1798

DIETZGEN

ENGINEERS'

FIELD BOOK

No. 404F

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

MICHIGAN STATE
DEC 28 1964

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide. Side Slopes 1 on 1.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	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 30.6. 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 30.6+(20—16)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

Copyright, 1914, by Eugene Dietzgen Co.

1798

1 20

INDEXED
to page #54

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

Gibbs Airport - Alignment Access Rd.	2-9
" " X-Sections " "	10-26
Poplar St.	50

~ Gibbs Airport ~
Location Proposed Access Road

(Cross Sections Pages 10-26)

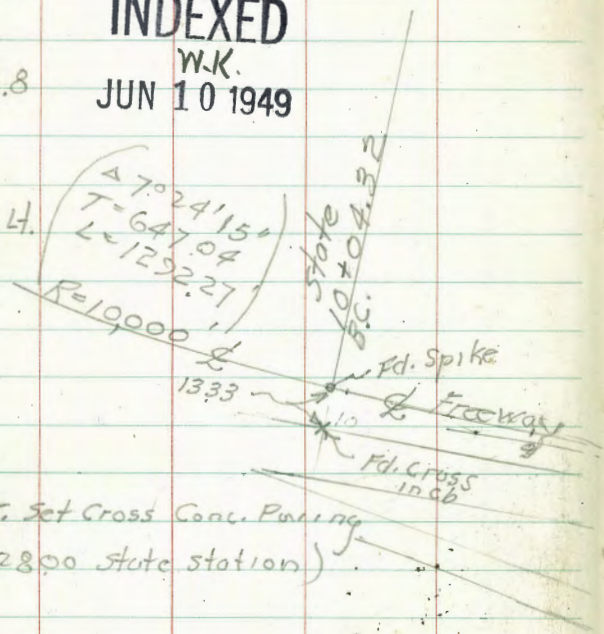
Stations Def.

+50 1°11.18

2+00 0°36.8

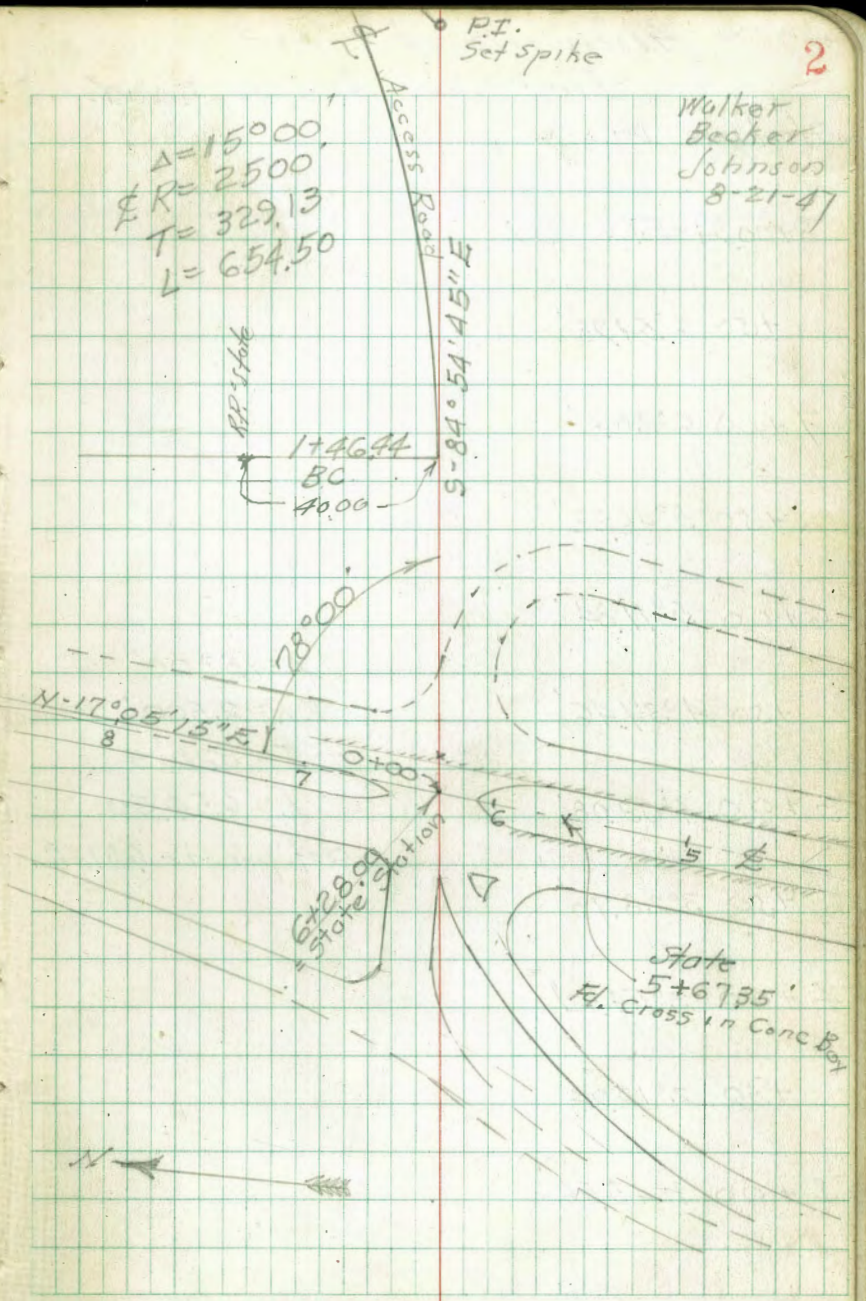
1+46.44 = B.C. Lt. (Δ 7°24'15" T = 647.04 L = 1252.27 R = 10,000')

INDEXED
W.K.
JUN 10 1949



0+16.61 = P.O.T. Set Cross Conc. Paving

0+00 = (6+28.00 State Station)



~ Alignment Cont.

Proposed Access Road.

Station	Def. ∠
	Cont. P-4
8+00.94 = E.C.	7°30'
+50	6°54.98'
7+00	6°20.6'
+50	5°46.22'
6+00	5°11.84'
+50	4°37.46'
5+00	4°03.08'
+50	3°28.70'
4+00	2°54.32'
+50	2°19.94'
3+00	1°45.56'

Δ = 15°00'

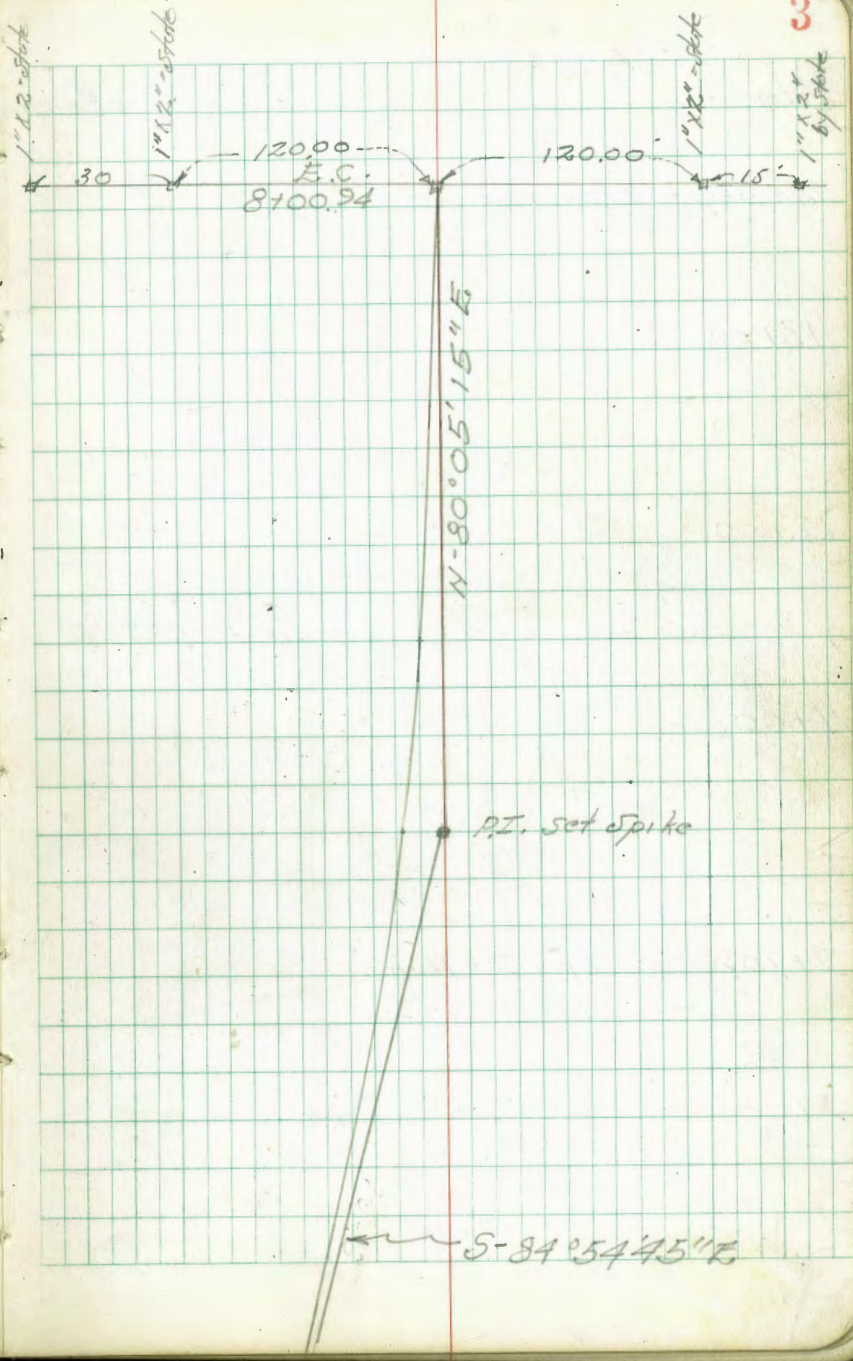
℄ R = 2500'

T = 329.13

L = 654.50

def. per ft = .68755

Cont. from P-2



"Alignment"

Proposed Access Road.

Station

Equation in Bearings { N 88°53'35" E Ahead
N 88°53'15" E = Back

13+54.93 = E.C. Set Hub

13+00

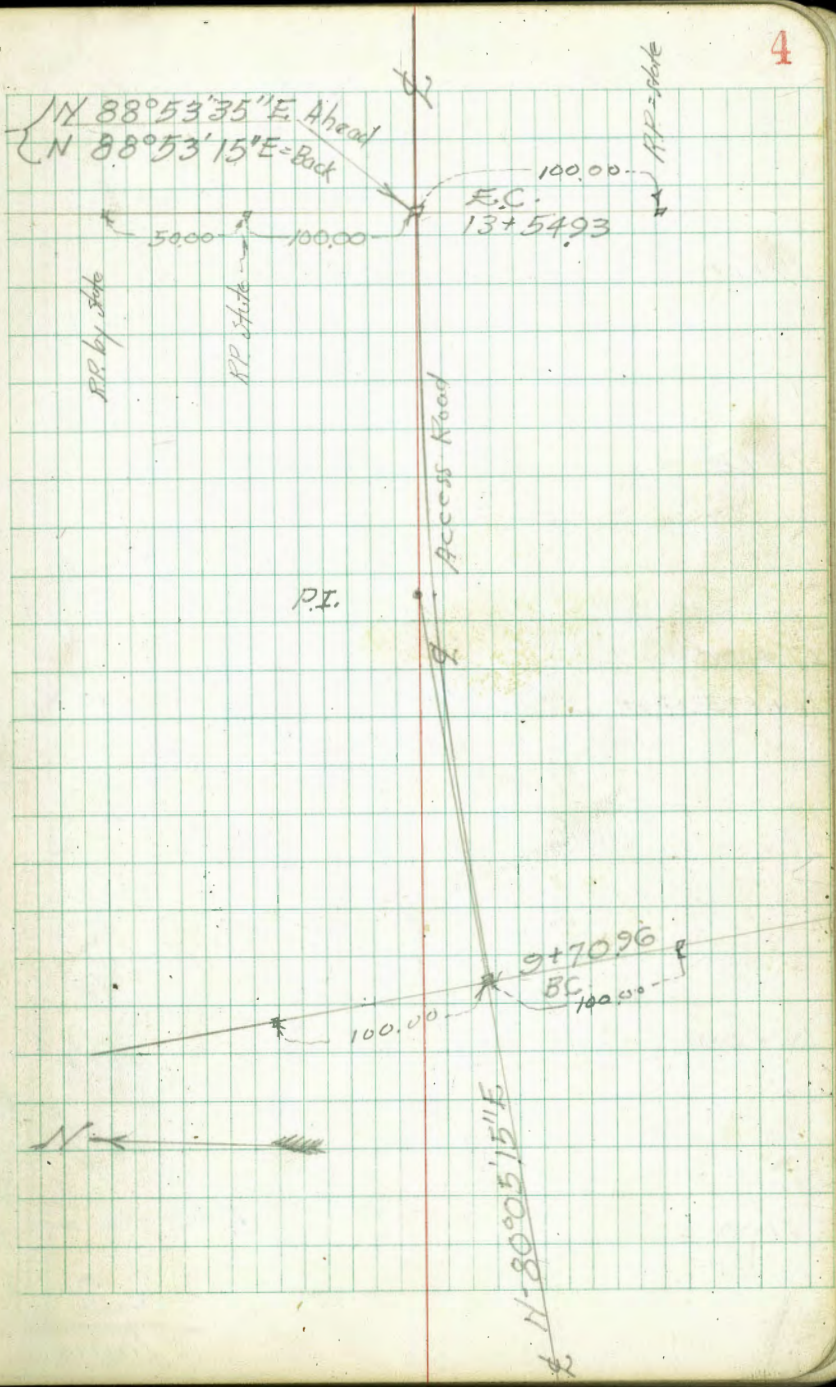
$\Delta = 8°48'$
$\Sigma R = 2500'$
$T = 192.37'$
$L = 383.97'$
det. per ft = .68755'

12+00

11+00

9+70.96 = B.C. Rt. Set Hub.

9+00



"Alignment"
Proposed Access Road

19+00

18+00

17+00

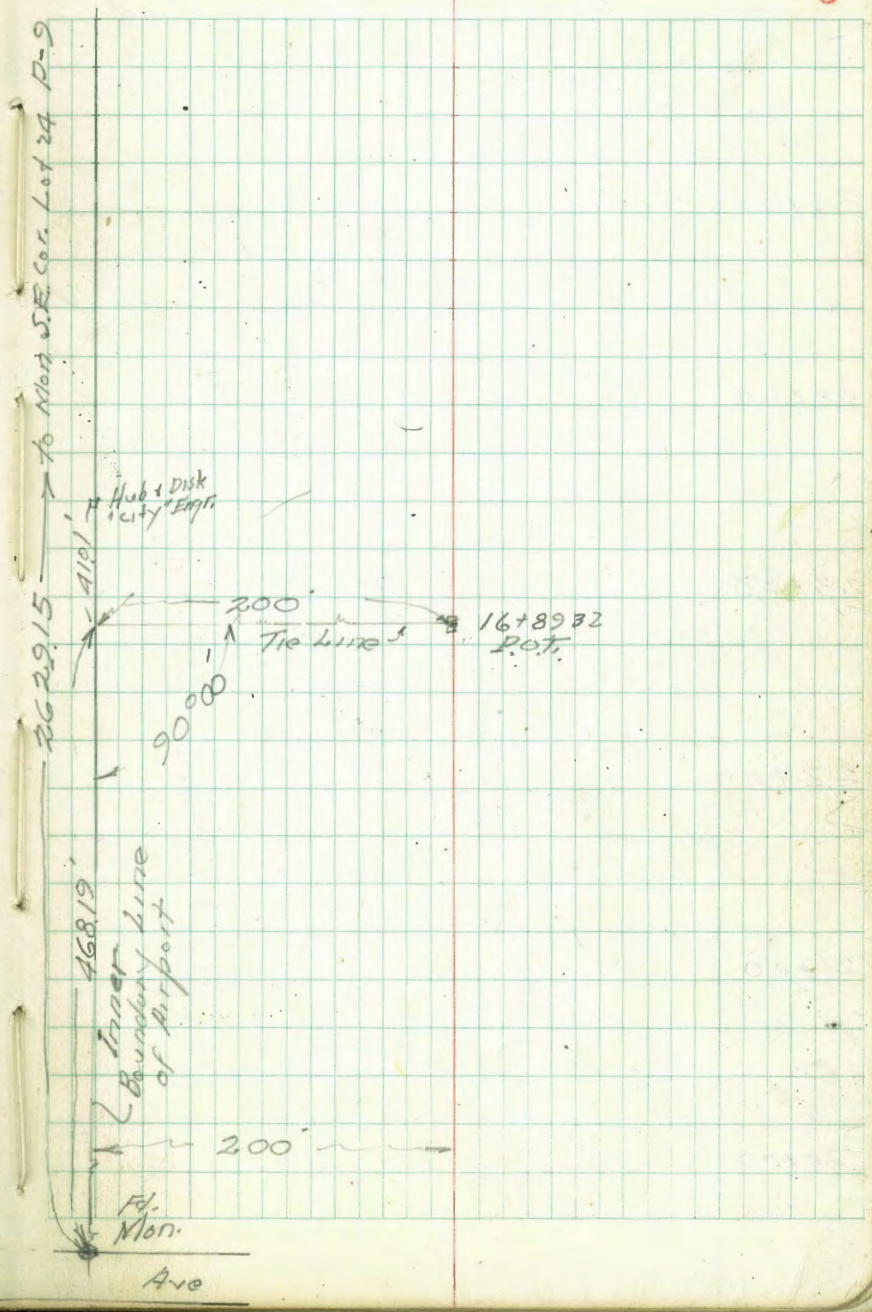
16+89.32 = P.O.T. Set Hub

16+00

15+00

14+00

Line



Ave

"Alignment"
Proposed Access Road

25+00

24+00

23+00

22+00

21+00

20+00

℄

"Alignment"
Proposed Access Road

32+00

31+00

30+00

29+00

28+00

27+00

26+00

"Alignment"
Proposed Access Road

38+00

37+00

36+00

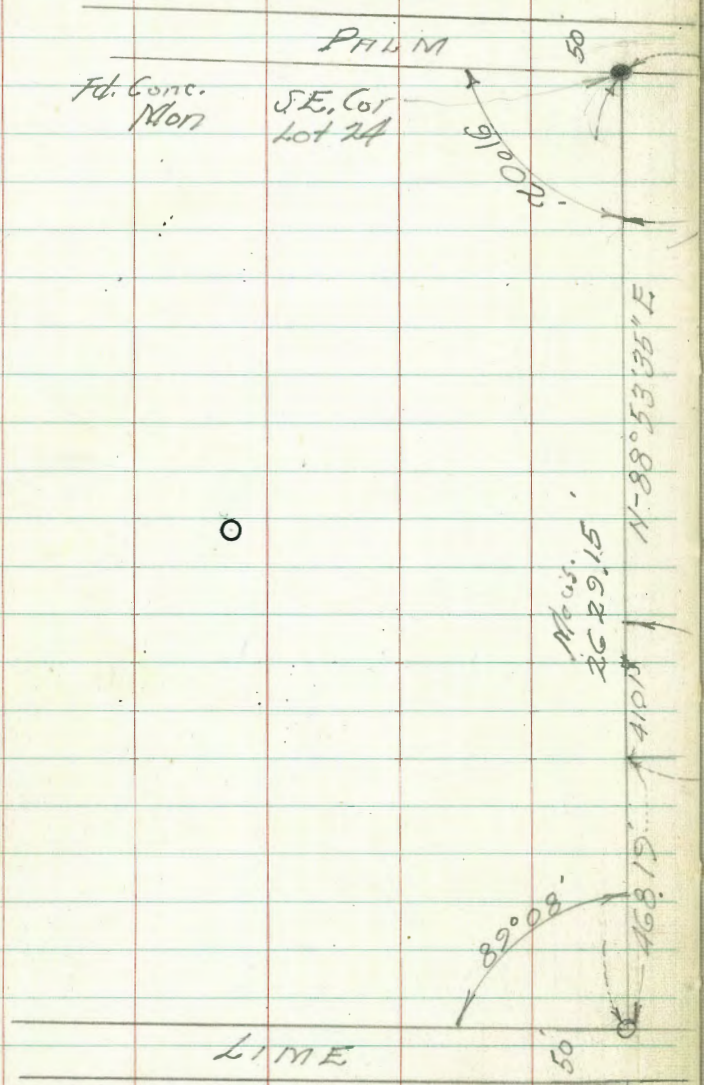
35+00

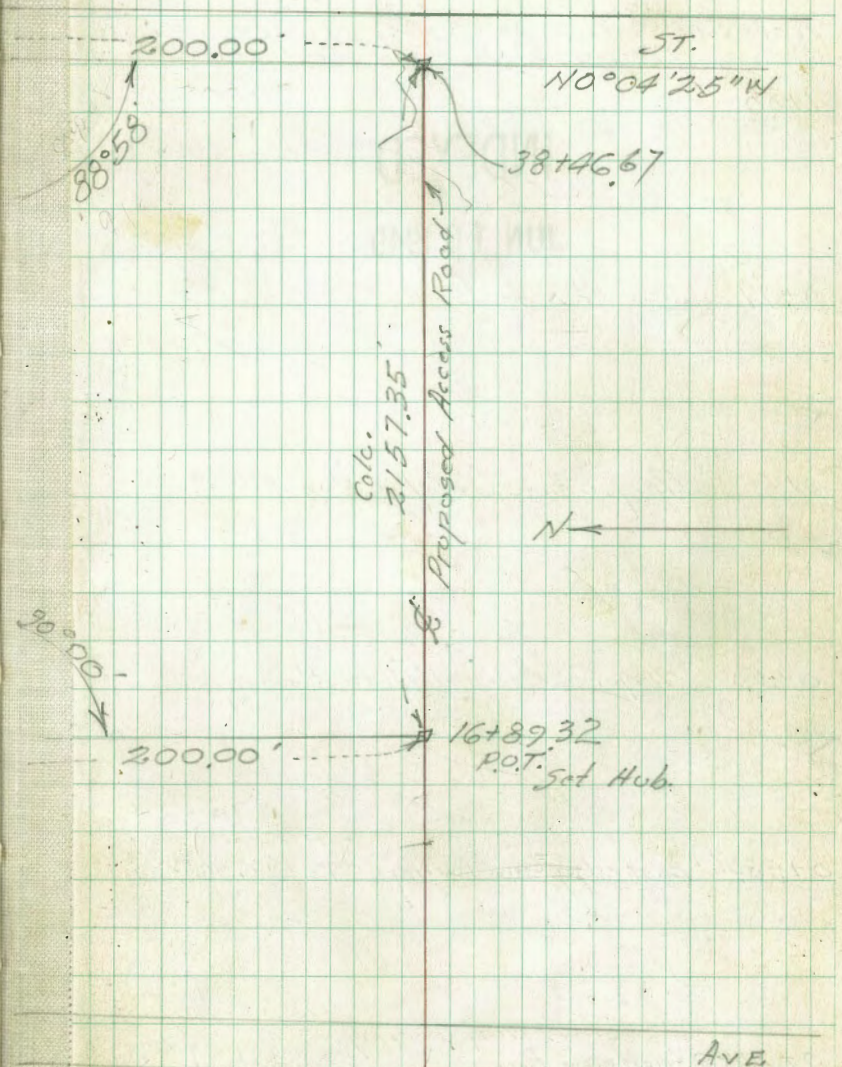
34+00

33+00

℄

Alignment ~
Proposed Access Road





Cross Section — Access Road
Gibbs Airport
Location P-2-9.

Note: Rel. Section Portion of Rt. Way For Proposed revised grades See F.B. 2036

1+00		389.29
0+77	Sec. Rt ∆ to ℄	389.89
0+60	diag. Sec. = Parallel to Pav.	390.39
0+50	diag. Sec. = Parrallel to Paving.	391.19
0+38.96	= East edge Conc. Paving (Section on edge Pav. 391.52)	
0+1540	Section Along Paving. = West edge Paving.	391.91
T.P.	12.18 397.09 321	384.91
BM Hd Wall A 16+18	727 388.12	380.95

INDEXED
WK
JUN 10 1949

Lt. ℄ Rt.

389.29

15.6 11.7 10.3 7.8 7.8 7.7 7.4 7.4
70 50 28 20 20 30 70

389.89

13.9 11.3 10.6 7.1 7.3 7.2 7.5 7.0 9.6 9.7 11.7
80 50 42 50 20 20 40 97 75 79
Natural Ground Fill Nat. Ground Ditch

390.39

11.6 8.9 7.9 7.1 6.7 6.0 6.0 8.2 7.6 10.87
100 86 50 20 20 42 46 70 70
Fill Fill Flow 24" Culvert

391.19

10.7 9.1 7.5 6.7 5.9 5.2 4.3 2.6 1.0
150 100 50 20 20 30 100 150

386.90 388.40 389.92 390.91 391.52 392.12 393.05 394.63 396.18

10.19 8.69 7.13 6.18 5.57 4.93 4.01 2.46 0.91
150 100 50 20 20 50 100 150
Pav. Pav. Pav. Pav. Pav. Pav. Pav. Pav. Pav.

387.28 388.72 390.32 391.27 391.91 392.56 393.57 395.05 396.61

9.81 8.32 6.77 5.82 5.18 4.55 3.57 2.09 0.48
150 100 50 20 20 20 50 100 150
Pav. Pav. Pav. Pav. Pav. Pav. Pav. Pav. Pav.

397.09

Access Rd. X-Sections.

2+85				375.69
2+50				379.69
2+25				382.69
1+90				386.39
T.P.	1.21	385.09	1321	383.88
1+46.44 = B.C. Lt.		on Hub.	919	387.90 (388.09)
1+33				388.49
		397.09		

Lt. ℄ Rt. 11

375.69

31.0 27.2 10.5 9.8 9.4 8.3 8.1 13.3 12.5
70 60 34 20 20 32 45 60
Lt. Fill Rt. Fill

379.69

18.4 12.8 6.0 5.8 5.4 5.4 5.0 6.5 7.0
60 44 31 20 20 27 32 50

382.69

8.7 7.3 2.8 2.6 2.4 2.8 2.8 3.1 4.0
60 36 27 20 20 27 31 40

386.39

3.8 1.3 +0.6 +1.3 +0.4 +0.4 0.5 1.4
40 30 20 20 23 27 40

385.09

388.09

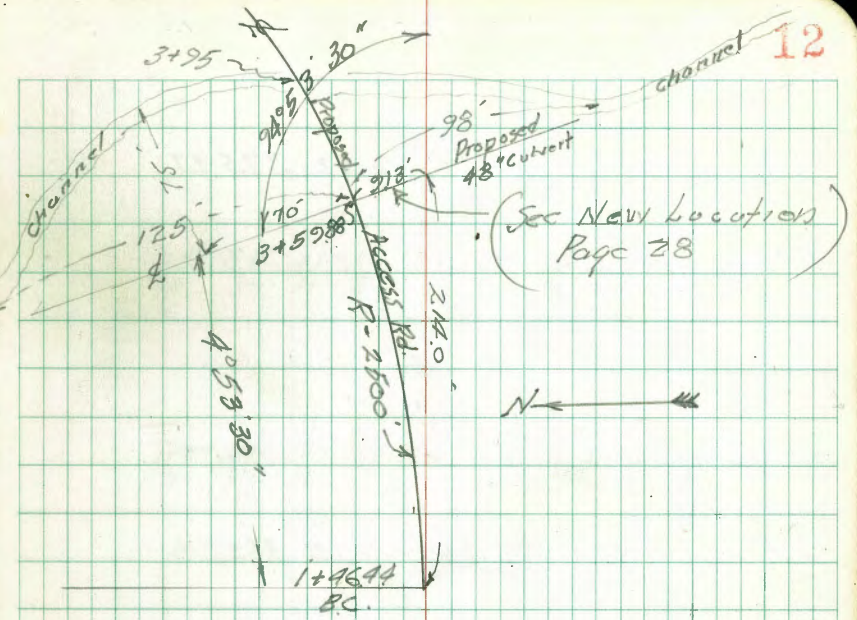
18.1 12.7 11.4 9.0 9.0 8.5 8.6 11.0 11.5 11.7
67 40 26 20 20 27 34 50 75

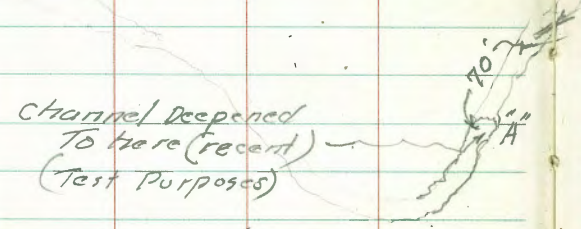
388.49

20.2 12.4 11.1 8.7 8.6 8.2 7.9 7.7
80 45 28 20 20 20 50 70
Lt. Fill

397.09

Access Road X-Sections





3+59.88 = Section for ℄ Proposed Culvert 344.60

11.0	8.9	8.4	8.0	9.3	8.4
	12.5	12.1	10.0	7.9	6.0
	in channel				

6.2	4.3	6.6	6.7	7.1	11.5	12.5	14.0	14.5
3.7	2.0		2.0	3.5	6.8	8.0	9.8 in channel	11.8 in channel

Back ch.

344.60

346.40

7.3	5.3	3.2	4.8	5.0	8.1	9.2
9.0	5.0	2.0		2.0	5.0	8.5

351.20

374.19

37.0	34.2	11.8	11.2	10.9	9.5	8.3	25.4	24.4
7.8	6.6	3.2	2.0		2.0	3.6	6.0	7.5

To Fill

385.09

3+52			346.40	on ℄ both 4+50
T.P.	2.10	351.20 ✓	1.72	349.10
T.P.	4.16	350.82	13.15	346.66
T.P.	0.41	359.81	12.96	359.40
T.P.	0.21	372.36	12.94	372.15
	on both		0.00	385.09
3+15				374.19

385.09

Access Road X-Sections

T.P.	11.31	386.58	0.53	375.27
5+18				367.70
4+85				356.40
T.P.	12.57	375.80	0.15	363.23
4+65				354.28
T.P.	12.24	363.38	0.06	351.14
4+35				343.20
4+24				340.70
3+95				338.20
		351.20		

386.58

367.70

3.3	2.8	4.1	5.0	8.1	12.3	19.4	7.7	5.4	4.8
70	50	20	8		1	16	35	50	70

356.40

13.5	14.0	13.1	12.6	19.4	23.7	20.2	14.6	10.4	11.3	13.0
70	60	38	11		6	20	31	45	62	75

375.80

7.7	4.3	4.2	4.3	9.1	15.7	12.7	3.9	6.7
75	50	20	15		11	20	50	75

363.38

9.1	9.4	9.6	8.7	8.0	8.2	10.3	10.2	11.3	12.0
75	50	30	20		20	40	50	75	100

340.70

8.7	8.8	9.7	10.3	10.5	11.4	11.4	12.0	12.7
90	75	50	20		20	50	75	100

338.20

10.0	11.7	12.4	12.6	13.0	13.0	13.3	12.5	12.3	12.8
100	75	50	20		20	26	39	75	100

351.20

Access Road · X-Sections

T.P.	10.13	401.63	3.25	391.50	on 1"x3" stake 7+50
7+00				389.55	
6+75				388.65	
6+35				387.15	
T.P.	2.64	394.75	1.47	385.11	on Root.
6+00				381.48	
5+55				377.28	
5+40				374.38	
		386.58			

Lt. ℄ Rt.

5.3 / 50	5.2 / 20	5.2	5.6 / 20	5.7 / 50				
5.9 / 50	5.6 / 20	6.1	5.5 / 20	6.0 / 50				
7.4 / 50	7.5 / 20	7.6	8.2 / 20	8.7 / 40	9.2 / 45	8.1 / 55		
		394.75						
3.2 / 60	3.9 / 50	5.0 / 20	5.1	6.2 / 20	7.2 / 37	6.5 / 50	6.2 / 60	
6.7 / 75	7.4 / 50	8.1 / 20	9.9	12.6 / 29	14.2 / 38	16.6 / 42	14.3 / 45	12.3 / 75
9.5 / 75	9.1 / 50	9.4 / 26	12.2	17.7 / 18	20.9 / 24	22.7 / 40	16.5 / 47	13.2 / 70
		386.58						

Access Road X Sections

T.P.	5.79	403.46	3.96	397.67	on Large Nail P.I.
9+70.96 = B.C. Rt.				395.36	500 + 0.33 / 1.5
9+40				394.33	
9+00				392.73	
8+50				392.33	
8+00.94 = E.C.				391.63	
7+50				390.83	
		401.63			

Lt. ℄ Rt.

5.4 / 50	5.6 / 20	6.27 on Hub	7.2 / 20	7.2 / 50
6.9 / 50	6.8 / 20	7.3	7.6 / 20	7.7 / 50
7.7 / 50	8.6 / 20	8.9	8.6 / 20	8.6 / 50
8.7 / 50	9.1 / 20	9.3	9.4 / 20	9.1 / 50
10.2 / 50	9.8 / 20	10.00 on Hub	10.0 / 20	10.1 / 50
10.6 / 50	10.9 / 20	10.8	10.8 / 20	10.6 / 50
		401.63		

Access Road X-Sections

						L		L		Rt.	16
T.P.	9.76	409.53	3.62	399.77	℄ Hub Rt. 13+54.93						
12+50				398.06		4.3 50	4.8 20	5.4	5.3 20	5.2 50	
12+00				398.56		4.8 50	4.5 20	4.9	5.8 20	6.1 50	
11+50				397.66		5.7 50	5.7 20	5.8	5.8 20	5.9 50	
11+00				397.36		6.6 50	6.5 20	6.1	6.1 20	6.5 50	
10+50				397.16		6.8 50	6.3 20	6.3	6.2 20	6.5 50	
10+00				396.36		7.2 50	6.8 20	7.1	7.4 20	7.6 50	
		1034.46						1034.46			

Access Road X-Sections

H. 2 17

15+50		405.03	5.0 50	5.0 20	4.5	3.7 20	3.0 50	
15+00		403.73	6.3 50	6.3 20	5.8	5.0 20	4.4 50	
14+50		402.13	7.9 50	7.8 20	7.4	7.0 20	6.9 50	
14+00		400.73	8.5 50	8.9 20	8.8	8.9 20	8.8 50	
13+54.96=E.C		400.03	9.6 50	9.3 20	9.5	9.8 20	10.0 50	
13+00	409.53	398.93	10.3 50	10.3 20	10.6 409.53	10.6 20	9.8 50	

Access Road - X-Sections

18+50				398.51		10.3/50	10.1/20	10.0	9.7/20	9.5/50		
18+00				399.71		9.4/50	8.9/20	8.8	8.7/20	8.7/50		
17+50				402.31		6.5/50	6.3/20	6.2	6.2/20	6.3/50		
17+00				403.71		5.1/50	5.0/20	4.8	4.3/20	4.1/50		
TP	4.67	408.51	5.69	403.84	16+89.32 on ℄ Hub			408.51				
16+50				404.43		5.7/50	5.1/20	5.1	5.0/20	4.6/50		
16+00		409.53		405.33		5.3/50	5.1/20	4.2	3.7/20	2.3/50		
								409.53				

Access Road X-Sections

21+50				394.21
T.P.	3.77	399.41	12.87	395.64
21+00				394.71
20+50				396.21
20+00				397.91
19+50				397.61
19+00		408.51		398.11

Lt	℄	Rt
5.4 / 50	5.5 / 20	5.2 / 399.41	5.1 / 20	4.9 / 50
13.7 / 50	14.0 / 20	13.8	13.3 / 20	12.6 / 50
13.2 / 50	12.9 / 20	12.3	11.8 / 20	11.6 / 50
12.2 / 50	11.4 / 20	10.6	10.8 / 20	9.9 / 50
11.8 / 50	11.5 / 20	10.9	10.7 / 20	10.4 / 50
11.2 / 50	11.0 / 20	10.4 / 10.4	10.4 / 20	10.4 / 50
		408.51		

									394.8		394.6		
25+00			395.11	3.7 50		3.9 20		4.3	4.6 20		4.8 50		
									393.9			394.4	
24+50			395.01	5.3 50		4.8 20		4.4	5.5 20			5.0 50	
24+00			393.11	6.6 50	6.1 45	6.0 20		6.3	5.5 20		4.2 35	4.4 50	
23+50			393.61	5.6 50		5.5 20		5.8	6.1 20	7.1 35	6.0 50		
23+00			394.11	4.8 50		4.8 20		5.3	4.8 20		5.5 50		
22+50			392.71	6.3 50		6.6 20		6.7	6.8 20		6.2 50		
22+00		399.41	393.01	6.2 50		6.3 20		6.4 399.41	6.7 20		7.0 50		

Access Road X-Sections

28+50				400.41
28+00				398.81
27+50				398.31
27+00				398.41
26+50				398.91
T.P.	6.91	405.61	0.71	398.70
26+00				397.71
25+50		399.41		395.41

7.2 / 50	6.8 / 20	5.2	5.8 / 20	6.4 / 28	5.6
7.5 / 50	7.1 / 20	6.8	6.8 / 20	5.4 / 50	
7.0 / 50	7.5 / 20	7.3	7.2 / 20	6.7 / 50	
7.3 / 50	7.4 / 20	7.2	7.0 / 20	6.5 / 50	
7.2 / 50	6.9 / 20	6.7	6.7 / 20	6.7 / 50	
		405.61			
397.6 / 1.8 / 50	398.1 / 1.3 / 20	397.7 / 1.7	397.9 / 1.5 / 20	397.6 / 1.8 / 50	
				397.0 / 2.4 / 35	
3.5 / 50	3.3 / 20	4.0	4.0 / 20		2.5 / 50
		399.41			

Access Road · X-Sections

31+50				401.99	
T.P.	6.84	409.99	2.46	403.15	on ℄ Loth 31+00
31+00				402.21	
30+50				401.21	
30+00				399.81	
29+50				399.71	
29+00		405.61		399.31	

7.9 / 50	7.9 / 20	8.0	7.5 / 20	8.4 / 50
		409.99		
4.1 / 50	4.4 / 20	3.4	4.2 / 20	4.4 / 50
4.8 / 50	5.1 / 20	4.4	5.3 / 20	5.0 / 50
5.7 / 50	6.1 / 20	5.8	6.0 / 20	5.5 / 50
5.4 / 50	6.8 / 20	5.9	5.3 / 20	5.2 / 50
7.1 / 50	6.6 / 20	6.7	6.4 / 20	6.0 / 50
		405.61		

Access Road X-Sections

			Lt		℄		Rt
34+50		404.59	5.1 / 50	5.1 / 20	5.4	5.6 / 20	5.9 / 50
34+00		405.19	5.0 / 50	5.6 / 20	4.8	6.0 / 20	6.6 / 50
33+50		403.79	6.0 / 50	6.0 / 20	6.2	6.3 / 20	6.9 / 50
33+00		403.29	6.5 / 50	6.5 / 20	6.7	6.8 / 20	6.5 / 50
32+50		402.89	6.8 / 50	6.4 / 20	7.1	7.1 / 20	7.7 / 50
32+00	409.99	402.49	7.4 / 50	7.3 / 20	7.5	7.8 / 20	8.0 / 50

Access Road X-Sections

T.P.	5.47	412.64	2.82	407.17
37+50				406.19
37+00				404.79
36+50				405.69
chk.			4.23	405.76
36+00				406.19
35+50				405.59
35+00				404.89
		409.99		

H Z Pl.

3.8 / 50	4.3 / 20	3.8		3.9 / 20		4.2 / 50
3.5 / 50	3.6 / 35	5.0 / 20	5.2	4.8 / 20	3.4 / 35	4.1 / 50
5.3 / 50	3.7 / 20	4.3		3.6 / 20		3.9 / 50
4.1 / 40	3.8 / 20	3.8		4.1 / 20		4.2 / 50
4.7 / 50	4.3 / 20	4.4		4.6 / 20		4.7 / 50
5.0 / 50	4.4 / 20	5.1		5.5 / 20		4.2 / 50
		409.99				

Access Road X Sections

			0.03 Error					
			406.65 = F.B. 1750					
1700 N. Chk. Hub 1757 E.		6.02	406.62					
S.E. Cor Lot 24 Chk Conc. Mon		5.81	406.83					
38+72			406.64	5.7 / 50	5.8 / 20	6.0	6.1 / 20	6.2 / 50
38+62			406.14	6.2 / 50	6.3 / 20	6.5	6.6 / 20	6.7 / 50
38+59			406.94	5.0 / 50	4.9 / 20	5.7	5.7 / 20	5.4 / 50
38+00	412.64		406.74	5.8 / 50	6.0 / 20	5.9	5.6 / 20	6.3 / 50
						412.64		

Walker
Johnson
Smith
8-28-47

Cross Sections - for Proposed Culvert. Access Road
Sketch P-29

1+00			343.67	6.6 / 10	5.5	4.0 / 10
0+75			343.07	7.1	6.1	5.6
0+50			343.07	6.6	6.1	5.3
0+25			343.47	5.6 / 10	5.7	5.2
0+07			343.37	6.0 / 10	5.8	5.6
0+00	Channel	Not the beginning of Proposed Culvert	341.67	7.5 / 10	7.5	6.5 / 10
	0.17	349.17	349.10			

(To be determined:
Beginning Culvert = Toe of Fill
End " = " " ")

INDEXED
WK
JUN 10 1949

Lt. ℄ Rt.

349.17

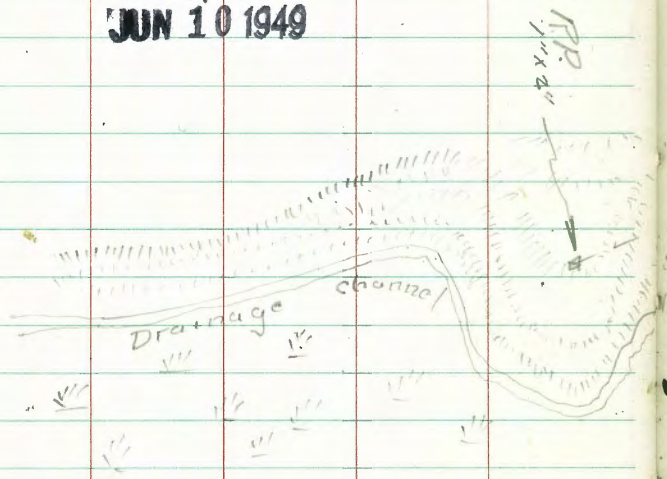
		Lt.	℄	Rt
2+50	338.57	10.2/10	10.6	11.1/10
2+00 ℄	339.07	9.6/10	10.1	10.2
1+85	339.17	10.0/10	10.0	11.2/10
1+70	338.07	9.9/10	11.1 ℄ Channel	10.2/10
1+54 = Int. Semi-Tangent				
1+40	340.77	9.1/10	8.4	6.7/10
1+15	343.57	7.3/10	5.6	3.5/10

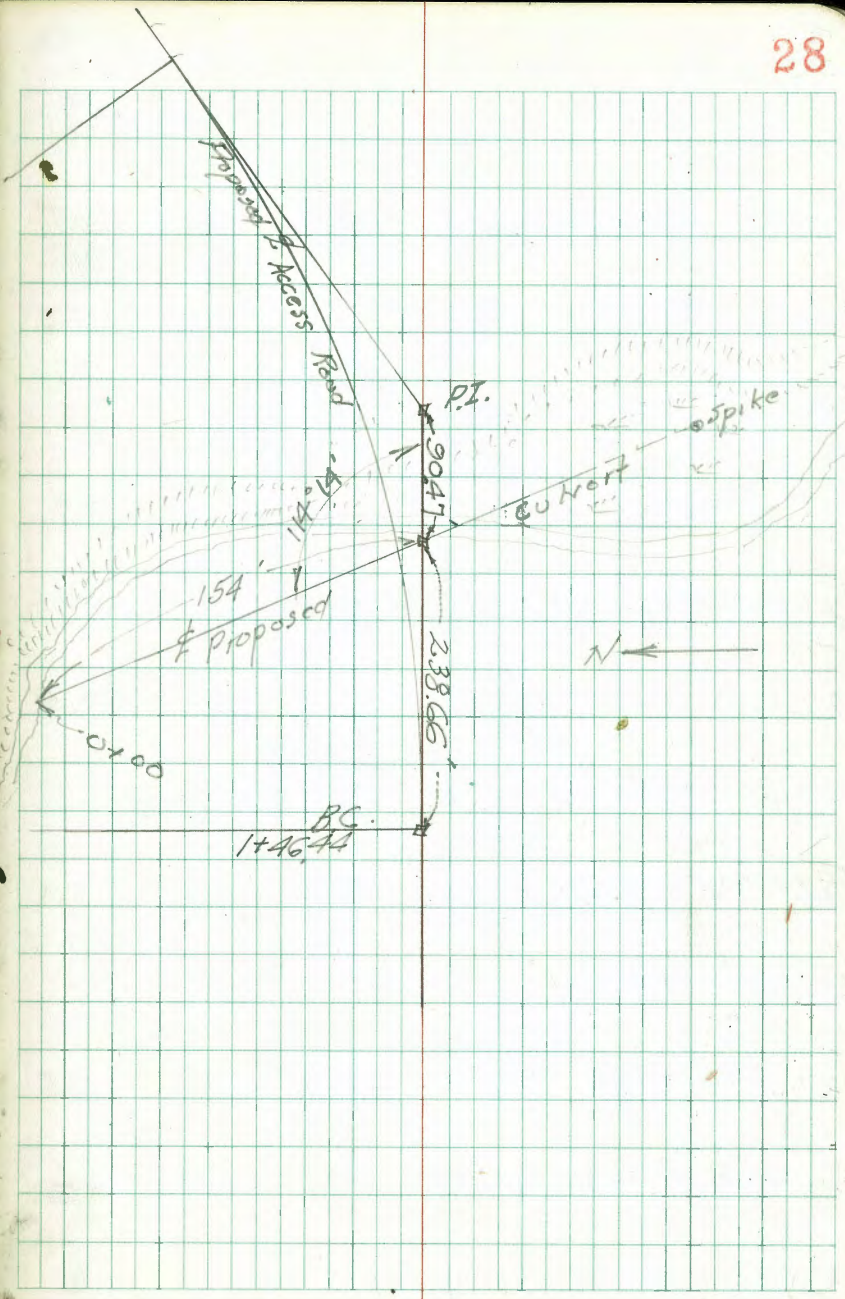
349.17

Walker
Johnson
Smith
8-28-47

Location Proposed Culvert
Access Road
Gibbs Airport
Cross Sections P-26, 27

INDEXED
WK
JUN 10 1949





Access Road Grade Stakes.

Sta	℄ Grade	Ground Elev	Cut-Fill ℄	Distance Out Left	Distance Out Right
20+00	397.19	397.91	0.7	26.5	29.5
20+50	396.79	396.21	0.6	23	26
21+00	396.44	394.71	1.7	24.5	23
21+50	396.19	394.21	2.0	26	24.5
22+00	396.03	393.01	3.0	28	29.5
22+50	395.97	392.71	3.3	32	31.5
23+00	396.01	394.11	1.9	23.5	23.5
23+50	396.15	393.61	2.5	26	30
24+00	396.38	393.11	3.3	28.5	25.5
24+50	396.71	395.01	1.7	25.5	27.5
25+00	397.09	395.11	2.0	24	26

sta	℄ Grade	Ground Elev	℄ Cut	℄ Fill	Distance Out Left	Distance Out Right
25+50	397.47	395.41		2.1	23.5	24
26+00	397.85	397.71		0.1	29	28.5
26+50	398.23	398.91	0.7		28	29
27+00	398.61	398.41		0.2	25.5	27.5
27+50	398.99	398.31		0.7	24	25
28+00	399.37	398.81		0.6	24	26
28+50	399.75	400.41	0.7		24	26
29+00	~~399.37~~ 400.13	399.31		0.1	26	27
29+50	399.75	399.71	0	0	25	29
30+00	400.89	399.81		1.1	23	23
30+50	401.27	401.21		0.1	24.5	24.5
31+00	401.65	402.21	0.6		25.5	26

Sta.	℄ Grade	Ground Elev	℄ Cut	℄ Fill	Distance Out Left	Distance Out Right
31+50	402.03	401.99	0	0	27	27.5
32+00	402.41	402.49	0.1		27.5	26
32+50	402.79	402.89	0.1		29.5	26
33+00	403.17	403.29	0.1		27.5	27
33+50	403.55	403.79	0.2		30	28
34+00	403.93	405.19	1.3		29	26.5
34+50	404.31	404.59	0.3		27.5	26
35+00	404.69	404.89	0.2		29	27
35+50	405.07	405.59	0.5		28	28
36+00	405.45	406.19	0.7		28	26.5
36+50	405.83	405.69		0.1	27.5	28.5
37+00	406.21	404.79		1.5	24.5	25.5

Sta	℄ Grade	Ground Elev	℄ Cut	Fill
37+50				
18+00	39			
19+00				
20+00	398.79			

Grades - Access Road
Gibbs Airport

Sta	+	H.I	—	℄ Elev	Sh. Elev	Rod — Rt & Lt
34+00			3.85	403.93	403.73	4.05
33+00			4.61	403.17	402.97	4.81
32+00			5.37	402.41	402.21	5.57
31+00			6.13	401.65	401.45	6.33
30+00			6.89	400.89	400.69	7.09
TP.	8.61	407.78	3.20	399.17		Stake on Lt. 29+00
29+00			2.24	400.13	399.93	2.44
28+00			3.00	399.37	399.17	3.20
27+00			3.76	398.61	398.41	3.96
26+00			4.52	397.85	397.65	4.72
25+00			5.28	397.09	396.89	5.48
24+00			5.99	396.38	396.18	6.19
23+00			6.36	396.01	395.81	6.56
TP.	7.07	402.37	7.19	395.30		
22+00			6.46	396.03	395.83	6.66
21+00			6.05	396.44	396.24	6.25
20+00			5.30	397.19	396.99	5.50
19+00			4.50	397.99	397.79	4.70
18+00			3.70	398.79	397.59	3.90
17+00			2.90	399.59	397.39	3.10
B.M.	5.19	402.49			397.30	(on Hub) CP # 20 FB 1750 P-7 & P-9

Cont'd from P. 33

Sta.	+	H.I.	-	℄ Elev	Elev Sh	Rod L & R ℄
+.259 BM			406.	406.89	406.89	Mon SE Cor Lot 24
38+00			4.49	406.46	406.26	4.69
(PI) 37+00			4.87	406.08	405.88	5.07
B.M.	4.06	410.95	4.06	406.95	406.89	Mon SE Cor Lot 24
36+00			5.56	405.45	405.25	5.76
TP.	6.52	411.01	3.29	404.49		
35+00			3.09	404.69	~~404.49~~	3.29
		407.78				

2-16-48
Walker
Hendrickson
Becker
Williams

Profile Across Acess Road
Gibbs Airport for Proposed
Pipe at Sta. 23+20

Sta.	+	H.I	−	Elev.
0+94			10.0	
0+70	So. Toe of Slope		9.5	
0+54	So. Shoulder		7.1	
0+34	℄ Road		6.8	
0+14	No Shoulder		7.0	
0+00	No. Toe of Slope		9.4	

402.37 From P. 33
↑ This Book

Aug 1948 Cross-Section ~ Access Road
Johnson Gibbs Airport

T.P.	0.18	~~381.60~~ 384.44	10.39	~~381.52~~ 384.26
2+50				

Note: For Re-Cross Sections of Graded Roadway See F.B. 2036 for [illegible]

2+00				
1+46.44	B.C. Lt	on Hub	4.77	387.14
1+00				
0+77	See PP10			
0+60	See PP10			
0+50	See PP10			
0+38.96	See PP10			
0+15.40	See PP10			
B.M. West Edge Pavement 0+15.40	2.74	394.65		391.91

Reduced
J. Barrett
3-14-49

Lt. ℄ Rt.

365.5	369.2	373.9	380.0	386.15	386.1	378.6	378.0	
29.2	25.5	20.8	8.7	8.5	8.6	16.1	16.7	
60	50	42	20		21	39	50	
377.8	381.2	381.85	388.3	388.25	388.10	383.6	382.8	
16.9	13.5	12.8	6.4	6.4	6.6	11.1	11.9	
50	39	32	20		21	30	50	
382.9	384.7	385.8	390.3	390.15	390.5	390.4	386.7	385.7
11.8	10.0	8.9	4.4	4.5	4.2	4.3	8.0	9.0
50	40	27	19		20	28	37	50
385.65	386.05	387.35	390.85	391.55	391.87	391.03	390.76	
9.0	8.6	7.3	3.8	3.10	3.18	3.62	3.89	
50	40	27	20		20	40	50	

394.65

Cross Section - Access Road
Gibbs Airport

Lt. ℄ Rt.

5+50

377.8	375.4	377.4	378.2	379.5	378.7	372.1	373.9	371.1	373.9
6.6	9.0	7.0	6.2	5.8	5.7	12.3	10.5	12.8	10.5
52	38	34	22		22	37	46	59	62

5+00

366.7	367.0	371.4	378.5	379.4	378.4	371.1	367.6	369.9	
17.7	17.4	13.0	5.9	5.6	6.0	13.3	16.8	14.5	
61	42	33	20		21	37	45	75	

4+70

361.3	360.0	358.3	371.1	378.8	379.4	378.8	371.4	361.0	357.3
23.1	24.4	26.1	13.3	5.6	5.2	5.6	13.0	23.4	25.1
77	56	33	33	20		22	36	59	78

4+50

355.4	346.8	348.5	371.4	379.2	379.4	379.2	371.3	350.4	349.2
29.0	37.6	35.9	13.0	5.2	4.8	5.2	13.1	34.4	35.2
102	83	69	34	21		21	36	70	86

4+00

343.4	342.1	344.6	371.4	379.7	380.4	380.1	371.4	337.0	338.2	338.9
41.0	42.3	39.8	13.0	4.5	3.8	4.3	13.0	45.4	46.2	45.5
105	90	75	35	22		21	35	86	101	116

3+50

343.6	345.4	371.3	381.5	384.04	381.9	342.0	339.4	
40.8	39.2	13.1	2.9	2.4	2.5	42.4	45	
97	77	38	21		20	81	100	

3+00

345.2	349.6	352.1	383.3	383.94	383.7	363.3	363.2	363.0	
39.2	34.6	32.3	1.1	0.5	0.7	21.1	21.2	21.4	
96	78	70	21		20	58	70	80	

384.44
5

384.44
5

Cross Section - Access Road
Gibbs Airport

9+00				
8+50				
8+00.94	E.C	on Hub	7.13	384.49 ~~381.65~~
7+50				
7+00				
6+50				
T.P.	11.53	391.62 ~~388.78~~	4.35	380.09 ~~377.25~~
6+0.0		384.44 ~~381.60~~		

Lt

391.6		389.1		387.4		385.8		384.7	387.1		386.5		385.8		387.2		389.5		392.9				
0.0	2.5	4.2	5.8	4.9	4.5	5.1	5.8	4.9	2.1	+0.8													
75	50	29	29	20		20	25	29	50	75													

390.0		387.6		386.1		384.7		385.3	385.92		385.2		384.4		388.1		390.4						
1.6	4.0	5.5	6.9	6.3	5.7	6.9	7.2	3.5	1.2														
75	50	28	29	20		21	25	50	75														

388.4		386.1		384.8		383.2		383.8	384.52		383.8		383.0		384.1		386.6		388.9				
3.2	5.5	6.8	8.4	7.8	7.1	7.8	8.6	7.5	3.0	2.7													
75	50	28	23	20		21	25	28	50	75													

387.2		384.9		383.4		382.0		382.6	383.12		382.5		381.9		383.4		385.2		387.1				
4.9	6.7	8.2	9.6	7.0	8.5	9.1	9.7	8.2	6.4	4.5													
75	50	28	23	20		22	26	31	50	75													

385.9		383.9		381.9		380.3		380.9	381.52		381.0		380.5		381.8		383.8		386.0				
5.7	7.7	9.7	11.3	10.7	10.1	10.6	11.1	9.8	7.8	5.6													
75	50	28	24	20		22	26	30	50	75													

384.2		382.5		380.4		378.8		379.7	380.32		379.8		379.4		380.8		382.6		384.7				
2.4	9.1	11.2	12.8	11.9	11.3	11.8	12.2	10.8	9.0	6.9													
75	50	28	22	19		23	27	32	50	75													

383.0		381.8		380.1		377.8		378.7	379.44		379.0		377.4		380.4		380.6		380.9		380.9		
1.4	3.2	4.3	6.6	5.7	5.0	5.4	7.0	9.0	3.8	3.5	3.5												
75	50	30	23	19		21	33	39	50	65	80												

391.62

384.44

Cross Section ~ Access Road
Gibbs Airport

11+50				
11+00				
10+50				
10+00				
9+70.96	B.C. Rt	on Hob	11.17	388.14 ~~386.30~~
9+50				
T.P.	11.63	400.31 ~~397.47~~	2.94	388.68 ~~385.84~~

39162

Lt ℄ Rt.

	397.6		396.7		394.4		393.2		394.0	394.81		394.1		393.4		394.2		397.1		397.6	
2.7		3.6		5.9		7.1		6.3		5.5	6.2		6.9		6.1		3.2		2.7	
60		50		28		23		20			20		24		26		50		55	
	396.4		395.3		391.8		392.6		393.31		392.6		391.9		393.3		395.4		396.4	
3.9		5.0		8.5		7.7		7.0		7.7		8.4		7.0		4.9		3.9		
60		50		23		19				21		24		29		50		60		
396.0		393.8		391.8		390.4		391.3		391.41		391.2		390.5		391.9		393.7		395.4	
4.3		6.5		8.5		9.9		9.0		8.4		9.1		9.5		8.4		6.6		4.9	
70		50		28		23		20				21		24		30		50		70	
394.61		392.5		390.4		389.1		389.7		390.41		389.7		388.7		390.2		392.0		394.9	
5.1		7.8		9.9		11.2		10.6		10.1		10.6		11.6		10.1		8.3		5.4	
75		50		28		23		20				20		24		30		50		75	
394.4		392.2		389.6		388.1		388.8		389.11		388.8		387.9		389.4		391.21		393.8	
5.9		8.7		10.7		12.2		11.5		11.2		11.5		12.4		10.9		9.1		6.5	
75		50		28		23		19				20		25		31		50		75	
393.6		390.8		389.0		387.41		387.8		388.41		388.0		387.3		388.6		390.9		393.8	
6.7		9.5		11.3		12.9		12.5		11.8		12.3		13.0		11.7		9.4		6.5	
75		50		29		23		20				20		25		29		50		75	

400.31

Cross Section – Access Road
Gibbs Airport

15+00				
14+50				
14+00				
T.P.	9.97	408.57 ~~405.43~~	1.71	398.60 ~~395.76~~
13+54.93	E.C.	on Hub	1.89	398.42 ~~395.58~~
13+00				
12+50				
12+00		400.31		

R.t

403.3	403.4	402.4	401.5	400.2	398.5	399.6	399.87	399.2	398.6	400.4	402.2	405.1	
5.3	5.2	6.2	7.1	8.4	10.1	9.0	8.7	9.4	10.0	8.7	6.9	3.5	
75	60	50	41	30	29	20		21	24	30	50	75	

402.4	401.8	400.2	398.5	398.9	399.27	399.7	398.1	399.7	401.8	403.6	403.6	
6.2	6.8	8.4	10.1	9.7	9.3	9.9	10.5	8.9	6.8	5.0	5.0	
75	48	31	23	20		22	25	30	50	67	75	

400.8	401.0	400.9	399.6	398.1	398.7	398.97	398.7	397.9	399.2	400.5	401.1	401.0
7.8	7.6	7.7	9.0	10.5	9.9	9.6	9.9	10.7	9.4	8.1	7.5	7.6
75	50	43	31	29	20		21	24	29	40	50	75

408.57

399.7	400.0	398.7	397.2	397.8	398.41	398.0	397.6	395.71	399.6	399.6		
0.6	0.3	1.6	3.1	2.5	1.9	2.3	2.7	1.6	0.7	0.7		
50	41	30	23	21		21	24	29	38	50		

399.3	399.3	397.8	396.2	397.0	397.71	397.5	396.7	398.0	399.6	399.5		
1.0	1.0	2.5	4.1	3.3	2.6	2.8	3.6	2.3	0.7	0.8		
50	41	29	23	20		20	23	27	47	50		

399.2	397.1	395.4	396.3	396.91	396.4	395.9	397.2	398.9	398.9			
1.1	3.2	4.9	4.0	3.4	3.9	4.4	3.1	1.4	1.4			
50	30	23	20		20	23	27	45	50			

398.4	398.1	395.6	394.4	395.3	395.91	395.2	394.5	395.6	397.7	397.7		
1.9	2.2	4.5	5.9	5.0	4.4	5.1	5.8	4.7	2.6	2.6		
55	50	28	23	19		20	23	27	46	50		

400.31

from 17+00
Walker
Johnson
Pope
Riley, 1-21-49

Cross-Section – Access Road
Gibbs Airport

18+00					
17+50					
17+00					
17+00 T.P.	7.32	406.69 ~~403.85~~	9.20	399.37 ~~396.53~~	on ℄ Stub.
16+50					
16+00					
15+50		408.57			

Lt. ℄ Rt.

398.8	397.2	399.1	398.2	398.8	398.89	398.8	398.8	399.7	400.0	399.9	400.2
7.9	7.5	7.0	8.5	7.9	7.8	7.9	7.9	7.0	6.7	6.8	6.5
75	50	29	24	21		18	22	27	32	50	75

401.3	401.9	399.5	398.5	399.0	399.19	399.2	398.4	399.8	401.6	402.8	402.6
5.4	4.8	7.2	8.2	7.7	7.5	7.5	8.3	6.9	5.1	3.2	4.1
75	56	32	25	22		17	24	28	50	64	75

403.3	403.4	401.7	400.1	398.9	399.4	399.37	399.4	398.8	400.4	402.6	404.5	404.5
3.4	3.3	5.0	6.6	7.8	7.3	7.32	7.5	7.9	6.3	4.1	2.2	2.2
75	67	50	32	26	23		22	24	29	50	78	85

406.69

404.6	401.7	400.1	398.7	399.7	399.97	399.4	398.8	400.7	402.7	404.7	
4.0	6.9	8.5	9.9	8.9	8.6	9.2	9.8	7.9	5.9	3.9	
75	50	31	25	21		21	24	30	50	75	

404.3	402.3	400.4	398.8	399.7	400.17	399.5	398.9	400.9	402.7	405.2	
4.3	6.3	8.2	9.8	8.9	8.4	9.1	9.7	7.7	5.9	3.4	
75	50	31	25	21		21	24	30	50	75	

404.8	402.3	400.4	398.7	399.7	400.57	399.2	398.8	400.7	402.7	405.3	
3.8	6.3	8.2	9.9	8.9	8.5	9.4	9.8	7.9	5.9	3.3	
75	50	31	25	21		21	24	30	50	75	

408.57

Cross Sections - Access Road

— Gibbs Airport —

21+50

21+00

20+50

TP 3.51 400.56 ~~397.72~~ 3 964 397.05 ~~394.31~~

20+00

19+50

19+00

18+50 406.69

Lt. Rt.

394.0	394.0	394.7	393.6	395.8	396.8	395.8	393.3	393.8	393.5	393.5
6.6	6.6	5.9	7.0	4.8	4.7	4.8	7.3	6.8	7.1	7.1
75	50	35	29	20		19	31	36	50	75

394.7	395.0	395.2	394.4	396.1	396.26	396.1	394.0	394.7	394.4	394.6
5.9	5.6	5.4	6.2	4.5	4.3	4.5	6.6	5.8	6.2	6.0
75	50	33	28	21		20	30	35	50	75

395.1	395.5	395.7	395.2	396.2	396.46	396.4	395.6	396.0	396.3	396.8
5.5	5.1	4.3	5.4	4.4	4.1	4.2	5.0	4.6	4.3	3.8
75	50	32	26	21		29	29	34	50	75

400.56

395.9	396.7	397.5	396.2	396.7	397.09	397.0	396.8	397.1	397.7	397.8
10.8	10.0	9.2	10.5	10.0	9.6	9.7	9.9	9.6	9.0	8.9
75	50	31	25	21		23	27	32	50	75

396.6	397.1	397.6	396.5	397.1	397.49	397.4	396.8	398.2	398.1	398.2
10.1	9.6	9.1	10.2	9.6	9.2	9.3	9.9	8.5	8.6	8.5
75	50	33	24	20		18	25	30	50	75

397.3	397.5	398.4	396.9	397.8	397.99	397.8	397.5	398.2	398.6	398.4
9.4	9.2	8.3	9.8	8.9	8.7	8.9	9.2	8.5	8.1	8.3
75	50	32	24	20		22	25	28	42	75

398.1	398.3	398.7	397.7	398.6	398.69	398.7	397.9	398.9	399.4	399.3
8.6	8.4	8.0	9.0	8.1	8.0	8.0	8.8	7.8	7.3	7.4
75	50	29	24	19		19	24	27	50	75

406.69

Gibbs Airport - Access Road
Cross Sections

25+00					
24+50					
24+00					
23+50					
23+00					
T.P.	7.38	40372 ~~400.88~~	422	396 34 ~~393 50~~	24+00 ℄ Stub
22+50					
22+00		400.56			

Lt. ℄ Rt.

393.6	394.1	394.6	395.7	396.9	396.7	394.7	394.9	395.8	
10.1	9.6	9.1	8.0	6.8	6.7	7.0	9.0	8.8	7.9
75	50	35	24	20		21	32	50	75
393.6	393.6	395.0	396.6	396.54	396.4	394.1	394.3	395.6	395.1
10.1	10.1	8.7	7.1	7.2	7.3	9.6	9.4	8.1	8.0
75	36	25	21		23	32	47	67	75
394.1	393.3	393.3	396.2	396.32	396.0	393.3	393.4	393.4	394.4
9.6	10.4	10.4	7.5	7.4	7.7	10.4	10.3	10.3	9.3
75	50	34	21		21	33	50	65	75
394.5	393.5	393.5	395.9	395.92	395.6	392.6	392.8	393.3	
9.2	10.2	10.2	7.8	7.8	8.1	11.1	10.9	10.4	
75	50	32	20		21	33	50	75	
394.2	393.2	393.2	395.7	395.82	395.7	393.0	392.9	393.8	393.2
9.5	10.5	10.5	8.0	7.9	8.0	10.7	10.8	9.9	10.5
75	50	30	20		20	34	50	58	75
394.0	393.5	393.6	395.6	395.56	395.4	393.5	393.5	393.2	
6.6	7.1	7.0	5.0	5.0	5.2	7.1	7.1	7.4	
75	50	33	20		19	29	50	75	
393.6	393.6	393.5	395.6	395.76	395.6	393.0	392.7	392.3	
7.0	7.0	7.1	5.0	4.8	5.0	7.6	7.9	8.3	
75	50	30	21		20	29	50	75	

40372

400.56

Gibbs Airport — Access Road

Cross Sections

Lt. ℄ Rt.

28+50	398.8	398.7	399.1	398.9	398.2	399.6	399.6	399.6	398.4	399.6	400.3	399.8	
	4.9	5.0	4.6	4.8	5.5	4.1	4.1	4.1	5.3	4.1	3.4	3.9	
	75	50	38	31	23	20		21	25	30	45	75	
28+00	398.1	398.3	399.1	398.8	397.9	399.2	399.32	399.1	398.0	399.2	400.4	400.5	399.8
	5.6	5.4	4.6	4.9	5.8	4.5	4.4	4.6	5.7	4.5	3.3	3.2	3.9
	75	45	37	29	24	20		21	25	31	46	65	75
27+50	397.8	397.2	399.3	398.6	397.5	398.6	398.92	398.8	397.9	399.0	399.5	399.4	399.3
	5.9	4.5	4.4	5.1	6.2	5.1	4.8	4.9	5.8	4.7	4.2	4.3	4.4
	75	50	38	30	23	19		21	25	30	41	50	75
27+00	398.2	398.9	398.8	398.3	397.3	398.4	398.62	398.5	397.9	399.1	399.5	399.1	399.1
	5.5	4.8	4.9	5.4	6.4	5.8	5.1	5.2	5.8	4.6	4.4	4.6	4.0
	75	68	50	29	24	20		21	26	31	41	50	75
26+50	398.1	398.3	398.9	398.3	397.8	398.1	398.52	398.5	398.9	398.8	399.1	399.3	
	5.6	5.4	5.3	5.4	5.9	5.6	5.2	5.2	4.8	4.9	4.6	4.4	
	75	50	40	32	28	22		22	31	50	58	75	
								no ditch					
26+00	396.3	396.7	396.1	397.3	397.7	397.92	397.8	396.9	397.5	398.2	397.9		
	7.4	7.0	7.6	6.4	6.0	5.8	5.9	6.8	6.2	5.5	5.8		
	75	60	43	27	20		22	35	50	60	75		
25+50	394.4	395.6	395.7	396.4	397.2	397.42	397.1	396.4	395.5	395.8	396.5	396.1	
	9.3	8.7	8.0	7.3	6.5	6.3	6.6	7.3	8.2	7.9	7.2	7.6	
	75	50	30	23	20		21	24	33	50	61	75	

403.72

403.72

~~400.88~~

Gibbs Airport - Access Road
Cross Sections

	Lt.																							
	402.8		402.9		401.3		402.2	402.2			402.2		401.4		402.5		402.2		402.0	
32+00	5.3		5.0		6.8		5.9	5.7			5.9		6.7		5.6		5.9		6.1	
	75		30		35		21				21		24		29		42		75	
	402.4		402.3		402.6		402.5	401.0	401.8	402.03		402.0		401.2		402.5		402.1		401.5
31+50	5.7		5.8		5.5		5.6	7.1	6.3	6.1		6.1		6.9		5.6		6.0		6.5
	75		50		41		30	24	21			21		23		30		47		75
	401.5		401.9		401.9		400.1	401.2	401.63		401.5		400.4		401.6		401.5		401.2	
31+00	6.6		6.2		6.2		8.0	6.9	6.5		6.6		7.7		6.5		6.6		6.9	
	75		46		29		24	21			20		27		30		50		75	
	400.7		400.7		400.8		399.3	401.0	401.13		400.8		399.8		400.8		400.8		401.7	400.8
30+50	7.4		7.4		7.3		8.8	7.1	7.0		7.3		8.9		7.3		7.3		6.4	7.3
	75		50		29		24	20			21		24		29		42		50	75
		408.13				400.93				408.13										
T.P.	720	~~406.29~~		279		~~398.09~~														
	400.0		399.9		400.2		400.3	399.1	400.7	400.02		400.5		399.2		400.2		400.3		400.4
30+00	3.7		3.8		3.5		3.4	4.6	3.0	3.8		3.2		4.5		3.5		3.4		3.3
	75		50		39		30	24	20			21		25		30		40		75
	399.5		400.3		400.3		399.9	398.8	400.3	400.52		400.2		399.0		400.0		400.4		400.6
29+50	4.2		3.4		3.4		3.8	4.9	3.4	3.2		3.5		4.7		3.7		3.3		3.1
	75		50		38		30	24	19			21		24		31		50		75
	399.4		398.9		399.3		398.5	399.8	400.02		399.9		398.6		399.6		399.8		400.3	
29+00	4.8		4.8		4.4		5.2	3.9	3.7		3.8		5.1		4.1		3.9		3.4	
	75		50		30		23	20			21		25		30		50		75	
		403.72								403.72										

Gibbs Airport ~ Access Road

Cross Sections

Lt. Rt.

35+50

405.5	405.5	406.2	406.0	404.4	404.8	404.9	404.9	404.3	405.6	405.3	405.[illegible]
2.6	2.6	1.9	2.1	3.7	3.3	3.2	3.2	3.8	2.5	2.8	2.8
75	51	44	30	25	22		21	24	30	44	75

35+00

406.1	405.1	405.8	404.0	404.7	404.13	404.5	405.7	405.2	406.3	404.8	404.6
2.0	3.0	2.3	4.1	3.4	3.5	3.6	4.4	2.9	1.8	3.3	2.5
75	62	30	24	22		21	24	29	45	63	75

34+50

405.4	405.4	405.4	403.7	404.2	404.43	404.3	403.4	404.5	404.3	404.9	
1.8	2.7	2.7	2.7	4.4	3.9	3.7	3.8	4.7	3.6	3.8	3.2
75	59	39	29	23	21		21	25	30	45	75

34+00

405.1	406.1	404.8	404.0	403.2	403.6	403.93	403.8	403.4	403.5	403.7	403.6
3.0	2.0	3.3	4.1	4.9	4.5	4.2	4.3	4.7	3.6	4.4	4.5
75	64	39	28	25	19		21	25	31	37	75

33+50

		403.4	403.2	403.53	403.6	403.0	404.4	403.3	403.3		
		4.7	4.9	4.6	4.5	5.1	3.7	4.8	4.8		
		72	21		21	24	29	46	75		

33+00

403.8	403.7	403.4	402.3	402.8	403.13	403.1	402.6	403.8	403.6	404.4	402.6
4.3	4.4	4.7	5.8	5.8	5.0	5.0	5.6	4.3	4.5	3.7	5.5
75	43	30	24	21		21	25	30	43	58	75

32+50

403.3	403.1	401.9	402.8	402.73	402.5	401.9	403.3	402.8	402.3		
4.8	4.4	6.2	5.3	5.4	5.6	6.2	4.8	5.3	5.8		
75	31	25	22		21	23	29	43	75		

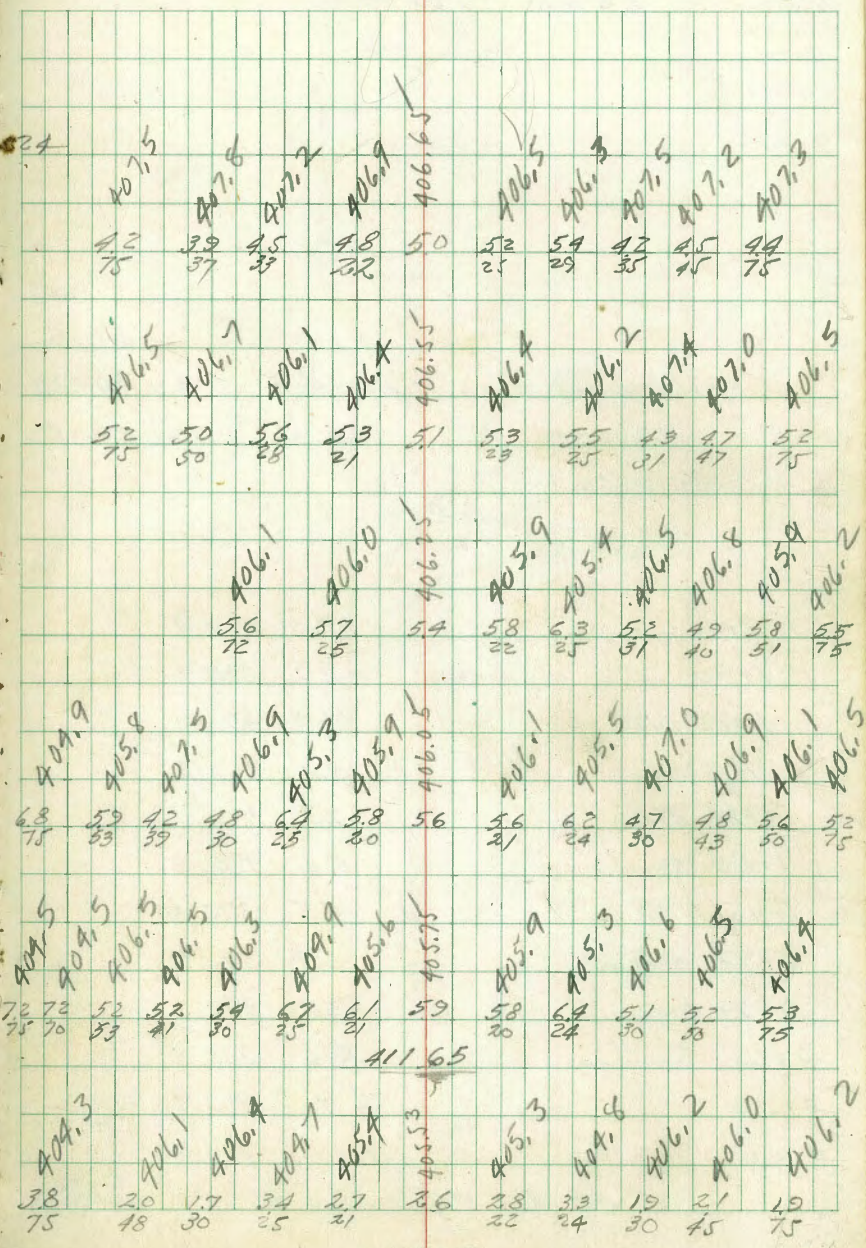
408+13

408+13

Gibbs Airport - Access Road
Cross Sections

38+81.50-2			4.70	406.89 / 406.25	Mon SE Cor Lot
38+46.97 = M.L. Palm					
38+00					
37+50					
37+00					
36+50					
T.P.	6.28	411.65	2.76	405.37	℄ Hub 36+00
36+00					

Lt. ℄ Rt.



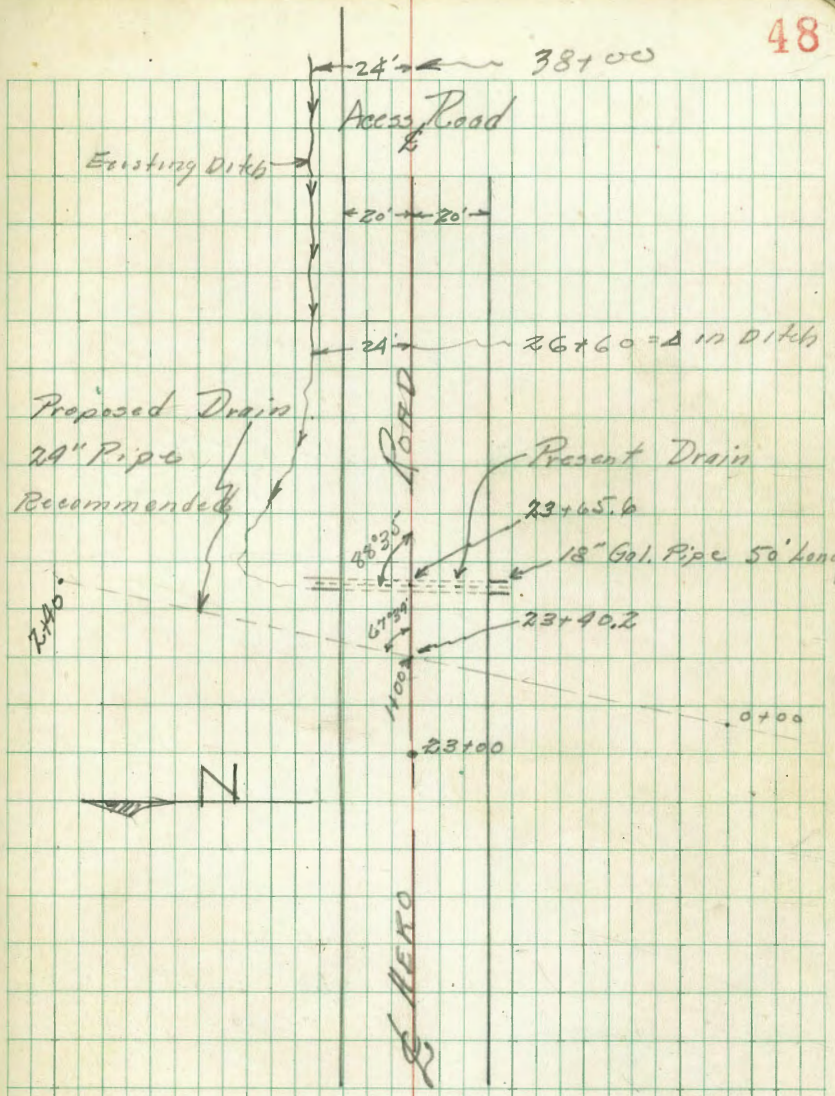
Aero Road -

Walker
Johnson
Pope
Crawford

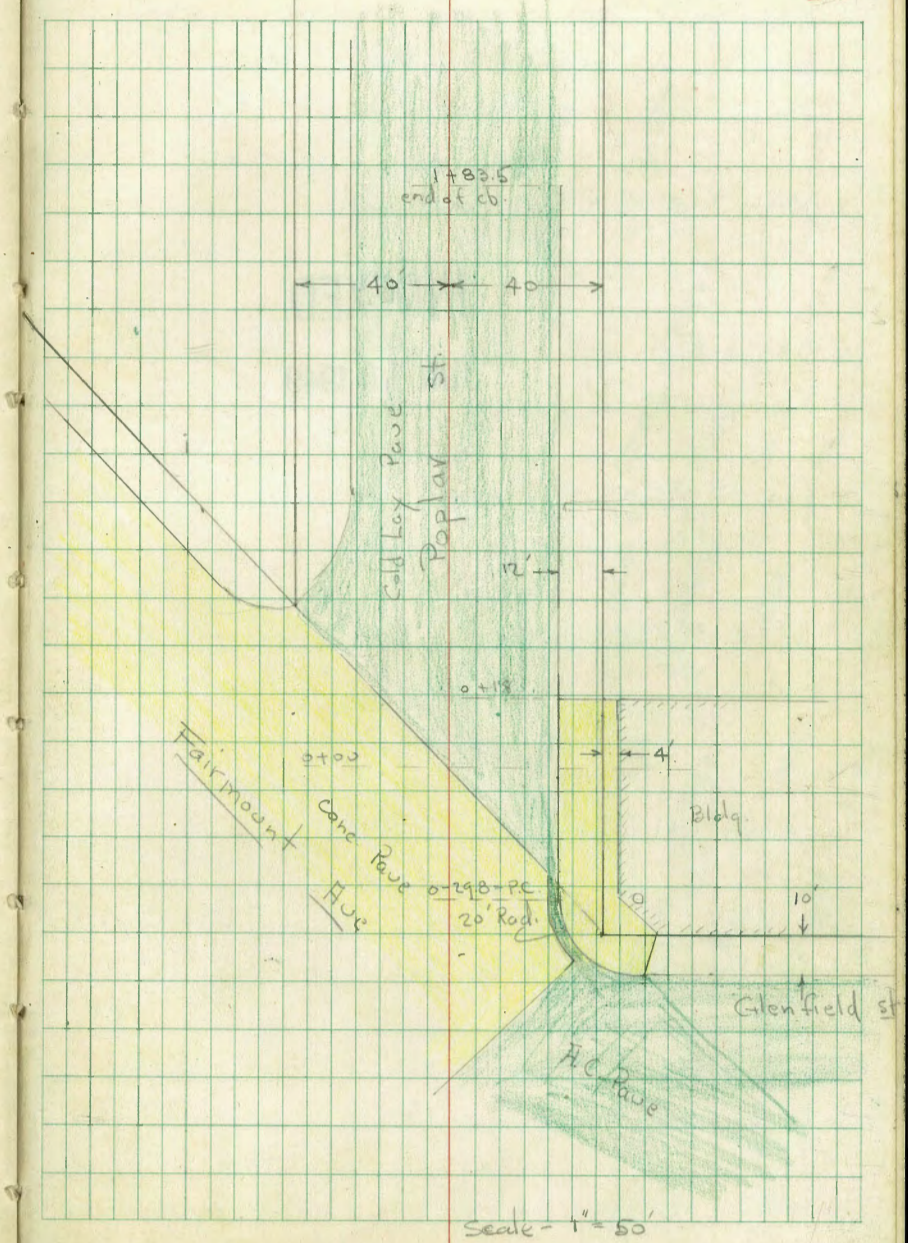
3-4-49

Levels of Proposed Drain

				Ft. Line
Galvanized Iron Pipe N.E.		8.13	393.23	
		S.E. 8.76	392.60	
2+40		7.0	394.4	
1+90		7.7	393.7	
1+45 Brk		8.7	392.7	
1+38 = Toe		8.2	393.2	
1+28 Brk		7.3	394.1	
1+20 Shoulder		5.4	396.0	
1+00 ℄ Rd		5.5	395.9	
0+78 Shoulder		5.7	395.7	
0+73 Brk		7.2	394.2	
0+65 = Toe Slope		8.6	392.8	
0+50		8.7	392.7	
0+00		9.1	392.3	
	5.02 401.36		396.34	℄ Hub 24+00



P.T.S = T.R. on ℄ Stub.


1+83.5
end of cb.
40'
40
Poplar st.
Cold Lay Pave
12'
0+18
4'
Bldg.
0+00
Fairmount Ave
Conc Pave
0-29.8-PC
20' Rad.
10'
Glenfield st
AC Pave
Scale - 1" = 50'

Additional Sections on Poplar to Show New cbs. & Improvements.
Orig. Sections in Book 1628 - P. 2

6-8-49

0+39 - 29.2 Rt. = ℄ 2' Conc walk

INDEXED
W.K.
JUN 10 1949

0+18 = end of walk

0+00

0-29.8 = P.C. 20' Rad. Ret.

0-41.5 = W.L. Glenfield

0-51.5 = W. cb. of Glenfield st.

at Fairmount - see sketch P. 49

Rods on New Return & curb on N. side of Poplar.

	7.26	307.03	3.81	299.77
B.M.	6.39	303.58		297.19

S.E. P.P. Quince & Fairmount

Lt ℄ Rt

3621
W.O. 31514

F.O.

302.69 4.14 29.2 walk

303.54 3.49 39.7 end 2' + Beg 45 walk

303.73 3.30 50

302.94 4.09 28 Top cb.

303.39 3.64 40 edge walk

303.92 3.11 44 at Bldg

302.91 4.32

302.61 4.42 14

302.44 4.59 22

302.52 4.51 28 gut

303.28 3.75 28 Top

303.68 3.35 40 walk

278 44

303.08 3.95 26 edge Conc

303.08 3.95 28 gut on A.C. Pave

303.63 3.40 28 Top cb P.C.

303.99 3.04 40 walk

304.13 2.90 44 at Bldg

303.23 3.80 28 edge Cross

303.33 3.70 30.4 Conc. on gut.

303.89 3.14 30.4 Top cb.

304.09 2.94 40 walk

304.41 2.62 53.5 edge of walk

303.80 3.23 28 cb. line Prod.

303.73 3.30 48 gut

304.11 2.92 48 Top P.C. Ret.

304.33 2.70 64 Top cb.

303.99 3.04 64 gut

307.03

Note: elevs. should be raised .05 to meet orig
See 1628-P.2
+P.18

Columbine
check Hyd. at. 6.21 297.65 297.72

5+20 - 39.1 Lt. = ℄ 2.9' Conc. walk

5+19 - 39.9 Rt. = ℄ 11.5' Conc. Dr.

4+33 - 39.7' Lt. = ℄ 3' Conc. walk

4+18 - 39.7 Lt. = ℄ 8' Conc. Dr.

O.K. to Here

1+83.5 = end of cb. on Rt.

1+73 - 40' Lt. = ℄ of W. door to New church

T.P. - end cb. 3.59 303.86 6.76 300.27

1+50

1+14.5 - 29' Rt. = ℄ 2' Conc. walk

1+00

0+50

Notes. Lt. ℄ Rt.

297.28
6.58
50
walk

297.15
6.71
39.1
walk

296.52
7.34
29.9
Dr.

296.67
7.19
60
Dr.

298.10
5.76
53.9
at Porch

297.81
6.05
39.7 = walk

298.44
5.42
C.O.
Dr.

297.83
6.03
39.7 = Dr.

299.5
4.4
28
gut.

300.24
3.62
28 = Top cb.

300.15
3.71
40
Top of floor

299.7
4.2
40
ground

303.86

299.96
7.07

299.83
7.20
14

299.29
7.74
25
edge

299.93
7.1
28
gut.

300.84
6.19
28
Top

301.1
5.9
40

301.32
5.71
29
walk

301.65
5.38
40
walk

302.15
4.85
walk

300.67
6.36

300.64
6.39
14

300.34
6.69
23
edge

300.8
6.2
28
gut.
Dirt

301.54
5.49
28
Top

301.9
5.3
40

301.38
5.65

301.41
5.62
14

301.10
5.93
23

301.6
5.4
28
gut.

302.41
4.62
28
Top.

303.1
3.9
40

307.03

11+20 - 39.4 Rt = end wall + Ely of 10.3' Conc. Dr.

11+04 - 39.5' Rt. = ℄ 2.5' Conc. walk

10+83 - 39.6 Rt. = Beg. 4" Conc. wall

10+53 - 39.9 Lt. = ℄ 3' Conc. walk

10+04 - 39.9 Rt. = ℄ 3' Conc. walk

9+91 - 40' Lt. = ℄ 8' Conc. Dr.

9+89 - 39.8 Rt. = ℄ 2' Conc. walk

9+61 - 37.5' Lt. = ℄ 2' Conc. walk

9+56 - 39.8' Rt. = ℄ 4' Conc. walk

7+58 - 38.8 Rt = ℄ 3' Conc. walk

7+55 - 39.4 Lt. = ℄ 2.8' Conc. Walk

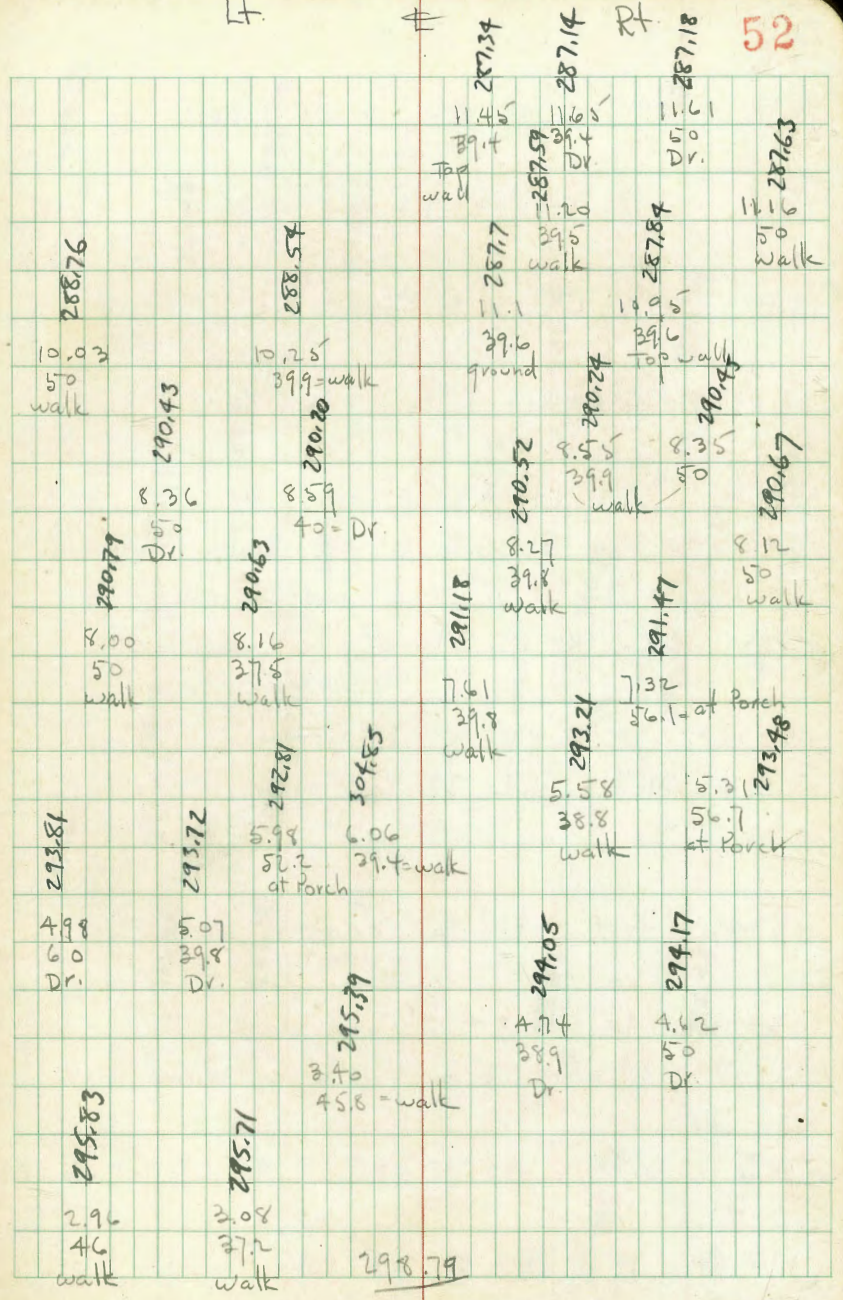
7+91 - 39.8 Lt. = ℄ 8.5' Conc. Dr.

7+42 - 38.9' Rt. = ℄ 11' Conc. Dr.

6+83 - 45.8 Lt. = ℄ 3' Conc. Walk - Between Houses

6+29 - 37.2' Lt. = ℄ 3.7' Conc. walk

1.07 298.79 297.72 = Top Hxd. Corr. elev.



T.P.	4.76	292.92	6.20	288.16

17+19 - 39.8 Lt. = ℄ 9.8' Conc. Dr.

17+00 - 39.3' Lt. = ℄ 3' Conc. walk

15+83 - 37' Rt. = end Conc. wall

15+69 - 39.2 Lt. = ℄ 9' Conc. Dr.

15+58 - 37.1' Rt. = ℄ 3.5' Conc. walk Trw. wall

15+50 - 39.3 Lt. = ℄ 2.8' Conc. walk

15+39 - 37.2' Rt. = Ely. of 7.5' Conc. Dr.

15+34 - 37.2' Rt. = Beg. 3" Conc. wall

13+83 - 40' Lt. = ℄ 7.8' Conc. Dr.

13+44 - 40.4' Lt. = ℄ 3' Conc. walk

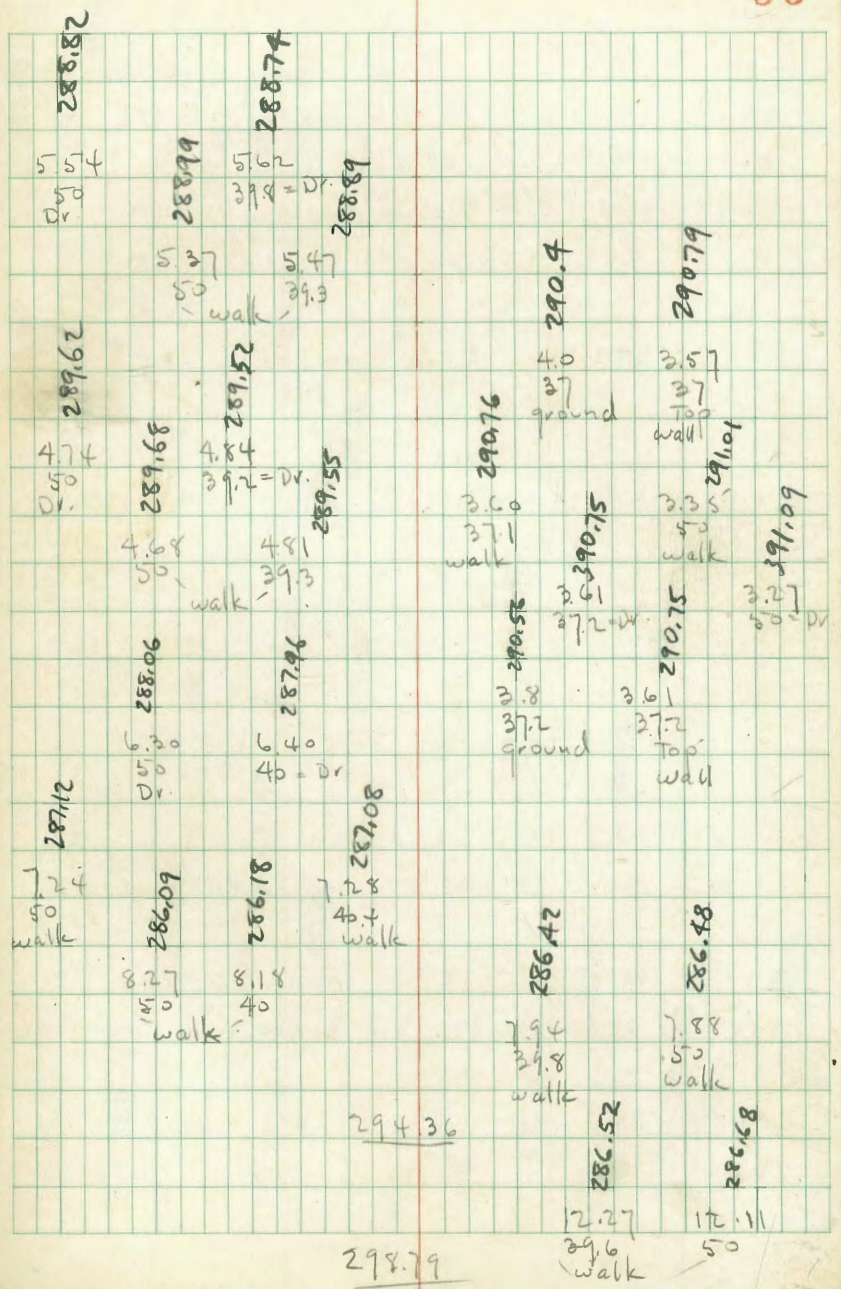
13+06 - 40' Lt. = ℄ 3' Conc. walk

12+11 - 39.8' Rt. = ℄ 3' Conc. walk on 4' Conc. wall

T.P.	6.47	294.36	10.90	287.89

= Top. Hyd. P. 25 - B 162 8

11+56 - 39.6' Rt. = ℄ 2.5' Conc. walk



check S.E. Top Hyd. 6.63 286.40 286.40 – Dr.

24+06 – 29.5' Lt. = end of 6" Conc. wing wall from

23+98 – 35.2' Lt. = ℄ 8.5" Conc. Dr. – Walls go to Dr.

23+92 – 30' Lt. = end wall

23+59 – 31.5' Lt. = Beg. 4" Conc. wall

T.P. 4.62 293.03 4.51 288.41

22+84 – 39.2' Lt. = ℄ 3' Conc. walk

store

22+37 – 28.5' Lt. = ℄ 1' Conc. walk to ℄ of Small

22+15 – 40' Lt. = ℄ 10' Conc. Dr.

21+87 – 34.8' Lt. = ℄ 2' Conc. walk

21+33 – 39.9' Rt. = end wall

21+31 – 40.2' Lt. = ℄ 3' Conc. walk

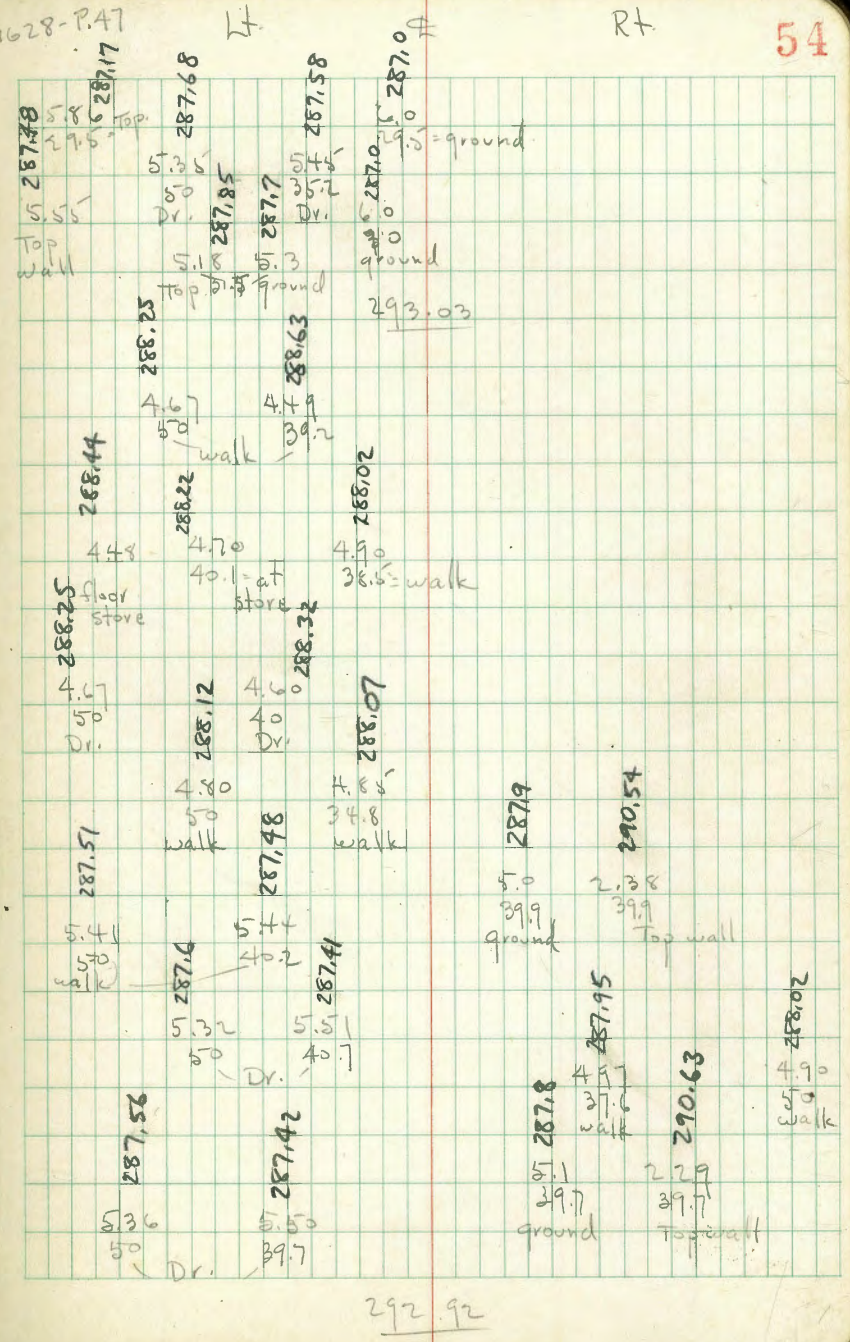
21+15 – 40.7' Lt. = ℄ 9' Conc. Dr.

21+09 37.6 – Rt. = ℄ 2.8' Brick walk Thru wall

20+83 – 39.7' Rt. = = Beg. 8" Brick wall

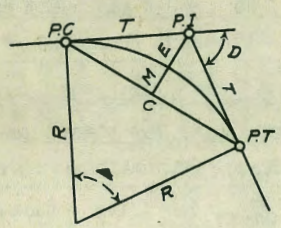
20+69 – 39.7' Lt. = ℄ 14' Conc. Dr.

1628-P.47



DIETZGEN'S RAILROAD CURVE
AND
REDUCTION TABLES

Copyright, 1914, by Eugene Dietzgen Co., New York City



CURVE FORMULAS

Radius$=R=\frac{50}{\sin. D/2}$ (1) Degree of Curve$=D$ and $\sin. \frac{D}{2}=\frac{50}{R}$ (2)

Tangent$=T=R\tan\frac{\Delta}{2}$ (3) Length of Curve$=L=100\frac{\Delta}{D}$ (4)

Middle ordinate$=M=R(1-\cos. \frac{\Delta}{2})$ (5)$=R\text{vers}\ \frac{\Delta}{2}$ (6)

External$=E=T\tan\frac{\Delta}{4}$ (7)$=R\div\cos.\frac{\Delta}{2}-R$ (8)$=R\text{exsec}\frac{\Delta}{2}$ (9)

Long Chord$=C=2\ R\ \sin.\frac{\Delta}{2}$ (10) Δ=Central Angle

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. $\Delta=62°\ 10'$ $D=8°\ 20'$. From Table IV for 1° curve T=3454.1 and ÷8⅓=414.49 ft. From Table V correction=.36 or T=414.85 ft. P. C.=Sta. P.I.—T=157 +45.50. Also from (4) L=746.00 and P. T.=Sta. P. C.+L=164+91.50.

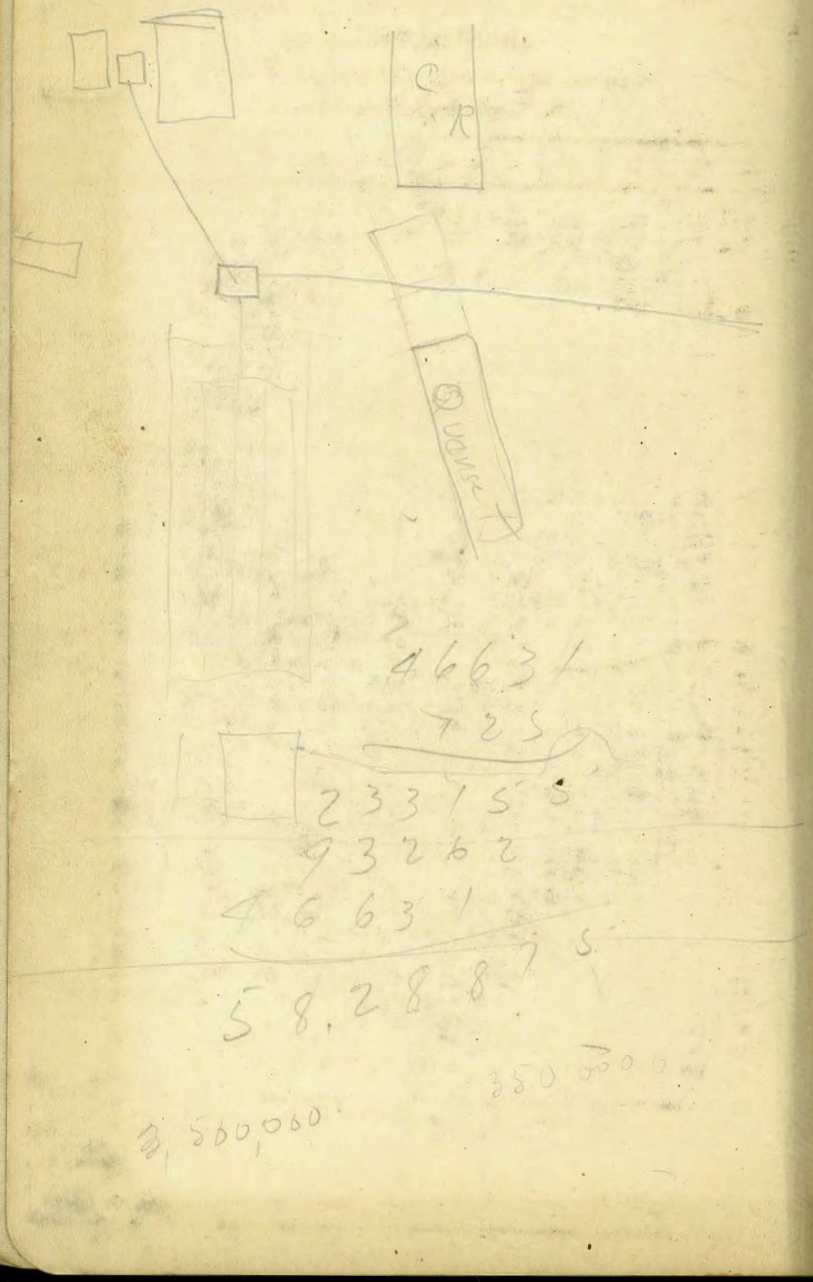
Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance=158—Sta. P. C.=54.50, hence offset=7.27 $(54.50\div100)^2$=2.16 ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2\div(2\times688.26)$=2.16 ft.

Deflections.—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x 8⅓=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′ +8° 20′ ÷2=6° 26.2′, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 115.37. For from Table IV for 1° curve E=960.6 for 8° 20′=960.6÷8⅓=115.27 and from Table V correction=.10 or E=115.37 ft. Or suppose Δ=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and ÷42=5.5 or D=5° 30′.

14644
1661
179.83

509 20
168 19
41,01



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	26.2	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 readbed 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) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

MADE IN U.S.A.