

Brainerd-Motley Road  
S.T.H. #2.

Transit Book #2.

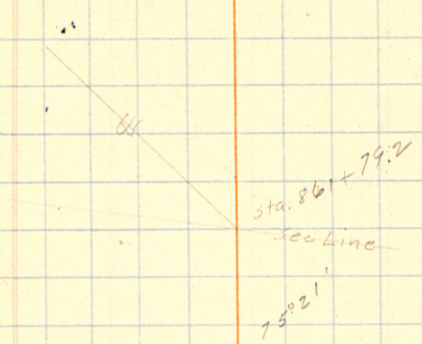
DIETZGEN  
TRADE MARK

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ENGINEERS'  
FIELD BOOK  
No. 400

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(1)



Weather -  
Fine.

Tue. Oct 7, 1919.

R.J.T.  
C.J.B.  
A.R.P.  
J.C.

(2)

5  
4  
+102.0 P.O.T.

3  
2  
1  
880

9  
8  
7  
6

5  
4

3  
2

1

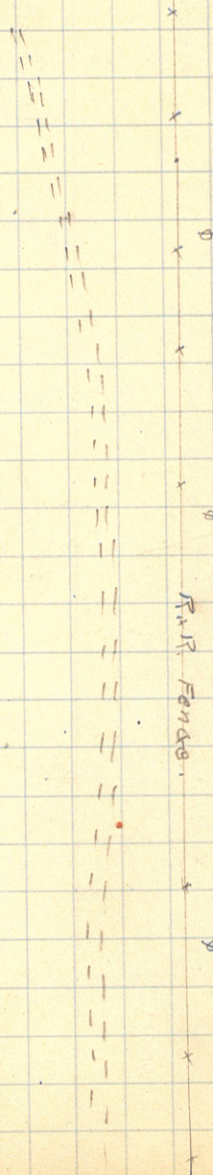
+136 P.O.T.  
870

9  
8  
7  
6

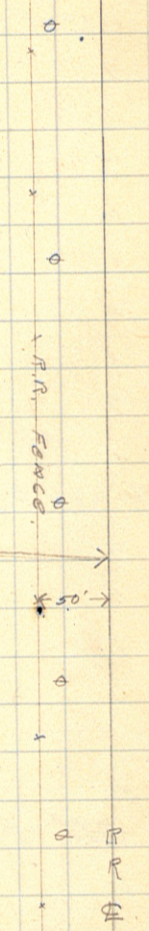
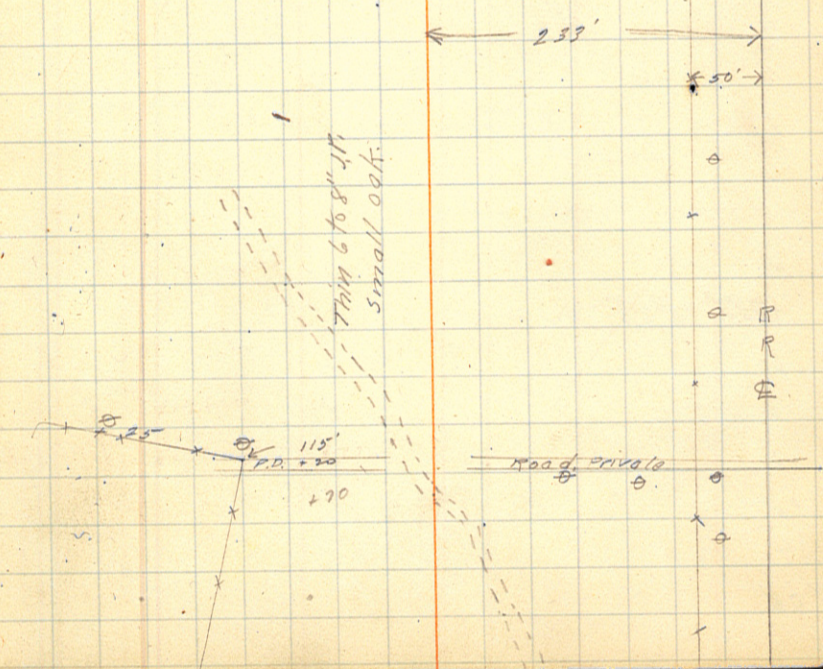
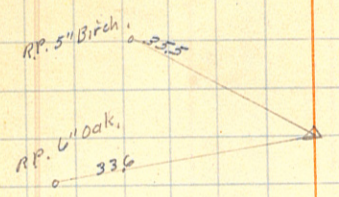
5  
864

2 to 4" J.P.

Thin 4 to 8" J.P. Small lot of P.P.



8						
7	16°59' R.	N 8 1/2° E	P.I.			
6		<del>N 8 1/2° E</del>				
5						
4						
3	short Sta 100' long					
2				No Sta. 902 -		
1				(mistake found when Running Levels)		
900						
9						
8						
7						
6	P.O.T.	N 6 1/2° E				
5						
4						
3						
2						
1						
890						
9						
8						
7						
6						



+66° P.O.T.

- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

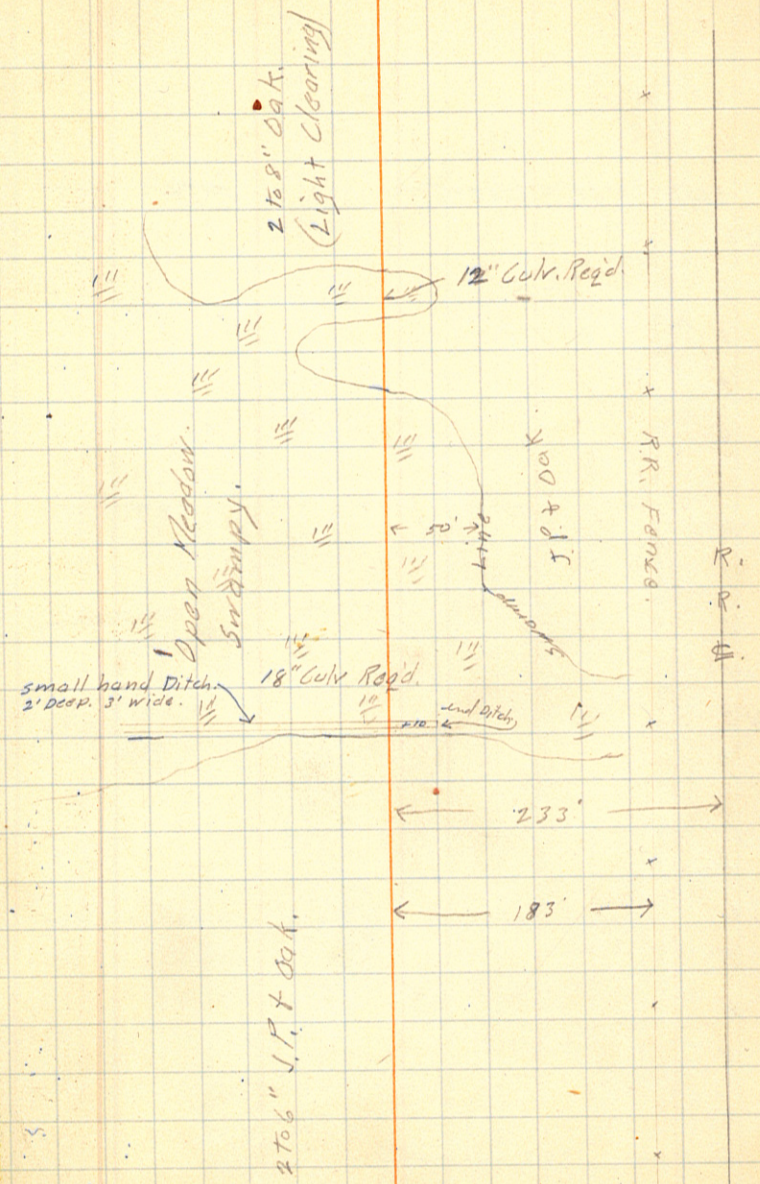
920+68° P.O.T.

- 9
- 8
- 7
- 6
- 5
- 4

+045° P.O.T.

- 3
- 2
- 1

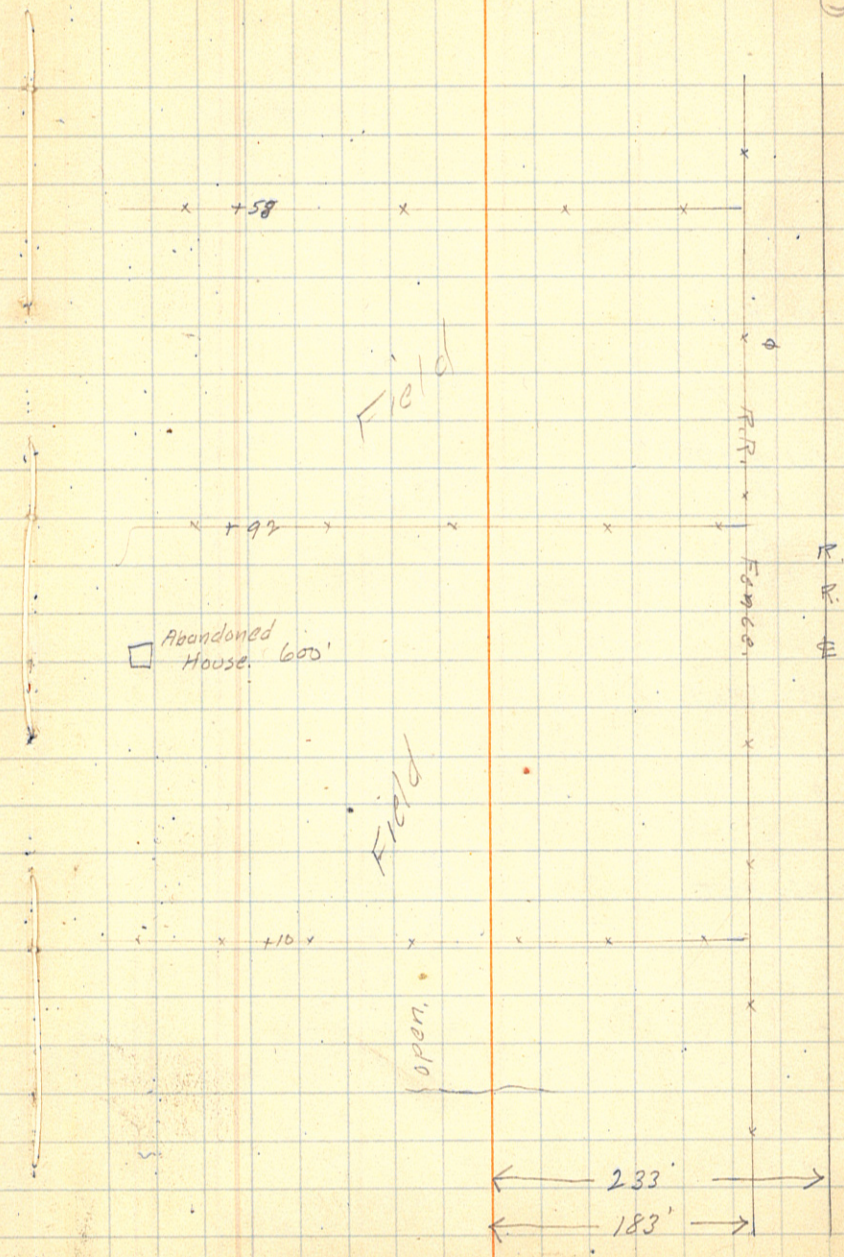
10  
9  
908



- 2
- 1
- 950
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1
- 940
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1
- 930

+058 11°02'R 587°E.

PI.



Windy

Wed. Oct. 8.

R.J.T.  
C.J.B.  
A.R.P.  
J.C.

+320

9

8

7 to P.O.T.

6

5

+301 P.O.T.

4

3

2

1

+460 P.O.T.

960

9

8

+006 P.O.T.

7

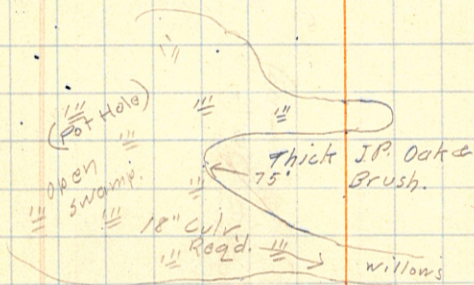
6

5

4

3

952



RR Fence.

R.  
R.  
E

2-6" J.P. Oak.  
(Heavy Clearing)





992+81.8 1°08' R.

PI.

1

90

9

Short Sta. 100' Long

8

No Sta. 988

(mistake found when running Levels)

7

6

+94 8°46' L

PI.

5

4

3

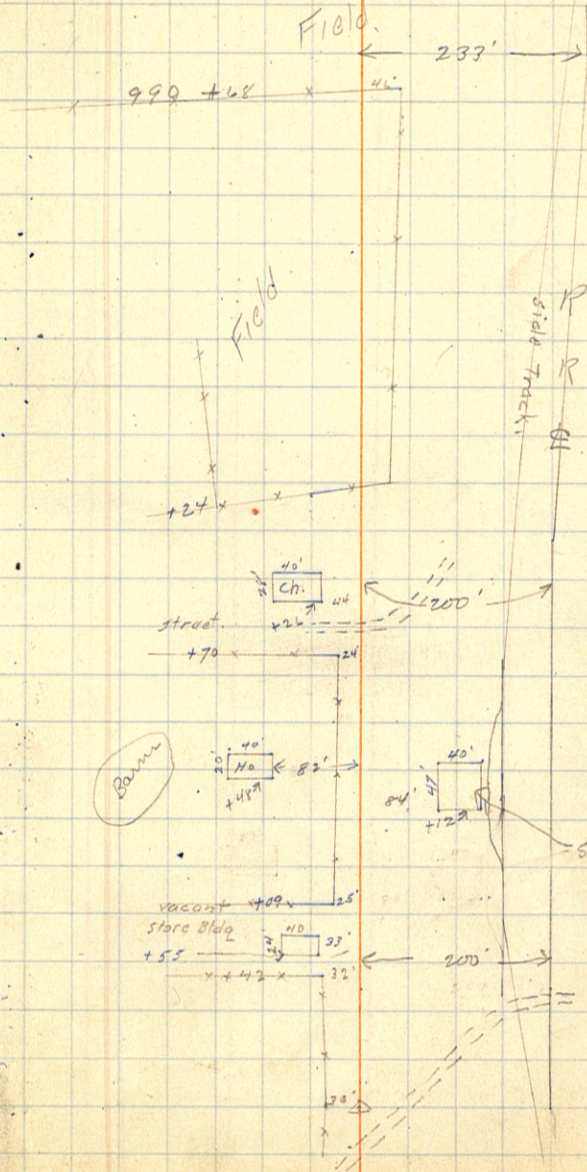
2

+16.9 POT.

1

980+18.7

(P.L. Δ 17°40')



1046+088 P.O.T.  
5+0 P.O.T. N76°E.

4

3

1032

1025+342 P.O.T.

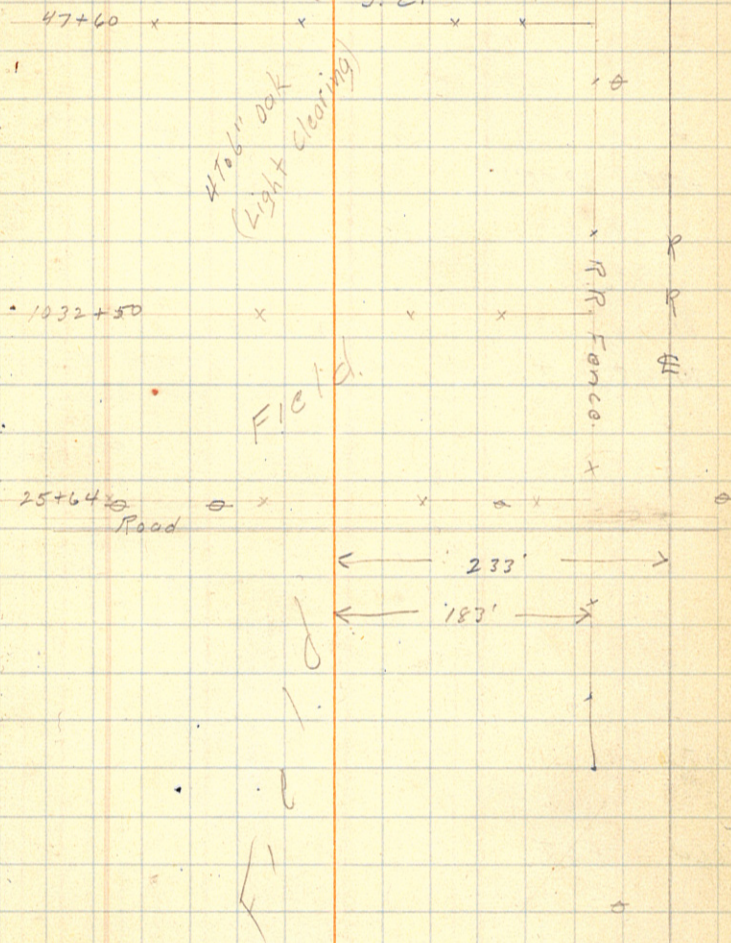
6

1005+263 P.O.T. N75°30'E

993

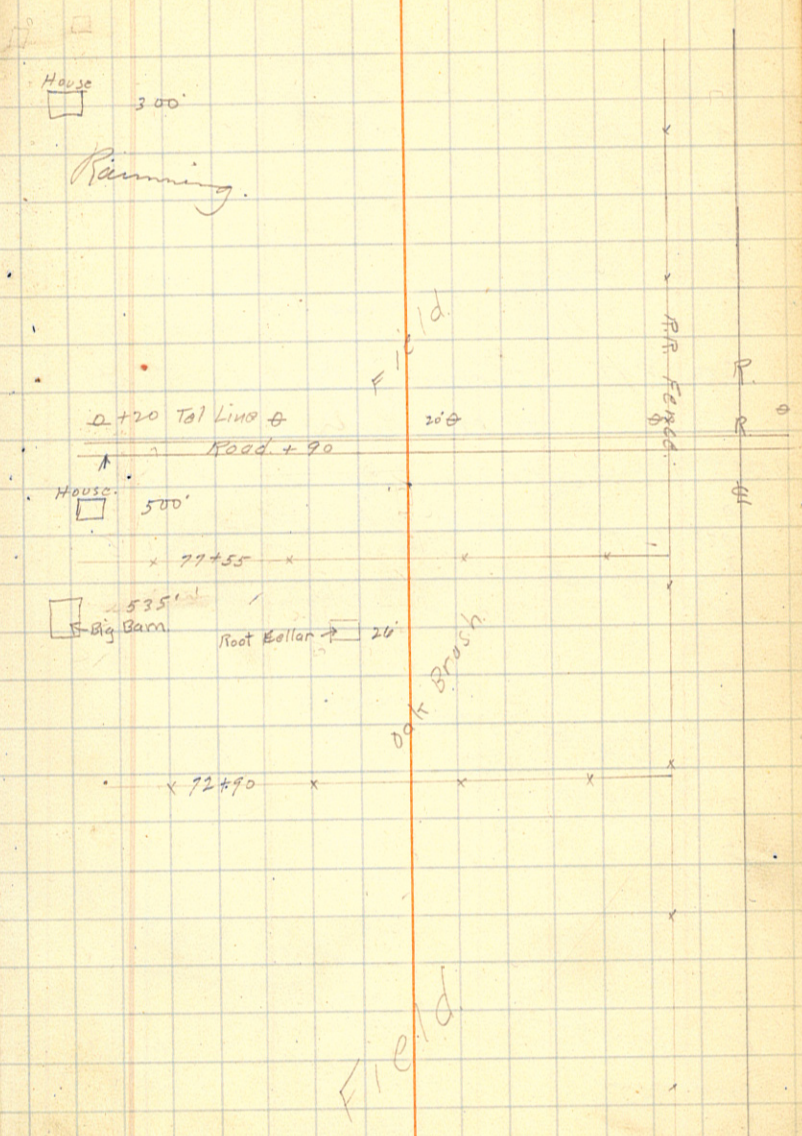
Misty - Wet.  
Late start.  
Rain part of P.M.

Thur. Oct. 9  
R.L.J.  
C.G.B.  
A.R.P.  
J.C.



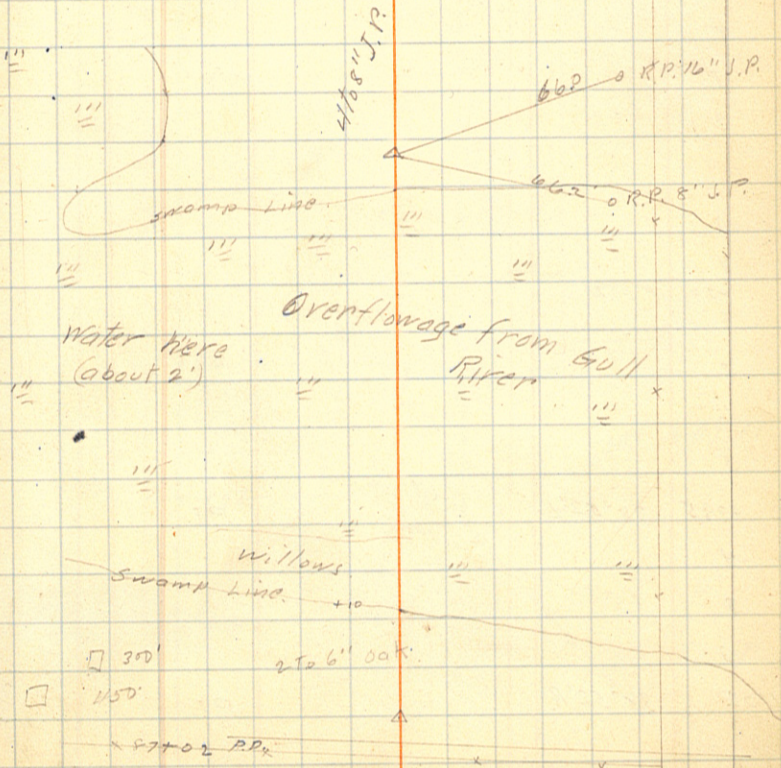
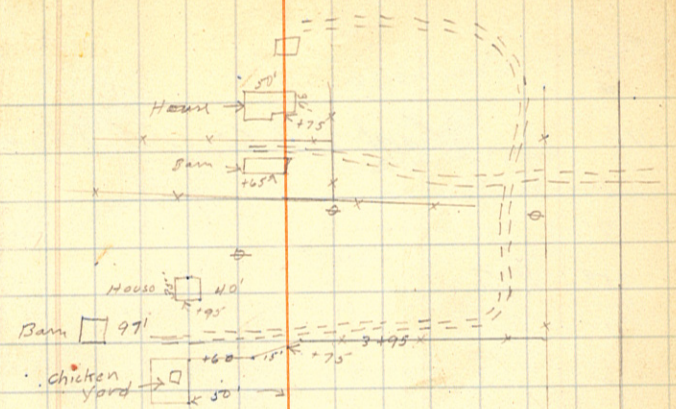
	6	
	5	
1046+	4	
5+	+595	6°55'L
4	3	
3	2	
1032	81	
	1079+988	P.O.T.
	9	
	8	
1025+	7	
	6	
	5	
	4	
	3	
6	1072	
1005+		
	1064	P.O.T.
993	1048	

P.I.



8  
7  
6  
5  
4  
3  
2+0 P.O.T.  
1  
1150  
9  
+771 P.O.T.  
8  
7  
6  
5  
4  
3  
2  
1  
1090  
9  
8  
+054 P.O.T.  
7  
1086

Turned to R. at this Point  
to 83' from R.R. & to avoid  
houses & for Gull River Xing.  
See next Page.





3

2

1

20

9

8

7

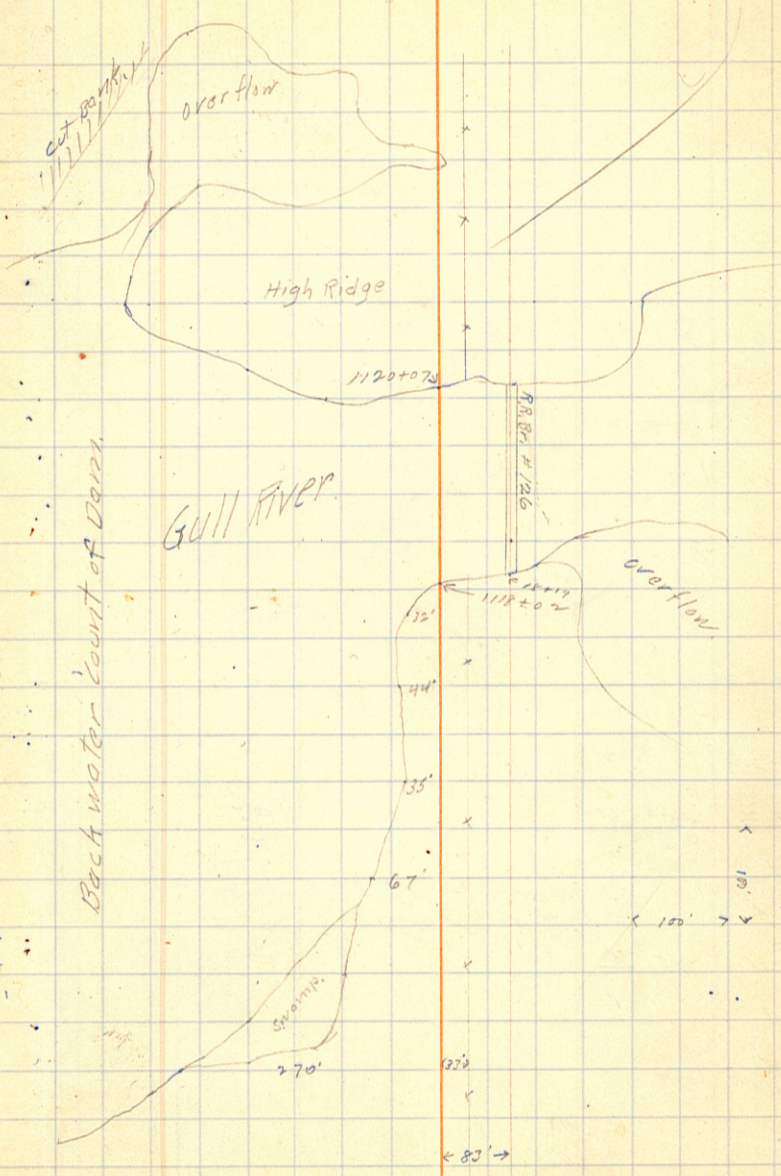
6

5

4

3

1112



1

1140

9

8

7

6

P.O.T.

5

4

3

2

1

30

9

8

7

+12' 45° R.

P.I.

6

Turn to get 33' outside R.R.  
R. of W. again

5

4 45° L

P.I.

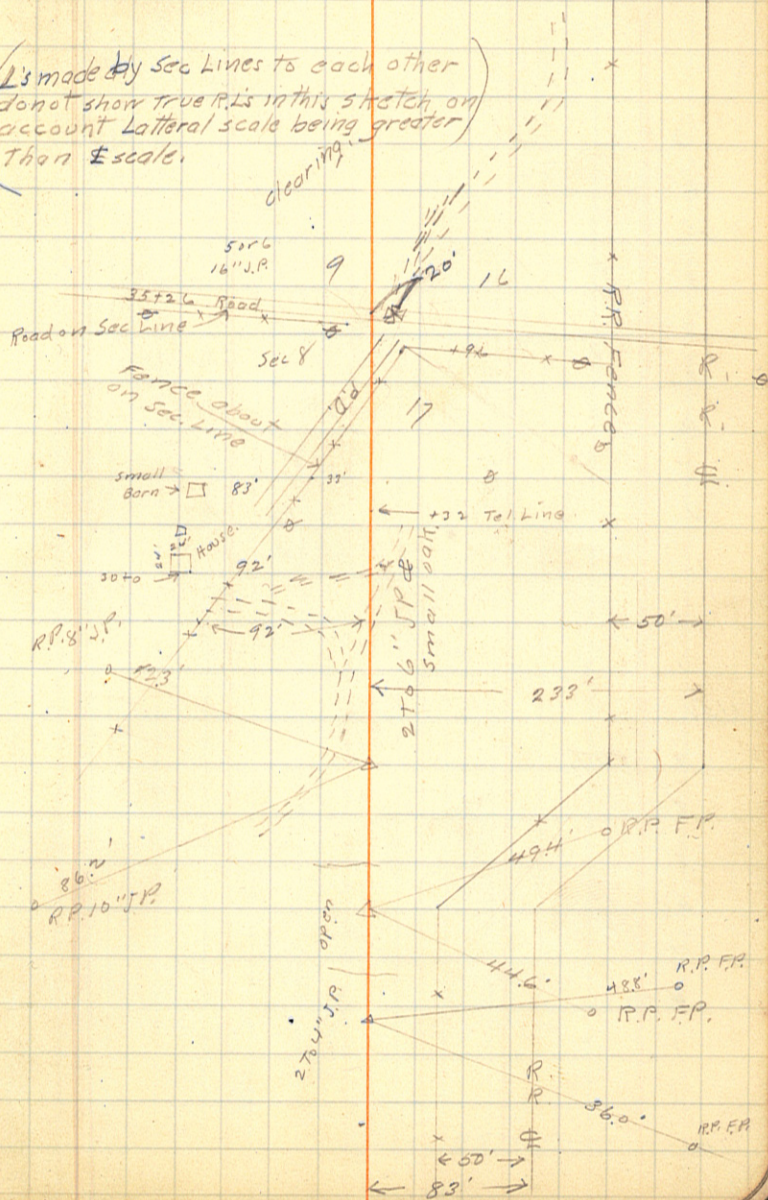
3

2  
+02 P.O.T.

1

1120

(L's made by Sec Lines to each other  
do not show true P.I.s in this sketch, on  
account Lateral scale being greater  
than E scale.



Weather  
Fair

Sat. Oct. 11

R. J.

C. B.

J. C.

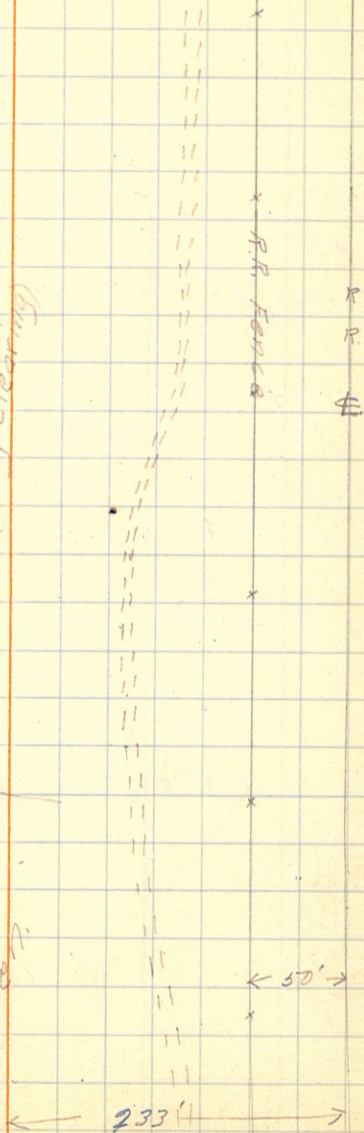
Peterson Laid up - Rheumatism

(15)

2  
1  
1160  
9  
8  
7  
6  
5  
4  
3  
2  
1  
1150  
9 P.O.T.  
8  
7  
6  
5  
4  
3  
2  
1141

8 to 12" J.P.  
(Heavy clearing)

0.100 P.





8

7

+422 P.O.T.

6

5

4

3

2

1

70

9

8

+581 19°55'R

7

6

5

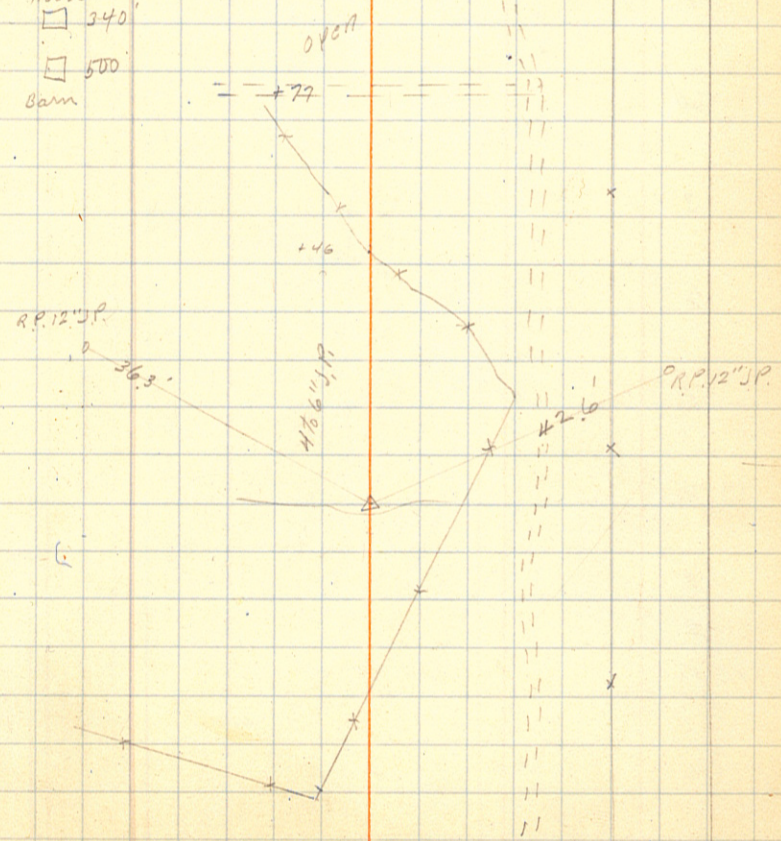
4

3

1162

P.I.

House  
340'  
Barn  
500'



1189 + 04 Connects with Crow Wing Co. Road

9

6

End of Line

7

Finished Line at 2:30 Sat  
Oct. 11, 1919.

6

5

4

3

2

1

1180

9

7

1178

Crow Wing

Co.

11160. Line

220

To  
Ground

N.  
R.

40 ft

Open  
90  
100

100

100

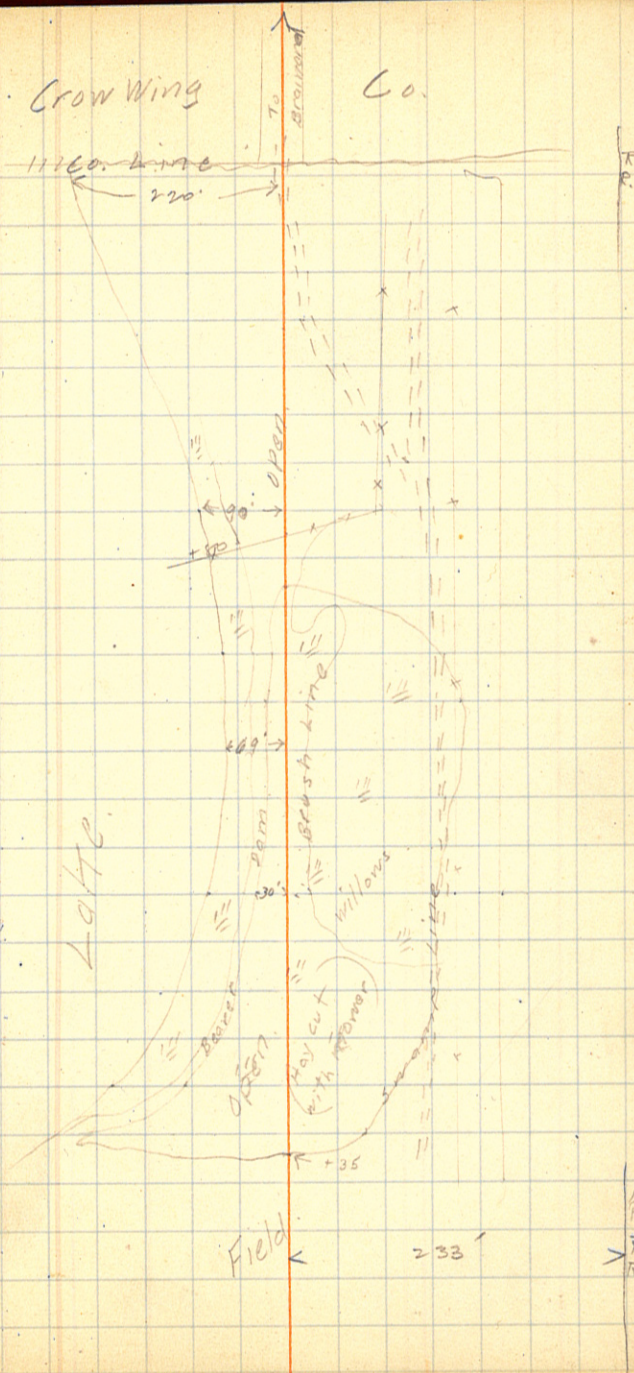
100

100

Field

233

N.  
R.  
R.



7  
6  
58 5  
4  
3  
2  
1  
580  
9  
8  
7  
6  
57 5  
4  
3  
2  
1  
570  
9  
8  
7  
6  
5  
564

P.O.T.

(R.P. 43.0 ON FENCE POST ON LEFT) (R.P. 41.9 FENCE POST ON RIGHT)

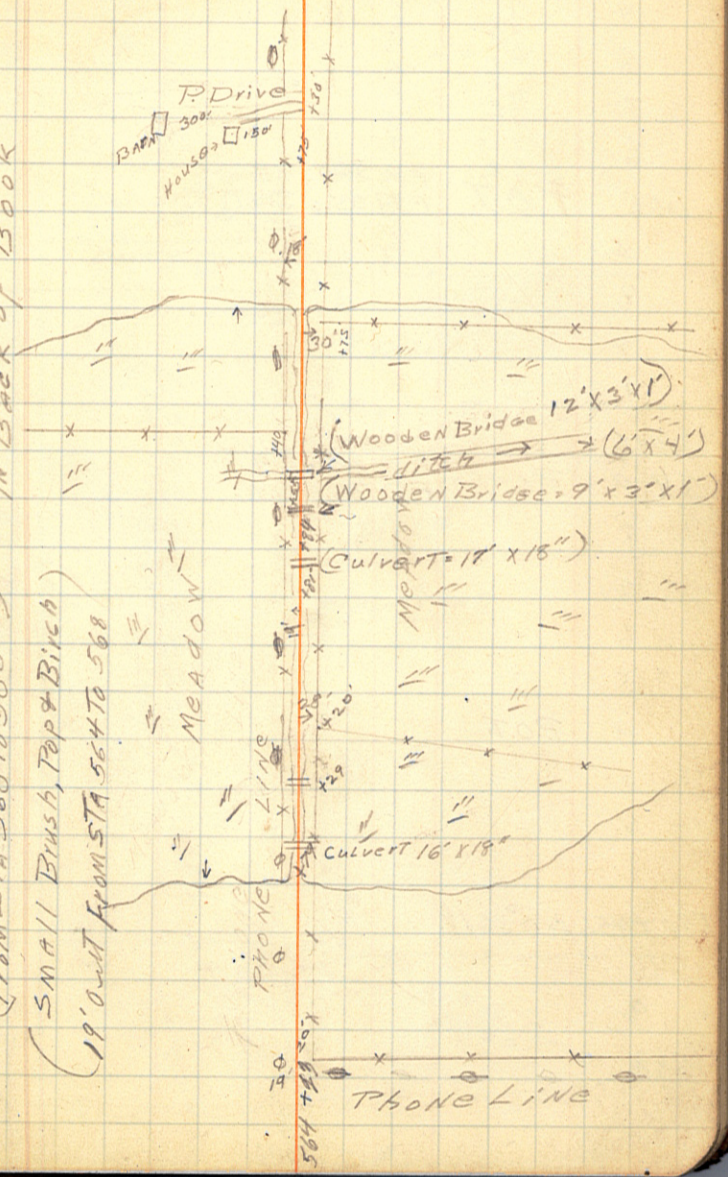
(LIGHT BRUSH ON LEFT FROM STA 570 TO 581)

(LOWLAND & MEADOW FROM STA 560 TO 580)  
(SMALL BRUSH, PEP & BIRCH)  
(19' CUT FROM STA 564 TO 568)

563+91.0 hub A 1/2 00 RT S 1/4 cor. sec. 11-133-31  
from line run by R. Jorgensen fall of 1919

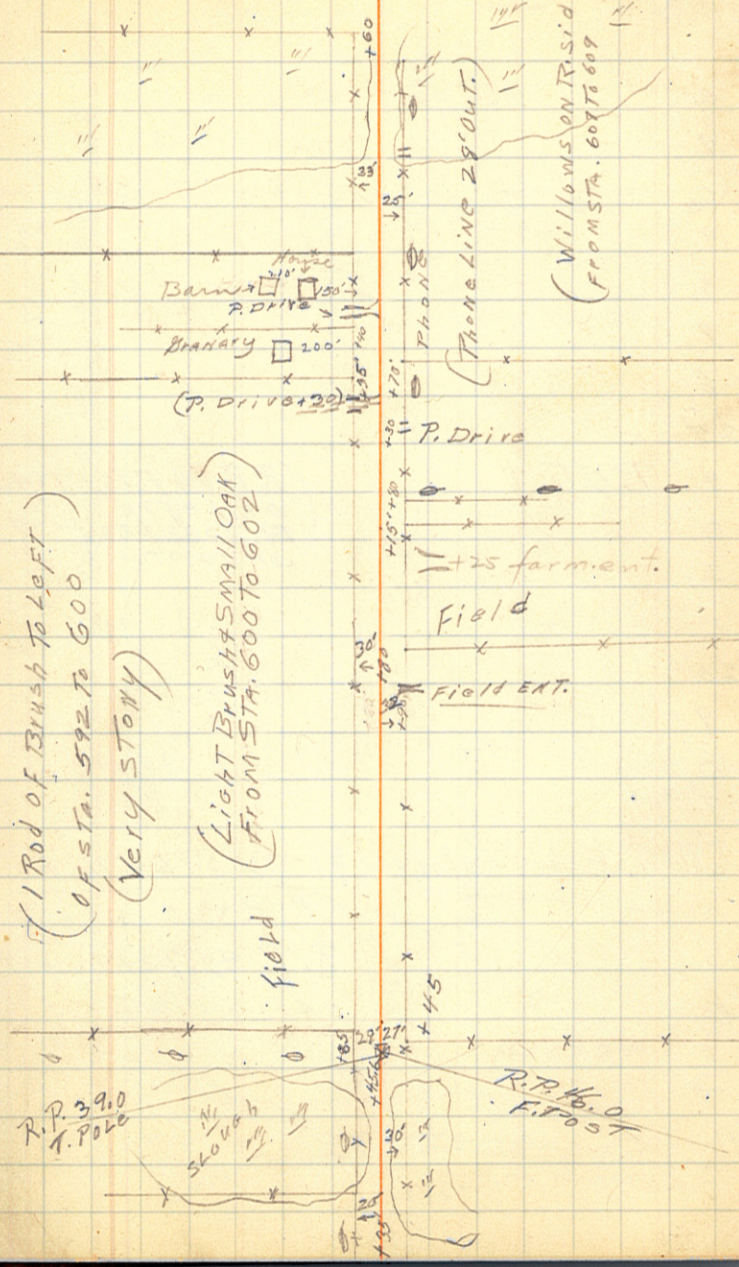
3/31/20 HE Palmer Inst. Fine day  
CG Back H. Ch - start 13 p.m. (20)  
CA. Rush B. Ch  
AR Peterson Stakes

Notes & Sketch of Creek  
IN BACK OF BOOK



610  
 9  
 8  
 7  
 6  
 605 P.O.T. F.P. 36.0 SE  
 F.R. 35.0 SW  
 4  
 3  
 2  
 1  
 600  
 599 P.O.T. F.P. 33.0 E of S.  
 F.P. 36.8 S.W.  
 8  
 7  
 6  
 595  
 4 P.O.T.  
 3  
 2  
 1  
 590 + 456  $\Delta$  0° 56' Lt.  
 590  
 9  
 588

(18" Culvert Needed Between  
 STA. 588 + 590)



643 + 315. Sec. cor. hut: - 1° 39' LT.  
671 + 6 E. 3 1/4 " " "  
697 + 90. 3 Sec. " "

2

1

630

9

8

7

6

625

4 P.O.T.

3

2

1

620

9

8

7

681) hut for 5/4 cor. Dec. 12-133-31-40° 16' R.

6

615

4

3

2

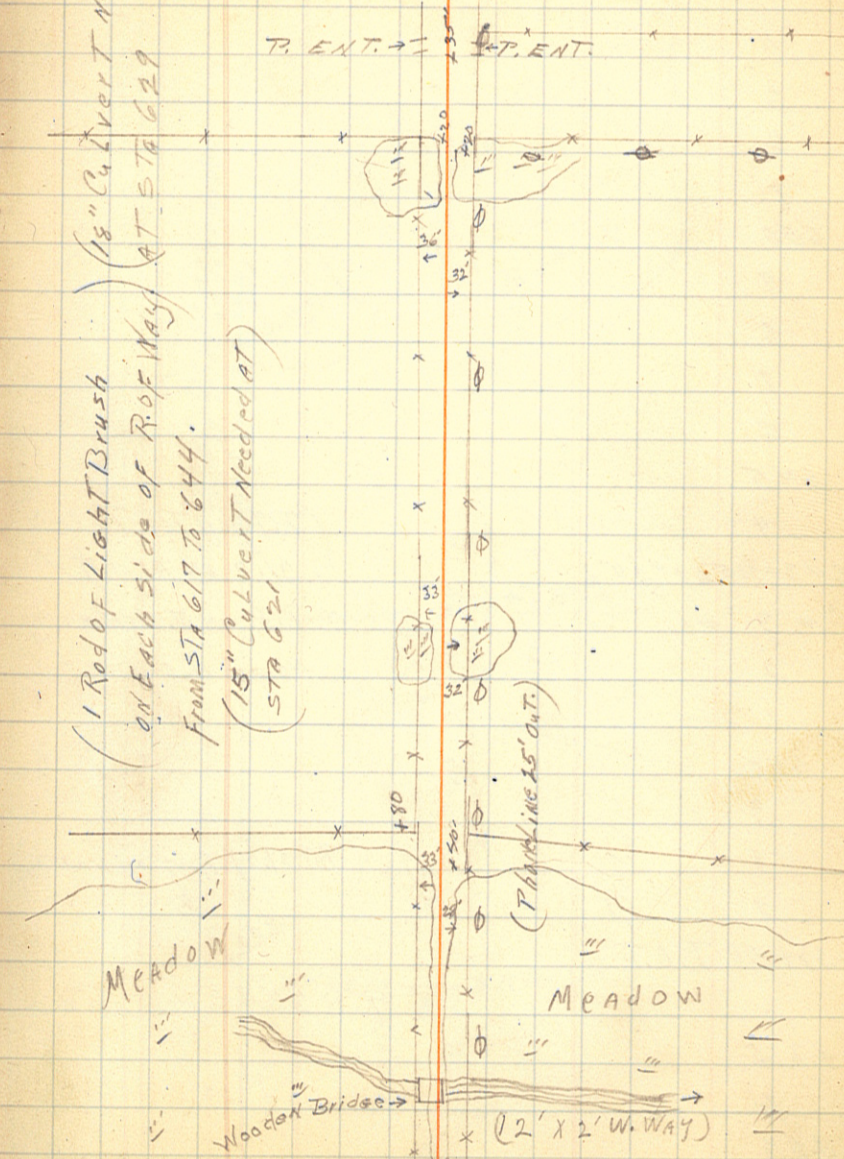
611

(R.P. ON F. POST 42.0  
ON LEFT.  
R.P. ON F. POST 39.0  
ON LEFT.)



(R.P. 33.0 ON LEFT.  
R.P. 42.7 ON LEFT)  
ON FENCE POST.

(18" Culvert Needed)  
(1 Rod of Light Brush  
on Each side of R.O.F. Way)  
From Sta 617 to 644.  
(15" Culvert Needed at  
Sta 621)



4  
 3  
 2  
 1  
 650  
 9  
 8  
 7  
 6  
 645  
 4  
 643+315 A 1°39' L  
 3  
 2  
 1  
 640  
 9  
 8  
 7  
 636+50 P.O.T.  
 6  
 635  
 4  
 633

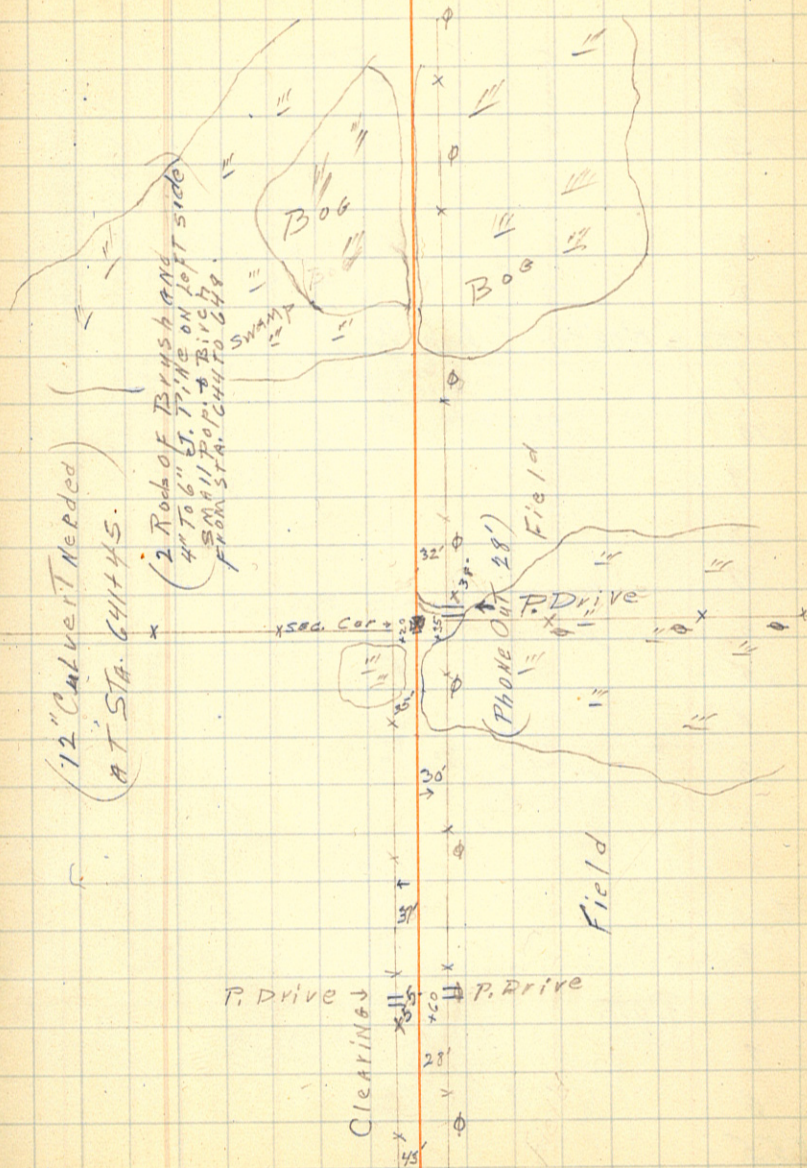
(R.P. ON Tel Pole)  
 31.0 ON Right T.

R.P. ON J. PINE  
 40.0 = N. EAST.

(R.P. 39.3 F. Post ON Left T.)



R.P. 33.4 F. Post ON R.









72A + 68.0 P.I.

4

3

2

1

720

9

8

717 O.P.A.T.

6

5

4

3

2

711

710

9

8

7

6

705

4

3

2

701

+744-P.C.--29° curve run in  $\Delta 88.14$

D 29°

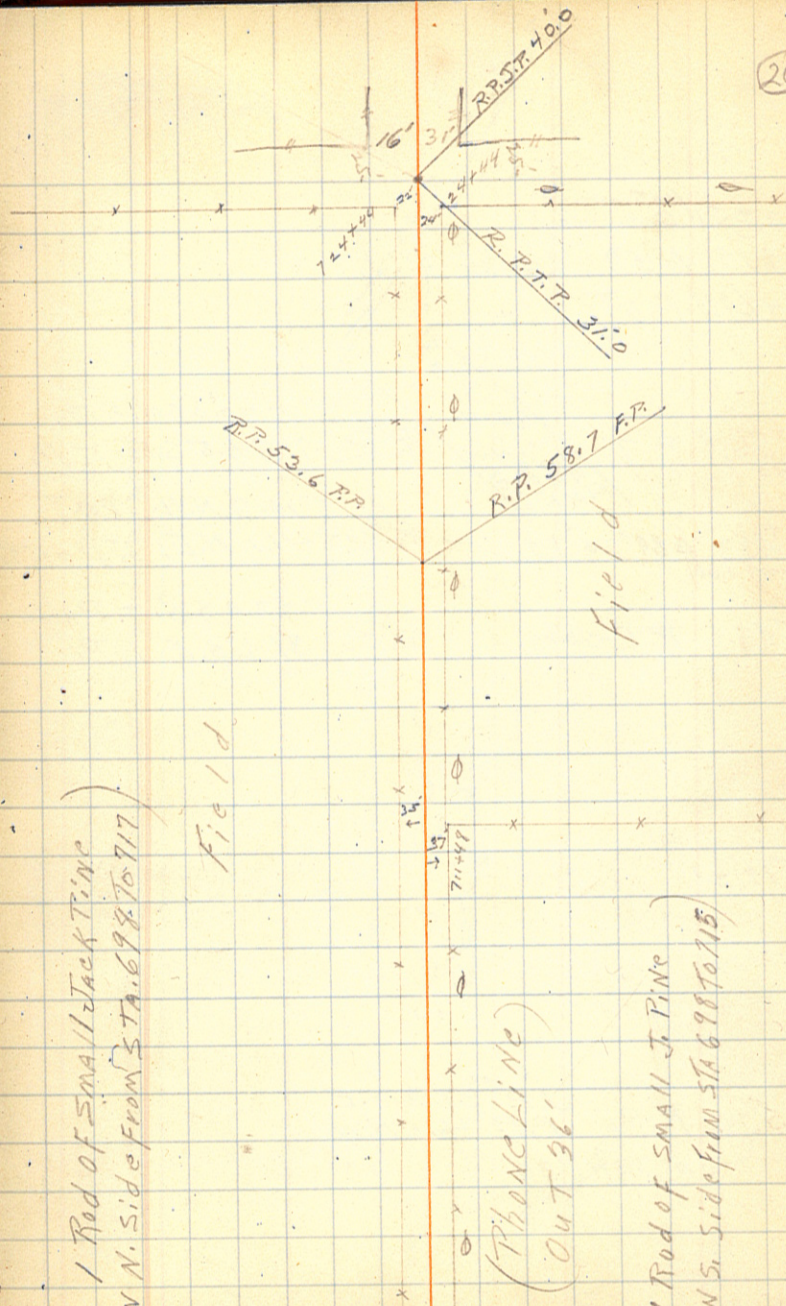
R 199.7

T 193.6

Lc 304.2

Spike

(26)



(1 Rod of Small Jack Pine  
ON N. Side From Sta. 698 To 717)

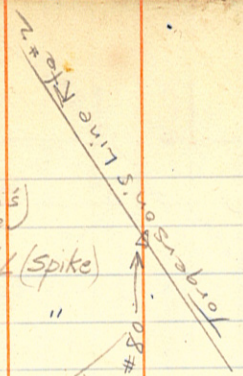
(1 Rod of Small J Pine  
ON S. Side From Sta. 698 To 715)

(PHONE LINE)  
(OUT 36')

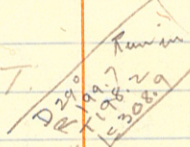
790 + 51 (on Torgerson's South route)

773 + 19 A 15° 5' 4" (Spike)

771 + 68.4 P.O.T. "



764 + 56.0 P.T. Spike



R.P.s { 30.0 S.W. F.P.  
34.5 S.E. F.P.

763 + 45.3 Δ 89° 34' Lt. Old wood hub

R.P.s { 10.3 N.W. Post.  
41.1 N.E. F.P. Post.

761 + 47.1 P.C.-spike

R.P.s { 27.0 S.W. T. Pole  
31.2 S.E. F.P.

750 + 19.2

SRH #80

fence on 1/4 line  
Alternate Rte #2

P. 725 + 78.6 R.P.s J.P. inc 33.3 N.E.  
F.P. 26.0 N.W.  
on SRH #80

724 + 68.0 - 88° 14' Rt. Hub on INT. OF ROADS  
P.I.



R.P. 40.2 F.P.

Line from SRH #80 - East line  
 thru Sec. 17+16-133  
 -30

- 7
- 6
- 765
- 4
- 3
- 2
- 1
- 760
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 752
- 751+298 P.T.

Place 15" culv.

750+19.2  $\Delta 89^{\circ}04'$  Lt RPs } etc. P. 21.7 W.  
 D 29.0 " " 29.0 NW  
 R 199.7  
 T 196.5  
 L 309.1

748+22.7 P.C

744+20 P.O.T. spike

100' OFF TAKE NEEDED  
 AT STA 763 SOUTH  
 750+35 } 2 cuts heavy of Pine  
 751+60 } on left



field

Pasture

Meadow (high bog - cut off take 300' S.)

+65

Pasture

R.P.T.P. 31.0 N.W.      R.P.F.P. 40.2 S.W.

6 to 4.3  $\Delta 27^{\circ} 20' Lt.$

- 6
- 5
- 4
- 3
- 2
- 1
- 780
- 9
- 778

0 P.O.T. R.P.s. 10" J. Pine 43.0 NW  
 10" " 45.3 N.

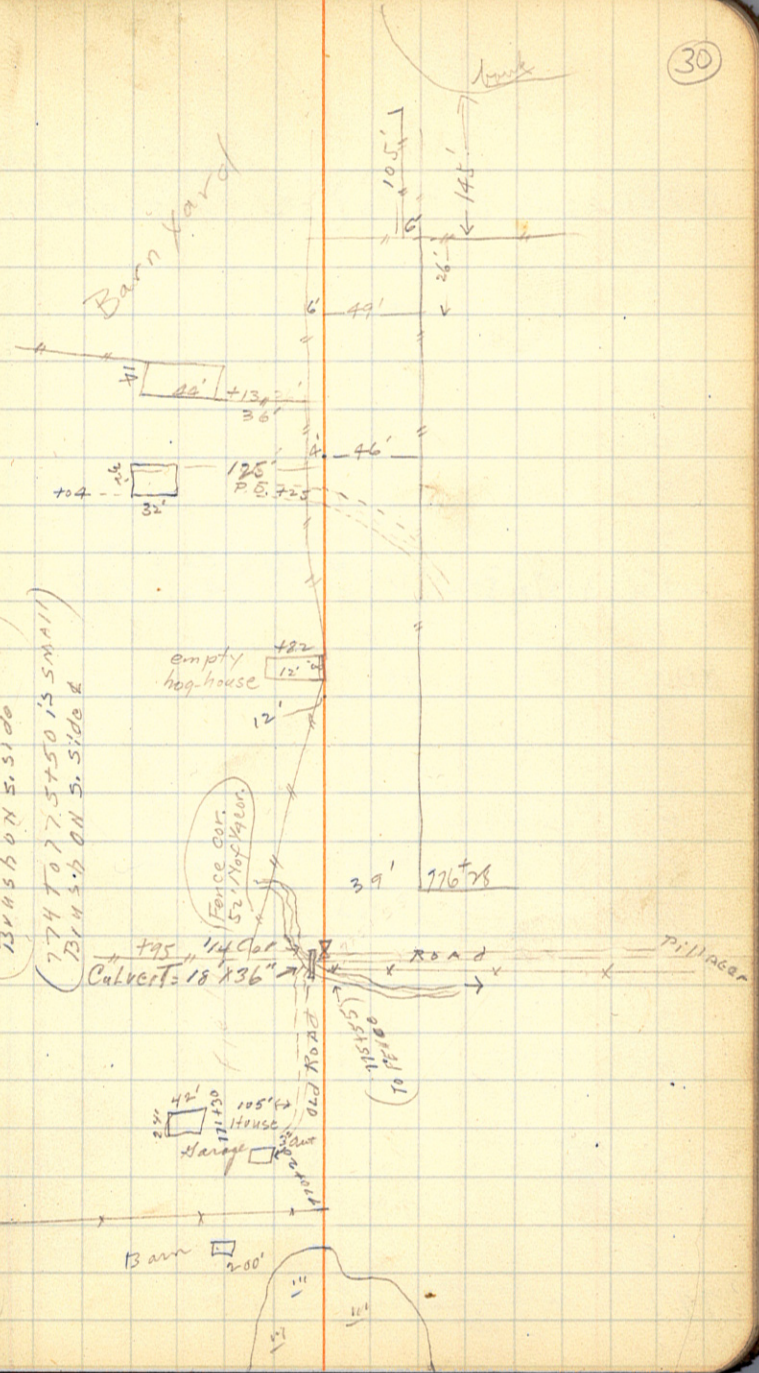
775+978  $\Delta 0^{\circ} 55' Lt.$

- 775
- 4
- 3
- 2
- 1
- 770
- 9
- 168

(1/4 Cor. Iron Pipe)  
 R.P. (49.6 S.E. - E.P.)  
 R.P. (46.0 S.W.T. Pole)

779-781 - scattered small J.P. on Lt.  
 782-785 scattered large J.P. on Lt.  
 780-786 thick small " " RT.

(Light. Brush from 768 to 769 + 30)  
 (772 + 90 to 773 + 20 is 4" to 6" Pop on E. small 234560 N 5.5100)  
 (774 to 775 + 50 is small 234560 N 5. side &)



808<sup>+</sup>50 A 24°30' R - R.P.s { 6" J Pine 22.7 EdM  
5" " 26.4 NW

8  
7  
6  
5  
4  
3  
2

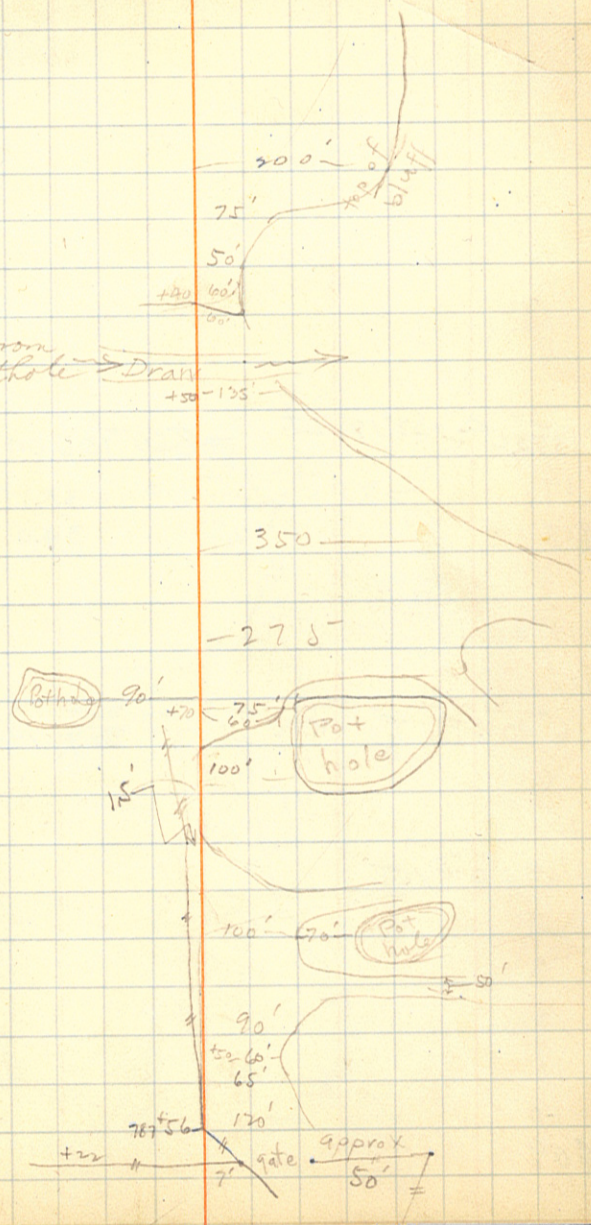
1<sup>+</sup>26.3 A 12°0' R - R.P.s { 4" Oak 32.5 N  
4" " 42.6 NW

800  
9  
8  
7  
6  
5

799 A Δ 13°0' R - R.P.s { 4" Oak 33.0 S  
6" " 37.8 SE

3  
2  
1  
790  
9  
8  
787

787-9. 2 rats scattered 1 on Lt  
787-790-1 " thick " + brush on Rt.  
791-5-2 " thin " " on Rt  
795-7-4 " " " + popcorn  
797-end of line of 4 rods thick J.P. small oak + popcorn

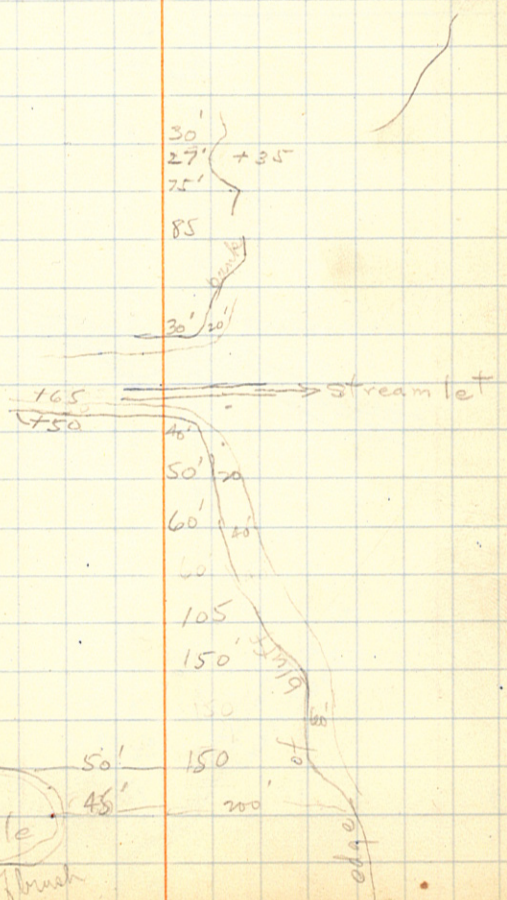


*Faint handwritten notes at the top of the page, possibly describing a route or survey details.*

819+72.6  $\triangleleft$  37°18' Lt = 850+13.6 on South route  
 19 R.P.s - 14" J. Pine 38.1 SE.  
 818 - 12" .. 34.0 SW.

817+40  
 817  
 816+40 P.O.T. R.P.s 4" J Pine 25.4 N.  
 6 4" .. 32.7 14W.  
 15

814+69.4 P.O.T.  
 4  
 3  
 2  
 11  
 10  
 809

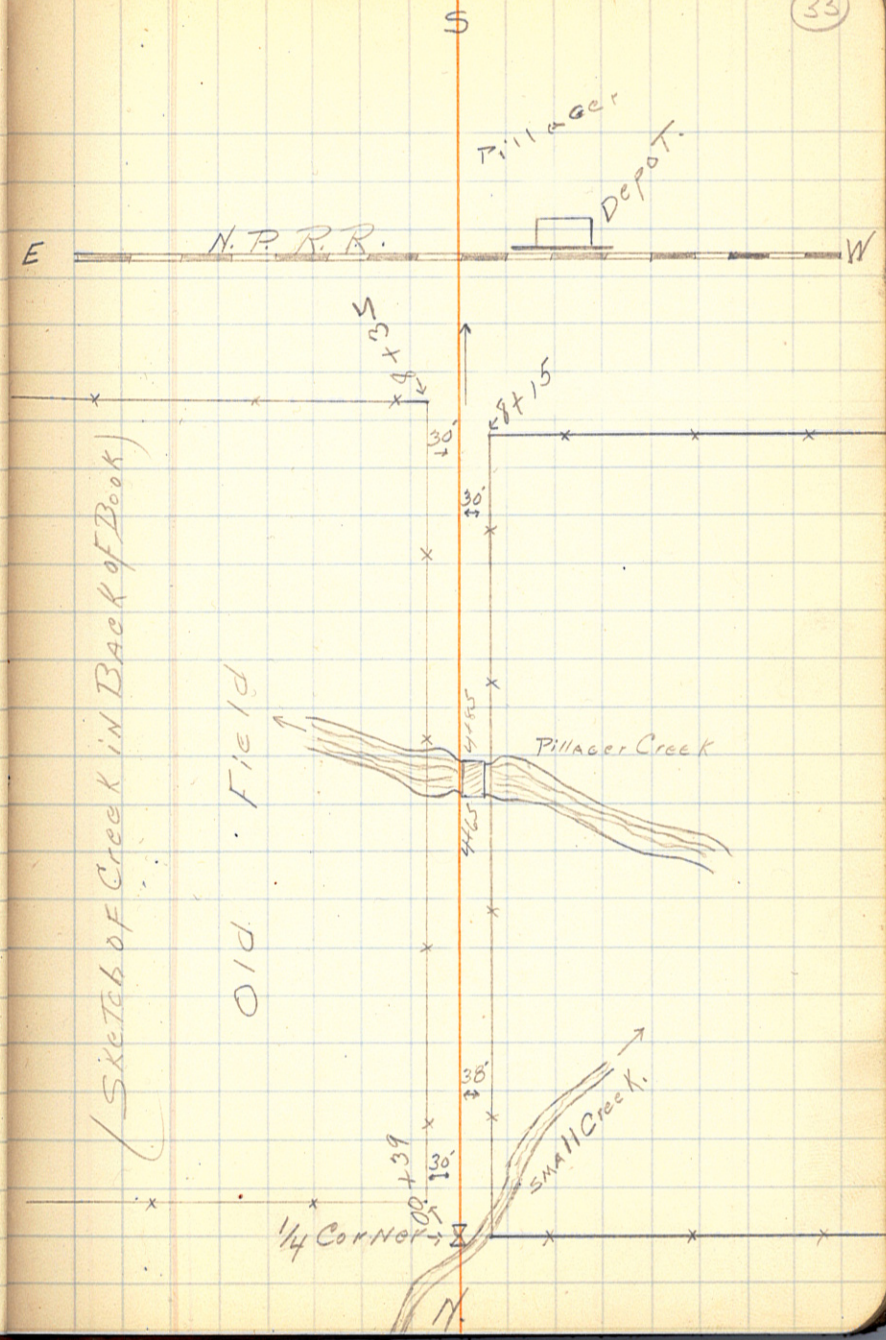


Drains Ext S thru gully @ Sta. 817  
 Creek needs clearing of brush

Pillager Spur

(33)

9  
8  
7  
6  
5  
4  
3  
2  
1  
00



399 56.7 55.7 X sectioned +1.0 on ctr

+60 56.4 57.2  $\frac{-1.0}{14}$   $\frac{-0.6}{8}$  -0.8  $\frac{-0.6}{4}$   $\frac{-2.2}{16.4}$

400 57.0 58.0  $\frac{-0.6}{13.2}$   ~~$\frac{-0.6}{11}$~~  -1.0  $\frac{-1.1}{5}$   $\frac{-2.3}{16.6}$

+40 58.6 58.2  $\frac{0.0}{20}$  +0.4  $\frac{+0.7}{7}$   $\frac{0.0}{20}$

+80 59.9 58.4  $\frac{+1.0}{21.5}$  +1.5  $\frac{+2.0}{12}$   $\frac{+1.3}{22.0}$

401 59.9 58.5  $\frac{+0.7}{21.1}$   $\frac{+1.2}{12}$  +1.4 +2.0  $\frac{+2.0}{5}$   $\frac{+1.1}{20}$   $\frac{+1.1}{22.1}$

+60 60.2 58.2  $\frac{+0.5}{20.8}$   $\frac{+0.9}{10}$  +1.0 +1.5  $\frac{+1.8}{15}$   $\frac{+1.5}{22.2}$

402 59.5 58.0  $\frac{+0.8}{21.2}$   $\frac{+1.1}{20}$   $\frac{+1.5}{9}$  +1.5 +2.2  $\frac{+2.2}{4}$   $\frac{+2.2}{14}$   $\frac{+1.1}{21.7}$

+60 57.9 57.2  $\frac{+0.4}{20.2}$   $\frac{+0.8}{17}$  +0.7  $\frac{+1.2}{12}$   $\frac{0.0}{20}$

403 56.4 56.6  $\frac{0.0}{20}$   $\frac{0.0}{8}$  -0.2  $\frac{-0.2}{8}$   $\frac{-0.4}{12.8}$



404 542 542  $\frac{-0.3}{14}$   $\frac{0.0}{10}$   $\frac{0.0}{11}$   $\frac{-0.3}{11}$   $\frac{-1.0}{14}$  -

405 526 530  $\frac{-1.0}{14}$   $\frac{-0.2}{8}$   $\frac{-0.4}{4}$   $\frac{-0.4}{4}$   $\frac{-1.2}{8}$   $\frac{-1.5}{15}$

2,30 1170.02 1167.72

<sup>3.36</sup>  
1177 1167.11 1127 1158.75

15" 375 P,1

406 10.0 52.1 53.5  $\frac{-2.5}{17}$   $\frac{-2.5}{10}$   $\frac{-1.4}{5}$   $+1.4$   $\frac{-1.3}{11}$   $\frac{-3.0}{12}$   $\frac{-3.0}{18}$

407 76 54.5 56.3  $\frac{-1.8}{15.6}$   $-1.8$   $\frac{-2.0}{9}$   $\frac{-2.5}{17}$

+50 56.6 58.4  $\frac{-2.1}{16.2}$   $-1.8$   $\frac{-2.5}{17}$

408 2.1 60.0 60.5  $\frac{-1.0}{14}$   $\frac{-0.5}{5}$   $\frac{-1.7}{4}$   $\frac{-1.7}{10}$   $\frac{0.5}{10}$   $\frac{-0.5}{6}$   $\frac{-0.8}{6}$   $\frac{-1.6}{13}$   $\frac{-1.2}{14.4}$

+10 60.4 61.0  $\frac{0.0}{20}$   $\frac{0.0}{8}$   $\frac{0.0}{7}$   $\frac{-0.6}{1}$   $\frac{-1.0}{1}$   $\frac{-1.0}{5}$   $\frac{0.0}{13}$   $\frac{-0.8}{15.6}$

T.P. 11.05 1172.00  $\frac{+2.0}{15}$   $\frac{+1.6}{10}$  1160.95  $\frac{+1.2}{13}$   $\frac{0.0}{20}$

+60 63.2 63.5  $\frac{+2.0}{23.5}$   $\frac{+0.5}{10}$   $\frac{+0.8}{10}$   $\frac{+0.5}{3}$   $\frac{-0.3}{1}$   $\frac{+1.2}{13}$   $\frac{0.0}{20}$

409 54 64.6 65.5  $\frac{+1.6}{6}$   $+1.1$   $+0.9$   $\frac{0.0}{20}$

+50

68,8

1172,00

68,0

$\frac{+0,5}{20,8} + \frac{+1,4}{6} + 0,8 + \frac{+0,5}{14}$

$\frac{8,0}{20}$

410

1,2

70,8

69,5

$+\frac{2,4}{23,6}$

$+\frac{2,0}{15}$

$+\frac{2,1}{6}$

$+\frac{1,3}{11} + \frac{1,2}{11}$

$+\frac{0,3}{17}$

$+\frac{0,5}{20,8}$

486	49.6	54.0	$\frac{-41}{181}$	$\frac{-4.7}{10}$	$-4.4$	$\frac{-4.7}{8}$	$\frac{4.5}{18.8}$
450	50.5	55.7	$\frac{-50}{19.5}$	$\frac{-5.5}{14}$	$-5.2$	$\frac{-5.6}{8}$	$\frac{-5.7}{16}$
487	52.1	57.5	$\frac{-52}{19.8}$	$\frac{-53}{15}$	$\frac{-4}{12}$	$\frac{-53}{7}$	$\frac{-54}{9}$
						$\frac{-5.5}{10}$	$\frac{-5.7}{17}$
							$\frac{-5.0}{19.5}$
470	56.2	61.0	$\frac{-44}{18.6}$	$\frac{-50}{12}$	$-4.8$	$\frac{-5.2}{17}$	$\frac{4.7}{19.0}$
488	58.7	62.5	$\frac{-40}{18}$	$-3.8$	$\frac{-4.7}{14}$	$\frac{-3.5}{18}$	$\frac{-3.5}{17.2}$
460	65.4	65.5	$\frac{0.0}{20}$	$-0.3$	$\frac{-0.8}{13.2}$		
490	67.6	67.0	$\frac{0.0}{20}$	$+0.6$	$\frac{0.0}{20}$		
489	68.4	67.5	$\frac{+1.6}{21.6}$	$\frac{+1.4}{13}$	$\frac{+0.8}{9}$	$+0.9$	$\frac{+0.6}{12}$
							$\frac{+0.5}{20.5}$
450	72.0	70.0	$\frac{+2.7}{22.7}$	$+2.0$	$\frac{+1.5}{21.5}$		
490	75.1	72.5	$\frac{+3.0}{23.0}$	$\frac{+2.7}{12}$	$+2.6$	$\frac{+2.0}{14}$	$\frac{+2.2}{22.2}$
450	77.5	74.3	$\frac{3.3}{23.3}$	$\frac{+3.4}{13}$	$\frac{+2.6}{7}$	$+3.2$	$\frac{+3.1}{10}$
							$\frac{+2.2}{18}$
							$\frac{3.0}{19}$
							$\frac{+3.2}{23.2}$

491 is x sea +2.3 on ctr

478  
~~487~~ is cross sectioned -59 on ctr  
 +50 " " " -72 " "

479 -322 -491  $\frac{-20}{20.5}$  -7.9  $+\frac{6.5}{8}$   $+\frac{7.0}{24.5}$   
 +30 347 413  $\frac{-7.9}{238}$  +6.6  $-\frac{6.0}{21.0}$  reversed.

480 427 441  $\frac{-1.2}{13.8}$  -1.4  $\frac{-1.9}{12}$   $\frac{-2.3}{15.5}$   
 +15 447 448  $\frac{6.0}{20}$  -0.1  $-\frac{0.5}{11}$   $-\frac{1.0}{13.5}$   
 +50 48.9 46.6  $\frac{+37+27}{27}$  +2.3  $\frac{0.0}{20}$

481 534 491  $\frac{+7.5}{27.5}$   $\frac{+7.3}{14}$   $\frac{+4.3}{8}$   $\frac{+4.3}{12}$   $\frac{+4.5}{12}$   $\frac{+4.4}{24.4}$

+30 554 50.6  $\frac{+7.7}{27.7}$   $\frac{+7.5}{15}$   $\frac{+5.0}{9}$   $\frac{+4.8}{10}$   $\frac{+4.9}{10}$   $\frac{+5.4}{13}$   $\frac{+4.4}{24.4}$

482 577 540  $\frac{+3.2}{23.2}$   $\frac{+5.5}{25}$   $\frac{+5.4}{15}$   $\frac{+4.0}{11}$   $\frac{+3.7}{13}$   $\frac{+2.5}{13}$   $\frac{+1.6}{21.6}$

+50 590 550  $\frac{+3.1}{17}$   $\frac{+2.3}{13}$   $\frac{+1.0}{10}$   $\frac{+1.6}{2}$   $\frac{+0.7}{20.7}$

483 570 560  $\frac{+1.5}{21.5}$  +1.0  $\frac{+0.6}{20.6}$

+70 544 553  $\frac{+3.6}{23.6}$  +3.1  $\frac{+2.7}{22.7}$

$$484 \quad 57.6 \quad 55.0 \quad +4.5 \quad +4.3 \quad +2.2 \quad +2.4 \quad +2.3$$

$$\frac{24.5}{17} \quad \frac{12}{12} \quad \frac{22.3}{22.3}$$

$$+50 \quad 54.0 \quad 54.4 \quad +2.0 \quad +1.8 \quad -0.4 \quad -0.4 \quad \frac{0.0}{2.0}$$

$$\frac{22.0}{17} \quad \frac{11}{13}$$

$$+75 \quad 52.1 \quad 54.7 \quad \frac{0.0}{2.0} \quad -2.6 \quad -2.0 \quad -2.8$$

$$\frac{16}{16}$$

$$485 \quad 50.4 \quad 53.7 \quad -4.0 \quad -3.3 \quad -4.3$$

$$\frac{18.0}{18.0} \quad \frac{19.5}{19.5}$$

$$+50 \quad 49.0 \quad 53.8 \quad -5.0 \quad -5.3 \quad -4.8 \quad -4.8 \quad -5.0 \quad -7.0$$

$$\frac{19.5}{19.5} \quad \frac{12}{12} \quad \frac{6}{6} \quad \frac{22.5}{22.5}$$

45' - 18° pipe - 1.7 puffs, 0.3 lower

# Pillager Spur

# Pillager Creek on " Spur

9+35.3 Intersect S. line @ hub - checked  
= 896+89.3 on S. line for NTS.

8

7

6

5

4

3

2

1

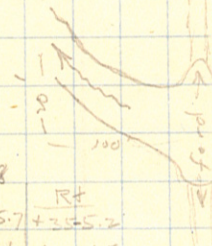
0+00  
= Sta. 775+97.8  
on N. line

Soil - all sand loam

Stony bottom

0.1 acre scatter -  
brush & V. Pan this spur.

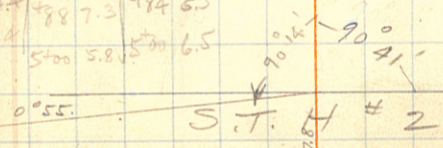
H.I. 1076.88			
2' L.F.	E	RT	
+45	6.3	4.2	5.7
		+55	5.2
+63	7.1	+55	5.1
		+58	6.5
+65	9.0	+60	7.9
		+62	8.8
+75	9.4	+65	9.0
		+68	9.7
+75	9.4	+75	9.1
		+72	9.3
+85	9.0	+76	8.8
		+80	9.0
+89	7.5	+80	7.4
		+82	7.0
+90	4.4	+88	7.3
		+94	6.5
+90	4.4	+98	7.3
		+90	6.5
		+90	6.5



30' 8+94  
old st. rd.  
now res. 46'

Wad joists, floor  
& backing - 3 pile  
bents - poor shape  
16' wide - 17' clear  
span.

Station	Elevation	RT	Notes
S1	+67	6.3	penetration thru gravel to hard bot
S2	+74	6.1	
S3	+79	6.0	
S4	+66	6.0	
S5	+72	6.1	
S6	+78	6.2	



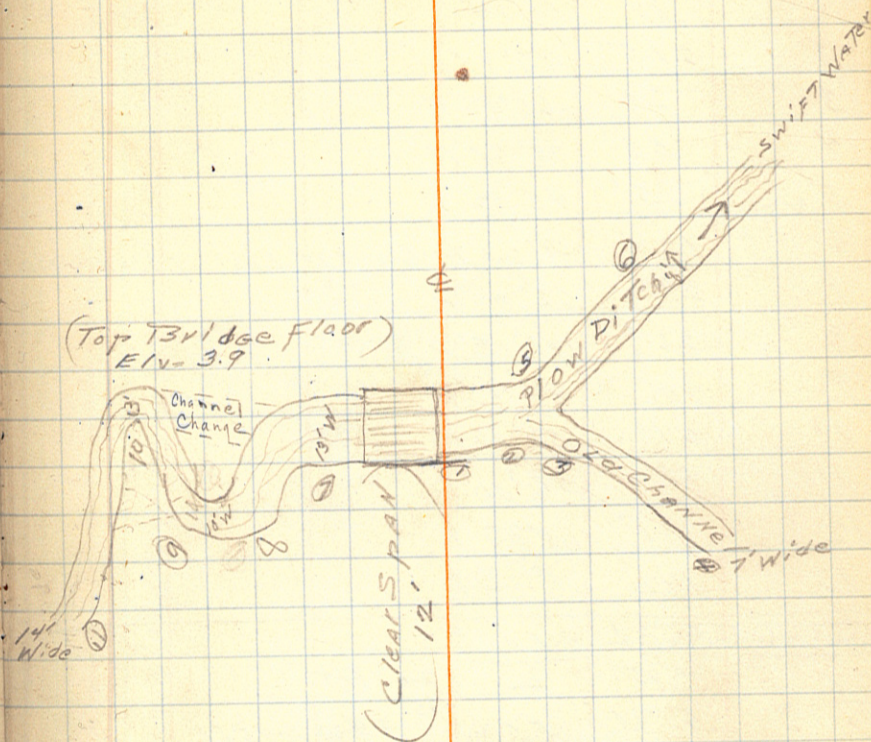


Transit at Sta. 571 - 0° on foresight  
 @ 563 + 48 or W -

	Dist	Brg.
1		140° 10' L
2	67'	140° 10' L
3	78'	24° 05' L
4	123'	36° 30' L
5	73'	29° 05' L
6	88'	70° 40' L
7	72'	25° 48' R
8	113'	23° 50' R
9	142'	41° 00' R
10	122'	73° 10' R
11	250'	37° 25' R

I. P.	3.92	±	±	20' ± R
570+29	#I. 110° 57' 76 - 8	±29 6.0	6.1	5.6
+32		±31 7.7	6.9-96.7	9.0-44
+38		±36 9.3	8.0-95.8	8.6-42
+44		±42 7.8	6.6-97.2	6.7
+54		±47 5.4	5.0-98.8	5.2

# Seven-Mile Creek





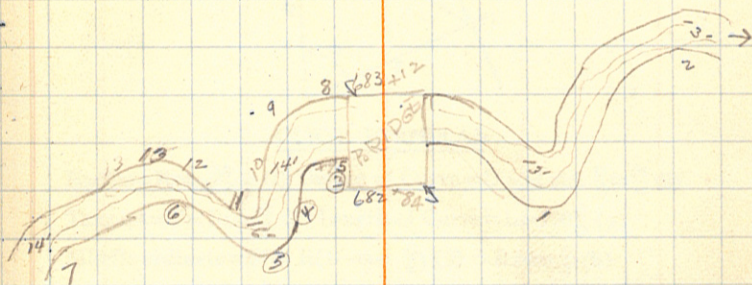
Pillager Creek  
(TRANSIT AT STA 683)

(BACK-ON STA. 681)

	DIST.	Bearing	
1	87'	58°24' L	
2	215'	105°15' L	
3	20'	66°45' R	
4	55'	39°07' R	
5	95'	45°14' L	
6	120'	58°25' R	BANK 10' EAST OF READING
7	240'	62°00' R	
8	26'	141°03' R	
9	44'	84°43' R	
10	61'	52°52' R	
11	86'	56°00' R	
12	101'	66°25' R	
13	142'	71°15' R	

H.I. = 1090.96 Levels

	20' Lt.	±	20' Rt.
T. T.	5.30	+84	+85 9.4-81.4 / 1085.66
682+94	8.4-82.6	+85	+86 11.0-80.0
+95	11.0-80.0	+83	+90 11.5-79.5
683	11.4-79.6	+95	+95 11.2-79.8
+04	11.8-79.2	683	+05 10.6-80.4
+11	11.5-79.5	+11	+08 10.7-80.3
+18	9.5-81.5	+13	+12 9.4-82.4
+24	7.2-83.8		+20 7.0-84.0
+30	7.2-83.8		



(Pile Bridge: 6 piles in End,  
Bents and 7 Piles in Middle)

DISTANCES FROM CENTER OF ROADWAY FOR  
CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½.  
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	25.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be  $41.9 + (20 - 16) \div 2$  or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

280  
550  
140000  
140000  
1540000

76.2  
22.5  
3.7  
1.8

23  
9

39  
4

14  
52