 140N R. 28W. 5th PM. NW

¹⁴⁰⁰ 7. Dec. 73. Bill Hyland & I to Mule Lake.
 Burton Hingard gave us copies of deeds &
 told us to lay out 125' on Lake #87
 from his north line south.

We chain 125' July along shore,
 set 3/4" x 24" IM, opened his west
 line on R/W #87. checked N line, 1630.

^{1400 - 1700}

11 Dec. 73 Same crew. set on IM for
 NW cor., extend line to Twp line 34.75
 measure L on R/W get 106° 16', * deed
 calls for 106° 16'. IM, probably bumped.
 check 33° at 90° & get 9.625' (calc. 9.63)
 chain 125' on R/W set 3/4" x 24" IM.
 jiggle in between the two south IM,
 set hub guard stake & pickets on line

2/11/79. cl mild

N.S.E. T

47

2/16/79 cl mild

Survey to locate 1/4 cor.

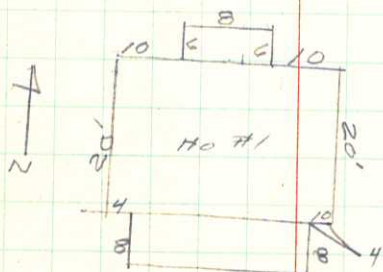
between 36-141-29 & 30-141-28 & NE 1/4 SE 4
 Sec. 36-141-29.

2/11/79 1300. Claude Johnson & I locate
 M.C. N.E.S. side Broadwater bay &
 Trwp. cor. set flag on M.C. so. shore,
 set on M.C. N.E. shore, set 3 pickets on
 line chain dist. between, get
 502. 1st. Picket going N. & 1874³ M.C.
 to M.C. 1 M. north of M.C. is off
 line E M.C. 1630 quit. for day.

2/16/79 Claude & I jiggle in on Trwp. E-W
 line, set Bb, jiggle in on Trwp. N-S
 line, not too good, get 96° 28', chain
 N. from Trwp. cor. 200' N. + 114' slope
 dist. \bar{c} 20° incline to M.C. south shore
 Broadwater Bay. = 907.12 cor to M.C. ¹⁸³⁰

		<u>1424.55</u>		
TP			1.34 +	1423.21
	11.98	1435.19		
TP			3.17	1428.02
	7.06	1435.08		
B/M			6.97	1428.11 1428.900

TBM R-1				
T @		<u>1400.29</u>		<u>1394.98</u> 1394.67
M-1	5.62	1400.30		
G @ LTA			6.3	1394.0 ✓
B-1			6.3	94.0 ✓
C-1			8.0	92.3 ✓
D-1			10.5	89.8 ✓
E-1			9.8	90.5 ✓
EQ APP # Tel line			9.3	91.0 ✓
Φ #371			8.2	92.1 ✓
R/W sign			5.4	94.9 ✓
C-2			4.9	95.4 ✓
B-2			4.5	95.8 ✓
NE cor #1 Pearak			3.4	96.9 ✓
NE cor Ho			3.4	96.9 ✓



Ho #1 is 37.5 ft along E line & 16.3 ft W 1/4
to NE cor. And 58.1 ft along E line
& 20 ft to SE cor (25.8 to SE cor porch)

		29			
		1400.80			
A-2			5.6	1394.7	✓
SE COR Ho			2.6	97.7	✓
SE COR Porch			2.1	98.2	✓
A-3			4.2	96.1	✓
A-4			2.3	98.0	✓
B-5			1.6	98.7	✓
TBM Rt			5.67	1394.67	✓
TBM R-1				1394.67	
T@		1404.00			
M-2	9.29	1403.96			
A-5			4.0	1400.00	✓
NE COR SHED			4.2	1399.8	✓
NW " "			4.6	99.4	
C-5			4.8	99.2	✓
SW COR Porch			5.4	98.6	✓
" " Ho			5.7	98.3	✓
D-4			6.8	97.2	✓
D-5			5.5	98.5	✓
D-6			4.2	99.8	✓
C-6			4.7	99.3	✓
Top of C-6 line			3.8	100.2	✓
C-7			1.9	02.1	✓
D-7			3.6	00.4	✓
E-8			3.9	00.1	✓

Shed is $10\frac{1}{2}' \times 18\frac{1}{2}'$ Wood Framed
 " is 108' S along E line & 15' W (4'
 to NE cor. (10" W oak 4' N of NW cor)

1st lilac bush
 " cedar

		1403.96			
		1404.00			
K-8			5.00	1399.0	✓
P-7			5.7	98.3	✓
E-7			4.7	99.3	✓
TP			4.36	1399.10	✓
				1399.31	
	5.04	1404.1			
		1404.14			
P-7			5.9	1398.2	✓
O-6			4.3	1399.8	✓
E-6			5.4	98.7	✓
F-6			6.8	97.3	✓
G-6			8.8	95.3	✓
H-6			12.0	92.1	✓
SW COR 6av			11.9	92.2	
SE " "			10.1	94.0	✓
NE " "			12.0	92.1	✓
NW " "			12.6	91.5	✓
SW COR H-52			7.7	96.4	✓
SW " Porch			6.5	97.6	✓
SE " "			6.4	97.7	✓
E-5			6.6	97.5	✓
NE COR H0			8.1	96.0	✓
G-7			6.2	97.3	✓
TBM R-2			3.57	1400.57	1400.59
TP			13.62	1390.52	
	6.30	1396.82			

Buick

@ Rt front End of Buick off G.

E of House #2

TBM R-2 = 404 spikes in base of 12" white oak @ S. end of lot,

1396.82

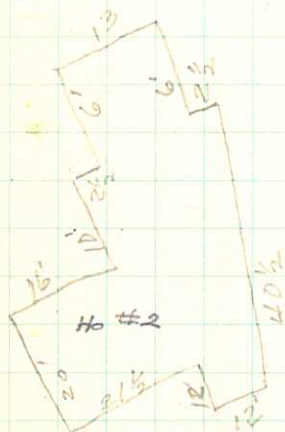
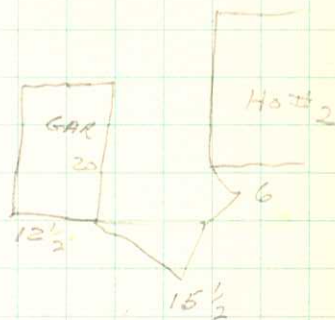
E-2	5.9	1396.9	✓
E-3	3.1	93.7	✓
NW cor Por. #2	1.4	95.4	✓
NE " "	1.2	95.6	✓
NE " Ho #2,	0.9	95.9	✓
F-1	7.8	87.0	✓
⊖-1 ↓	11.6	85.2	✓
F-2	5.0	91.8	✓
TBM-1	2.19	1394.63	1394.67

Sat Mar 2-74 Mustonen, Arthur & Spain

⊥ approach is 45' E'ly of P.I. of 1/2 Hwy
 ⊥ E. line of lot. App is ± 20' wide.

TBM R-1			1394.67
	4.10	<u>1398.20</u>	
Typ elev of App in R/W.	6.1	1392.7	✓
⊥ Hwy 371 App.	6.3	1392.3	✓

House #2 is 23' S'ly along E line ± 92' W'ly
 " " " 63' " " " ± 97 1/2' W



(NE COR)

(SE COR)

1374.67

	14.0	1408.7		
A-5	8.5	1400.2	—	
A-6	6.5	02.2	✓	
B-6	8.4	00.3	✓	
A-7	4.8	03.9	✓	
A-9	2.2	06.5	✓	
NG @. SE cor lot.	2.2	05.9	✓	
B-8	1.2	07.5	✓	
C-8	3.6	05.1	✓	

TREES

- ✓ 10" Birch 9' SW of NW cor.
- 6"-8" Birch in front yard at lot 1
- 6 5"-6" Pine & Birch N-SW of R/W sign
- Lilac begin 24' S of R/W sign,
- " end 64' " " "
- Cedar begin 72' " " "
- " end 100' " " "
- 3 W oak 6"-10" 13' SW of E-6
- 10" W oak ^{5' E of} D-5
- 2 8" ^{Balsam} Spruce 10' N & NW of NW cor. post
- Ho " 2
- 4-6" pine 3' N of turn around

4 6" W oak ± 5' N & W of pt.

W side is scattered 4"-10" poplar.

60

O'BRYAN & FOX

11.02 N Post for cor. Fence

24 June from point 10' Nly of
cast iron Mon, Bill H & Roger M.
measures wly along line; at 2664.6
set nail, at 2666.0 we are in line
with R/W MKRS Nly, at 3029.5
cross & RR Tracks, at 3052.8
find nail on line, at 3392.6 find
nail on line, at 3513.5 cross N-S
fence, at 3881.4 find nail & 10ft
south find off set nail, at
3942.9 cross N-S fence, at 3996.9
set nail for dist, at 4907.7 find
nail on line, at 5268.5 set nail
on line. (11.04 Nly of cor. fence post)
at 5329.2 set nail & search for 1/4 cor
& B.T. stumps.

July 8, 74 - Spain, Hyland, Mustonen
set nail on Random line 8.69' N of
True line & 4160.13 W of cast iron 1/4 cor.
From this nail orient 0°00' on
Random line, turn 90° Rt. Meas 750.31
Nly, set nail. @ this nail orient 0°00'
on nail sly, turn 89°53' Rt. set
line lath along N. line of S. 46 Rds.
Compare with O'Bryan & Mrs Fox
set 3 set angle irons and 1 steel fence post
along side line lath.

750.31
8.69
759.00
= 46.05

8 June 1974 (2 warm. BR 61)

11 13 14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

Survey for South 240 Rds
(759.0') of SW⁴/NW⁴ Sec. 26 T. 138 N.
R. 30 W.

11⁰⁰ 8 June 74 Bill Hyland & I to P.R.
locate NW, NE sec. corners, fail to find
1/4 E 1/4 cor. Find RR tie fence post
with nail & ribbon for 1/4 W side sec.
B.T. marked with brass plate. (see 27/26
Tel. log)

11⁰⁰ 11 June 74 same crew find E 1/4 cor.
③ 10' N. from fence line set spike
W of RR. Discuss survey with series.
13 June 74 same crew continue west,
brush line to fence for W 1/4 line. hit
12-14" N.P. E of fence. 1600. PR check 4BM.
Bill saw old 19 to see McLeam.

12⁰⁰ 18 June 74 same crew @ 90° S. set nail
Rt. 90° continue W. brush line. O'Brien man
helps, set nail N of Road. 1730

20⁰⁰ 24 June 74 Roger, Bill & I continue
W hit 11.94' W of cor. fence post tied
in 15 J.P. S. 31° E 29° S & 10" W. oak N. 39.5'
Brass plates marked B.T.

750.31

Survey of 66' rd for plat of
Sleepy Hollow (see page 30)

T @ Pattens cor. Orient $0^{\circ}00'$ on
I.R. $\pm 100'$ W'ly, plunge & Turn
 $27^{\circ}37'$ Lt @ 250.00' set I.P.,

Continue on line 182.00' set I.P.,
Turn 90° Rt, 66' set nail. From nail
set straddles for Lot #3 NW cor. ^{set IP @ PI} (15.07 S'ly of old I.R.)

6-27 T @ NW cor Lot 3, Orient on point
66' & at 90° off line from Pattens cor.
Set I.R. on line NE'ly 102.00 to NE cor #3.
(Which is 15.20 ft S'ly of old I.R.)

Continue on line 75.00 set I.P. for
NE cor Lot 2 (which is 15.20 from old I.P.)
@ 37.0 ft along line from NE cor of Lot
set nail for PI to Cal-de-sac

Set I.P. @ NW cor of Lot #4 100.00 from
NW cor of Lot #3. (I.P. is 15.10 ft from old I.R.)
Continue 100.00' & set I.P. for NW cor Lot #5
15.05 S'ly of old I.R.

T @ PI of S'ly R-W projection E'ly & W'ly
line of lot #1, Orient $0^{\circ}00'$ on PI W'ly
Turn Rt. $167^{\circ}48'$ ($192^{\circ}12'$) 71.70 ft to
I.P. @ NE cor of Lot #1.

CONT. PG. 66

Paid #3.00 Lunch
" \$5.00 Gas (9.3 gal)

6-27-64 paid \$1.82 Lunch

NW cor of Lot #7 is 70.80 ft W'ly of Nail @ 90°

T @ PI in Lot #7 Orient $0^{\circ}00'$ on line,

Set I.P. 105.00 from NW cor Lot 5.

Set I.P. @ 72.45 from NE cor Lot 7. ^{for PI}

(at 56.25 find nail previously set
at Rt angles from Pattens cor.)

at 29.53 Beyond P.I. set I.P. for

NW cor Lot 7.

15.07
334.1

71.7

115.6

70.8

127.05

31.5

0.22

PI 72.45

R/W

102.5

5.5

IP 29.53

64 SURVEY OF PART OF GOVT LOT 2, SEC 18
T140N, R28W E & R/W of Proposed new Rd
& Additional 58 ft. to Lot #22, Island View.

@ P.I. of Rd. SE 1/4 & NW 1/4 SET I.P.
From Which: A 6" W. Oak, Brs N 1/4 32.8 ft, a 12" popple
Brs N 1/4 33.8 ft & a 5" cherry Brs SE 1/4 27.35 ft.

^ @ Nail (R-2) orient 0°00' on I.P.

@ P.I. turn 139°09' (220°51'), 144.70 ft.
to R-3 nail. From R-3 orient 0°00'
on R-2 turn 147°08' (212°52') 245.25 ft
to R-4 nail. From R-4 orient 0°00'

on R-3 turn 202°34' (157°26') 137.30 ft
to R-5 nail. From R-5 orient 0°00'

on R-4 turn 160°54' (199°06') 167.40 ft
to I.P. on East line Govt Lot. 3, Sec 18, T140,
R28. From I.P. orient 0°00'

on R-4 turn 104°44' (255°16') 137.89 ft
to R-7

From PI=R-1 orient 0°00' on R-2
turn ~~60°43'~~ @ R on line. @ 1400 set lath.

56°25' (303°35') Lt. 81.8 to P.I. From P.I. (81.6)
orient 0°00' on P.I. Turn 169°42' (190°18')

140.1 to PI 2+21.9. From P.I. 2+21.9 orient
0°00' on P.I. turn 206°57' (153°03') 134.1

to P.I. 3+56.0. From P.I. 356.0 orient 0°00'
on P.I. turn 181°33' (178°27') 248.2 From

PI 6+04.2 orient 0°00' turn 151°29'
(208°21') 186.7 to P.I. w/ E. line sec.

N Mustonen 65
Hyland

6-26-74
Paid \$5.25 intertube Lath Rev. - Paid \$2.60 lath.

R-1 = P.I. (169.90 to R-2)

R-2 = 9' N 5/4 of E curve & 6' E 1/4 of Y N 5/4

R-3 = 5' N 1/4 of E

R-4 = 5' S 1/4 " "

R-5 = E Rd

R-6 = I.P.

Paid \$2.81 Lunch.

6-27-74 Paid \$1.96 insect repellent.

81.8

140.9

221.9

134.1

356.0

248.2

604.2

186.7

790.9

Begin 9:30, End field work 7:00 (M & BH)
RM. compute & draft. 3 Hrs.

80
64.7
144.7

Revision of Sleepy Hollow continued
from Pg. 62

T@ P.I. in lot 7, orient $0^{\circ}00'$
on nail along ^{R/W} line NE'ly, plunge
Turn Rt $27^{\circ}37'$, measure along
this line ^{101.00} ~~100.00~~ ft beyond NW
cor of Lot #7 ^{50ft.} to point for NW cor
Lot #8. (NW cor #8 is 249.70 NW'ly of SW cor #8)

July 11-74 same crew

T@ I.P. on N'ly R/W line @ 250.00 ft
NE'ly of Patton's cor., orient $0^{\circ}00'$ on
Patton's cor., plunge & meas. 35.00 ft
on line to New point on R/W btwn
outlot A & B. From New point Turn
 90° from R/W line & measure 61.50 ft
to point btwn outlot A & B. (point is
 ± 9 ft E'ly of top of 4 ft round septic tank.)
at this point orient $0^{\circ}00'$ on R/W pt.
turn clockwise $159^{\circ}00'$ ($201^{\circ}00'$) 150.00 ft.
set I.P. 2 ft s of water's edge. at this
point orient $0^{\circ}00'$ backside & Turn
 $90^{\circ}43'$ Lt. 64.60 ft to 2" I.P.

=

T@ P.C. on S'ly side of R/W orient $0^{\circ}00'$
on R/W line w'ly Turn 90° Rt meas. 60.00 ft
set I.P. for Radius Pt.

7-6-74

Mustonen
Hyland
Spain

35.1

Tat Radius Pt. orient $0^{\circ}00'$ on P.C. turn
Lt $67^{\circ}20'$ ($292^{\circ}40'$) to NE cor Lot #1 meas
116.90 ft to NE cor Lot 1. @ 60.00 ft
from Radius Pt. & on line set I.P.
for access to Lot #1.

T@ Radius pt orient $0^{\circ}00'$ on P.C.
Turn $36^{\circ}25'$ Lt. 60.00 ft set I.P. on
cut-de-sec. btwn Lots 1 & 2 (12.1 from
proj of S'ly R/W line)

T@ Pt. 332.00 ft along R/W from Patton's
cor orient on line & plunge, set
I.P. 8.50 ft @ intersection w/ cut-
de-sec.

524

36.25

(12.1)

65

35

150

8.5

54.4

90.43

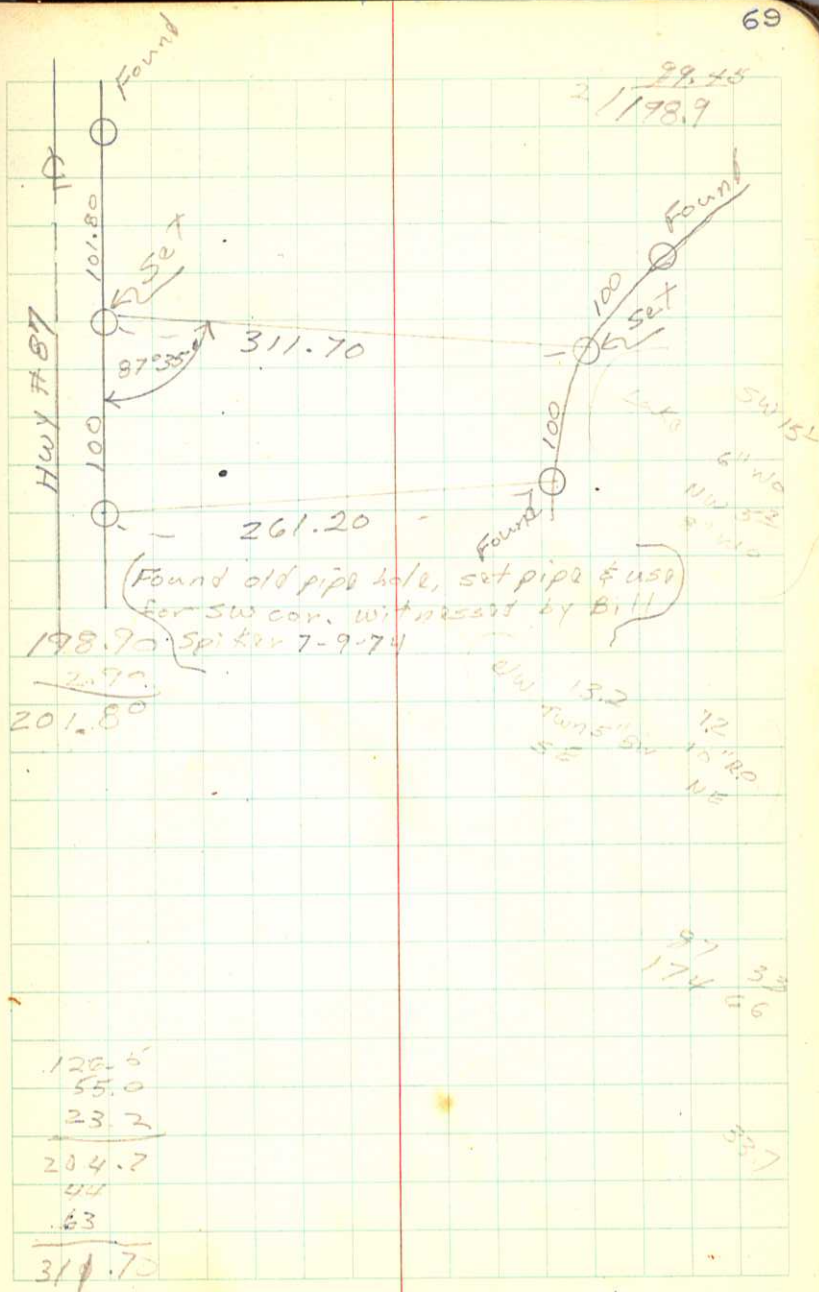
25.9

PART OF GOVT LOT 2, SEC 30
BARNEIT T140N, R28W

TR@ NW COR of 200ft tract
orient $0^{\circ}00'$ on SW cor, run
along line 100.00ft set nail,
at 198.90 is SW cor. (Landeckers)

Wiggle in BTWN SE cor (at lake)
& R/W 1 1/2" I.P., Proj line to RI.
with W. line, miss SW cor by
3.67 ft s'ly.

* 7-9-74 find old pipe hole 290 ft
S. of Landeckers I.P. This makes
201.80 btwn R/W cor., set 1 1/2" I.P.
From this cor Meas 100.00 on
line N'ly, set I.P.; From this
I.P. orient $0^{\circ}00'$ on line E'ly
to I.P. set at lake 100' from
either cor, Turn Rt $37^{\circ}36'$
($272^{\circ}24'$) [$175^{\circ}06'$ db/8] (use $87^{\circ}35'$)
From Meas along line E'ly
at 48.8 set I.P. for line, at 126.6
set I.P. for line, at 204.7 set I.P.
for line, at 311.70 set I.P. for NE cor
which is 100.00 ft



BARNET

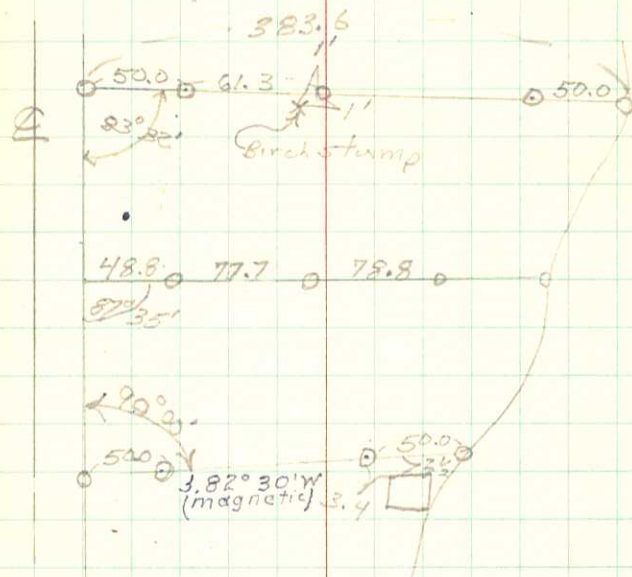
Part of Govt Lot #2, Sec 30
T140N R28W, Cass Co, MINN

Wiggle in A along
N. Line of S 200ft, set
I.P. 50.0 ft Ely of N. line
R/W marker (I.P.), set I.P.
along line 1ft N & 1ft E of
Birch stump., set I.P. 50ft
W. of cor at Lake.

Wiggle in A along S. Line,
set I.P. 50ft E of of
S. line R/W marker (see page
68), set I.P. 50ft W of
cor at Lake (3.4ft NWly of
NW cor of shed & 2 1/2 ft Nly
of shed)

Aug 6-74

π Mustonen 3-5 p.m.
Hyland (Aug 9-10-11:30)



(* see pg 68-69)

126.5
48.8
77.7

72

17 July 75 C/O Worman

Chris Zerco
7/15/75

Survey for part of East Lot 4

Sec. 6, T. 59N. R. 20W 4th PM.

Nov 3-1975 Spain & Muston

T@Z-5 = 59 = 12' N. 4 R.

Def Lt.	79°46'	159°31'40"	228.84	to wiggled pt.	¹²⁰ 202.84
			187.91	to z-6	²²⁰ 226.82
			416.75		

Z@Z-6 = @ 5' SW 1/4 of 20" W.P.

Def Rt. 49°47' 99°35'00" 222.80 to Z-7

T@Z-7 = @ 10' SW 1/4 of E R 1 (@ 5.805 to Z)

Def Lt	46°49'	93°38'00"	181.60	Vx = -9°30'	179.11
				to 1/4 IR slightly bent NEly.	

T@Z-8 = mc. Comput BRG. WEST

Turn Lt. 26°42'45" Vx = +14°55'

Def Rt 54°33' 109°06'00" 150.00

MAG S 12 1/2 E

0°00'

70.00

220.00

to Z-10

Z-10 = 5' W 1/4 of E R.

21 & mild
cl & mild9 Oct. 1974
10 Oct. 1974W. Spain & 73
B. Hanson

Survey for Lots 5 & 6, Block 1 Plat of
Tuslers Park, Cass County, MN.
1400 9 Oct. 1974. Bruce Hanson & I

locate 1/4 cor. so. & 1/4 cor., NE cor.
Lot 1 Block 1. Jiggle in between
1/16 & 1/4, set nails at 200' & 300'
south. set on 300' so. nail turn
S. 89°02'W 33' set 3/4" x 18" pipe,
continue brushing line 150-60';
set nail on hill. quit. 1730.

1000 10 October, 1974. Same crew
set on hill (above) set straddles
chain 150' set nail, run N 11 E
E. line, hit 9" Birch, @ 1' W. brush
100' set nail, transit on nail
run N. 89°02'W. brush line, set
nail on hill, set on nail &
continue hit 7" birch low but
clear high up; open line hit nail
at 200' point, set on 200' nail
turn stake 89°02' 33' set 3/4" x
18" pipe on line for NE cor. lot 5.
quit 1900

PR Cemetery 10/15/75
 211' to of 1/2 line & 30' E to NW
 cor Lot & Block N. Tier.

WJ, & K
 Dave Anderson &
 Survey for Parts

30 Oct. 75 windy cold. 75
 10 Oct 75 mild
 13 Oct 75

of NE 4/NE 4 Sec. 31

7:13 AM R. 30 W. 5 1/2 PM Minut, R. Hillier, Floyd
 Haley, Mrs Tucker & Mary Borman Tracts,
 9 October, 1975. ^{3:00} David Anderson & I look
 for control in 1/2 cor to find NE 1/4, find
 1M & street W of Hazel & Block cor's
 W of R.Ry on Washburn. 1730.

^{14:30}
 10 Oct. 75 Dave & I set nail & flag in Wash-
 burn Ave W of R.Ry 33' 30. of SE cor. of Block.

Also in 1M & Washburn & 2nd St, also
 at E 1/2 cor in 32. Fail to find any
 1M. south side Zaffke's Addn
 except one 33' N of sec cor. 1630

Me to Pine River - conference & Mike.

^{14:00}
 13 Oct. 75 Same crew locate NW & NE
 cor. Willie's Skelly property Lots 8, 9 & 10
 Block 2 Washburn's Addn & chain 33'

N on # 87 for & E sec. line, Found nail
 in Q 271, P for 1/2 cor., as it used to
 be 17' E W of E. Set on sec. cor. sight
 points W, only 2 lines up, chain 176.0'
 W set nail, sight points E, do not
 line up, use 1/2 for alignment,
 chain 67' E set nail, set on nail
 176' W 91° Lt (W to S) set nail 33'
 124', 383' & 487' 1750. quit day.

Clemild 16 Oct. 1975
 " " " 17 Oct 1975
 " " " 21 Oct 1975

^{3hrs.}
 16 Oct. 75. Same crew, no find $\frac{1}{4}$ 31/32
 Jim Cadar shows us I.P. for SE $\frac{1}{16}$
 no use. Dave & I set flag on cor $\frac{31}{32}$
 & E. on sec. line & R/W # 87. quit 15:50
^{14:09}
 17 Oct. 75 same crew. set on IM + King
 & Rosalind, sight IM + King & Washburn
 turn 91° N to E & Rosalind, chain 33', 300,
 60' = $393 + 60 = 569$. Hazel must be $66' + 66' = 575$.
 This equals the 366' on south + 176 = 572'
 so set nail at $483 - 375 = 445.5'$ so of sec. cor.
 set on above nail turn 90° E to N
 chain 37.5' = $\frac{1}{2}$ Rosalind, then 2 tracts
 75', set IM, 1" x 16". Trees on line
 north. No chain W of tree line & at
 257' sec. cor. B shorts, check W
 side, but deed calls for NE & from
 section line, quit 17:30.
^{12:30}
²¹ Oct. 75 Bill Hyland, Dave Anderson & I
 do not find $\frac{1}{4}$ cor. 31/32 (no record in Walker)
 locate corners on south edge Rosalind Ave &
 Washburn Ave. set on sec. cor line 5
 points west. set nail 75' to 91° W to S. NE cor
 Haley's 60' tract, set on same sight NW cor
 176' Tract, E edge Hazel st. set 1" x 16" Pipe
 for Haley's NW cor. & Borman's NE. also
 set IM for Borman's NW. cor quit. 17:30
 set Haley's NE cor 67' strip in 31

11/22/75

Ray & I found 1" IP 11.9' N from
nail at 408' to sec. cor.

28 Oct. 75 cl # coal.

6 Nov. 75 cl # warm.

7 Nov. 75 cl # mild.

¹⁰⁰⁰
28 October, 1975. Bill Hyland, Dave
Anderson & I to Backus, on IP in
+ King & Rosalind sight IP + King &
Washburn 89° Lt. hit point in E
Rosalind 2 blocks west of RRY. Plunge
& check points E to sec. line. check
point on sec. line 33' to sec. cor.
chain 200' so. from sec. cor., then 60'
Wrights, then 75' for Tucker. From
200' nail turn 91° so to W. chain 176' W.
hit .15 E & .01 so. of our nail on 176' line.
set on nail for SE cor. Tucker tract
sight sec. cor. turn 90° Lt (N to W.)
set tack on shed. Use 12' range pole
set 2 points west hit 8" spruce.
set nail 217' so. Hillier 75' & 42'
Tracts quit 1700 Dark.

1400 6 Nov. 75. Bill Hyland & I to Backus. check
points set B4. set on 1M 67' E & 33' so $\frac{30}{31} \frac{29}{32}$
run south 11 E sec. line 300' set 1" x 16" IP.
67' W to sec. line (nail). quit. 1715

7 Nov. 75. I pick up Bill 1030 stop at PO & Ray.
on to Backus, Bark. We check chainage &
alignment on W line 176' strip. 1.26' long.
set on nail 200' so $\frac{30}{31} \frac{29}{32}$ turn 90°. Fr's Wrights
W line as established & others desc.
Bill H. has to quit 1600.

π @Z-10	SEE PG. 72			
Turn Lt	81°15'40"	156.96	98.76 58 146.96	
	MAG. S86°W			
	0°00'	73.70	14 - 12°20'	
			to M-12	
π @Z-12				
Turn Lt	72°00'	194°06'00"	107.55	to Z-13
π @Z-13				
Def Lt.	10°40'	21°19'00"	116.17	to Z-16
π @Z-14	- SQ on N. LINE			
Def Lt	16°18'	32°35'	82.75	14 + 10°
Def Lt	82°38'	165°16'00"	96.70	14 + 3°41'
	MAG N 87°E			
π @Z-15				
	0°00'	52.70	to Z-8 50 ps. 72	

Nov 4-75 CLEAR 69° π Munstomen

EPAIN

81°15'40"
WEST Z-10

SEA @ BIG TURTLE LK.

A 1 1/4" I.P. set proj 7", \pm 6' from
normal High water.

From which:

A crow foot in 17" N.P. Brs
SE'ly 14.85 \neq A 7" dbl Birch (Crow foot)
Brs N'ly 9.52'SWA A 1" x 36" I.P. set proj 11", 10'
E'ly of normal high water of Tamarac
Swamp

From which:

The top of a 6' x 6' granite boulder
Brs SSW'ly 6.20' \neq a crow foot in
7" Birch Brs NE'ly 9.96 ft.

4 Pt A = 5/8" x I.P. 10' E'ly of N.H.M.

NWQ = 1" x 41" I.P. ^{10' from N.H.M.} set proj 7", From which
a crow foot in 5" Birch Brs E'ly 7.35',
 \neq the top of a 2 1/2' x 3' granite boulder
Brs SE'ly

Sta	+ S	108.42	H.I.	- S	5/16/79
BM.	100.00	108.42			Elev
Brook Norway H ₂ O	8.42	108.42		11.38	100.00
Lot 5				8.75	99.67
" 4	1.45	1.45		2.40	106.02
" 3	1.05	1.05			106.97
" 2					107.37
" 1					
" 8	1.28	1.28			107.14
" 7	1.25	1.25			107.52
" 8					107.17
" 8					107.06
" 9	2.30	2.30			106.12
TP.	4.44	4.44	111.93	0.93	107.49
Lot 1	5.90	5.90			106.03
" 2	5.43	5.43			106.51
" 8	4.86	4.86			107.07
" 9	4.88	4.88			107.05

Palmer's Norway Brook Adm.
 50' NE 3.00' from Mc. 600 spk. in 10" Birch
 Water level Norway Brook

50'± West of river, Elev. 106.02. 56'± 99.67

Lot 4

Lot 3

Lot 6

Lot 7

Lot 8

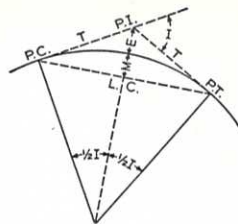
Lot 9.

NE cor. Base Elev. 90X.

BM + H.I. - elev. Col 3873
 3.135 680.425 677.30
 34.25 Cobber Box 6.105 674.33

CURVE AND REDUCTION TABLES

Published by Eugene Dietzgen Co.



CURVE FORMULAS

1. Radius : $R = \frac{50}{\sin D/2}$
2. Degree of Curve: $D = 100 \frac{I}{L}$. Also, $\sin D/2 = \frac{50}{R}$
3. Tangent : $T = R \tan \frac{1}{2} I$. Also, $T = \frac{T \text{ for } 1^\circ \text{ curve}}{D} + C$.
4. Length of Curve: $L = 100 \frac{I}{D}$
5. Long Chord : $L. C. = 2R \sin \frac{1}{2} I$.
6. Middle Ordinate: $M = R (1 - \cos \frac{1}{2} I)$
7. External : $E = \frac{R}{\cos \frac{1}{2} I} - R$. Also, $E = T \tan \frac{1}{4} I$.

EXPLANATION AND USE OF TABLES

Given P.I. Sta. 83+40.7, $I = 45^\circ 20'$ and $D = 6^\circ 30'$ find:

Stations—P. C. = P. I. - T. $T = \frac{T \text{ for } 1^\circ \text{ Curve}}{D} + C$. From Tables V and VI
 $T = \frac{2398.8}{6.5} + .197 = 368.32 = 3 + 68.32$. Sta. P. C. = 83+40.7 - (3+68.32) = 79+72.38.

P. T. = P. C. + L, and $L = 100 \frac{I}{D} = 100 \frac{45.33}{6.5} = 697.38$ Therefore, P. T. = (79+72.38) + (6+97.38) = 86+69.76.

Offsets—Tangent offsets vary (approximately) directly with D and with the square of the distance. From Table III Tangent Offset for 100 feet = 5.669 feet. Distance = 80 - Sta. P. C. = 27.62. Hence offset = $5.66 \times \left(\frac{27.62}{100}\right)^2 = .432$ ft. Also, square of any distance, divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(27.62)^2 \div (2 \times 881.95) = .432$ ft.

Deflections—Deflection angle = $\frac{1}{2} D$ for 100 ft., $\frac{1}{4} D$ for 50 ft., etc. For "X" ft. Deflection Angle (in minutes) = $.3 \times X \times D$. For Sta. 80 of above curve Deflection Angle = $.3 \times 27.62 \times 6.5 = 53.86'$. Also Deflection Angle = dfl. for 1 ft. from Table III $\times X = 1.95 \times 27.62 = 53.86'$. For Sta. 181 Deflection Angle = $53.86' + \frac{6^\circ 30'}{2} = 4^\circ 8.86'$.

Externals—From Table V for 1° curve, with central angle of $45^\circ 20'$, $E = 479.6$. Therefore, for $6^\circ 30'$ curve, $E = \frac{479.6}{6.5} + \text{Correction from Table VI} = 7.378 + .039 = 7.417$.

Table X.—Calculation of Earthwork.

Width	HEIGHT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.83
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table X gives the number of cubic yards in a TRIANGLE 1 foot deep for a given width and height. CAUTION: Values obtained from the above tables are for only the one TRIANGLE of the cross-section under consideration.

Corrections for tenths of feet in width and height may be made by considering the numbers on the table from 1 to 9 as tenths and taking one tenth the values found in the tables. For example, to find the number of cubic yards when Width = 16.2 and Height = H = 5.3, opposite 16 in "Width" column and under 5 in the "Height" column read 1.18. To correct for additional 0.2 foot of width, opposite 2 in the "Width" column and under 5 in the "Height" column read 0.18 and correct to .018. To correct for additional 0.3 foot in height, under 3 in "Height" column and opposite 16 in "Width" column read 0.89 and correct to .089. Therefore, the total cubic yards in the given TRIANGLE for a depth of 1 foot = 1.18 + .018 + .089 = 1.587 or approximately 159 cu. yds. per 100 feet.

If width exceeds 40 feet, use one half real width and multiply result by 2. If both width and height are larger than values given on table use one half of each value and multiply result by 4.

W.D.S.T.
 520.76 from MS. 97.22
 1.49
 476°30' 1395.73
 88.00° 97.22
 0.95
 96.27
 95.73
 54

87.37
 1386.64
 97.22
 9.85
 87.37
 97.22
 0.95
 96.27
 4.15
 1400.42
 4.87
 1375.55

62053
 2124
 8979
 90019
 6200
 831
 27241

374
(53.3)

89.60
62.23

27.37

177
7.06
6.97

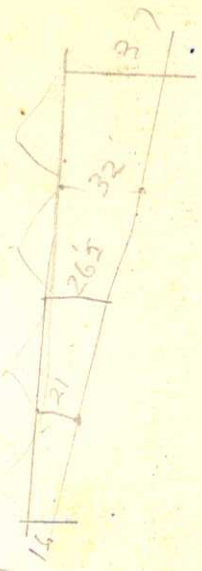
App to app 102
IP. to N&A 37
L. to S&A 20

165
46
990
660
759.0
3996.9
1271.6 3996.9
5268.3 3881.4
60.7
5329.2 115.5

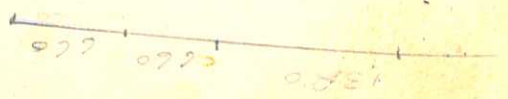
3996.9
910.8
4907.7

1332.3
1271.6

60.7 W.



1271.6
3996.9
5268.5



(27037' 250)
182

3996.9
2664.60
177 60110.8
150 27
29 33

1332.3
4 | 5329.20
13

2664.6 set nail
2666.0 = P/W MKS N¹/₄

2875
3029.5 t TR
3052.8 nail

3392.6
3513.5 N-S fe
3881.4 Nail @ 2

+ 61.5
3742.9 N-S fe
3996.9 set nail
910.8 Nail @ 11

1271.6 nail on fo s¹/₄
60.7 set nail

227.6
33.8
21.45
107.65
120
227.65
664.65
293.65
33
260.65

1397.8
249.70
110.00