

1802

ENGINEERS'
FIELD BOOK

No. 4045

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

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 $30.6 + (20 - 16) \div 2$ or 2 ft. added to 30.6 = 32.6. For slopes of 1 on 1½ see inside of back cover.

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1802

120

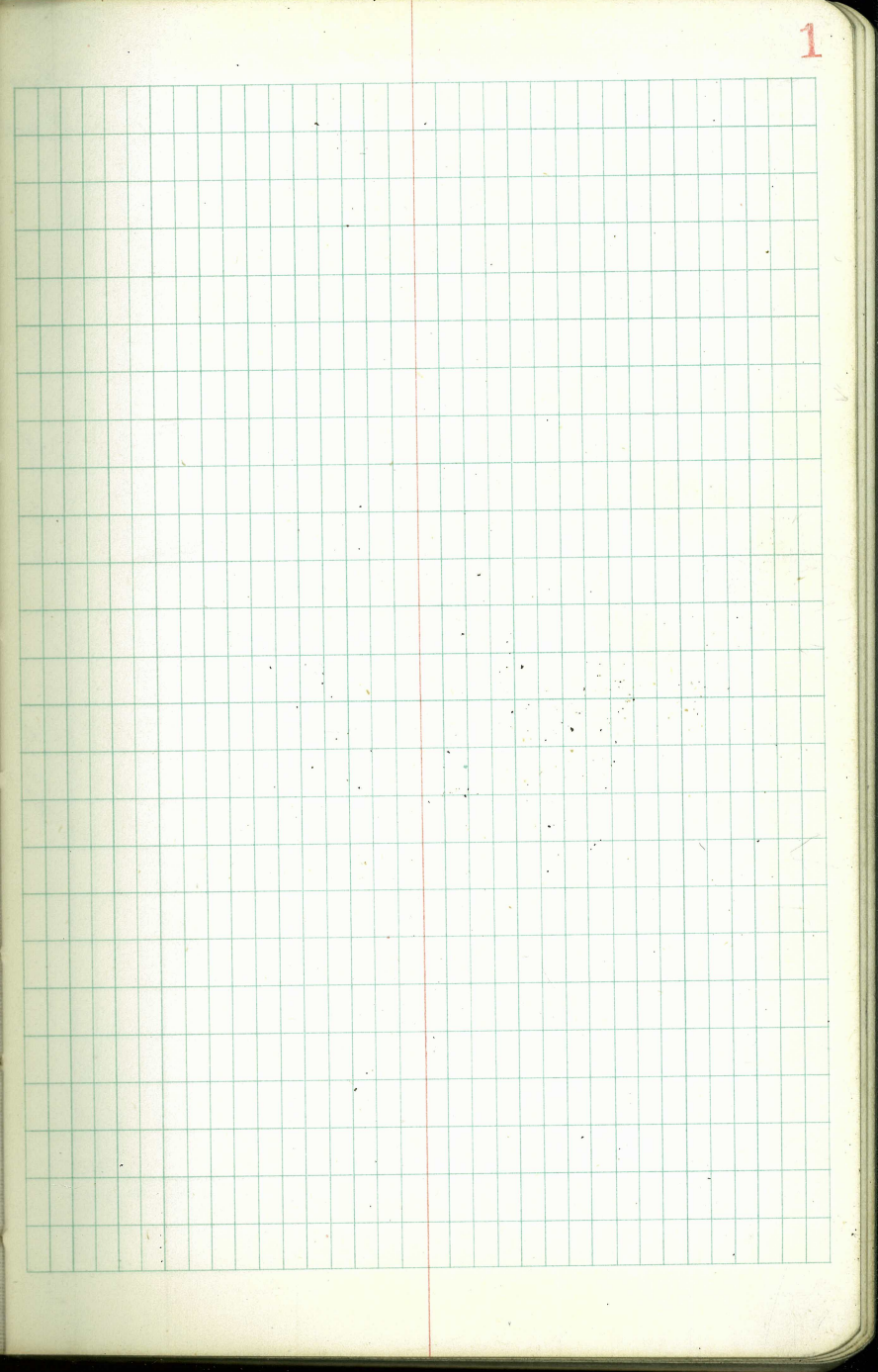
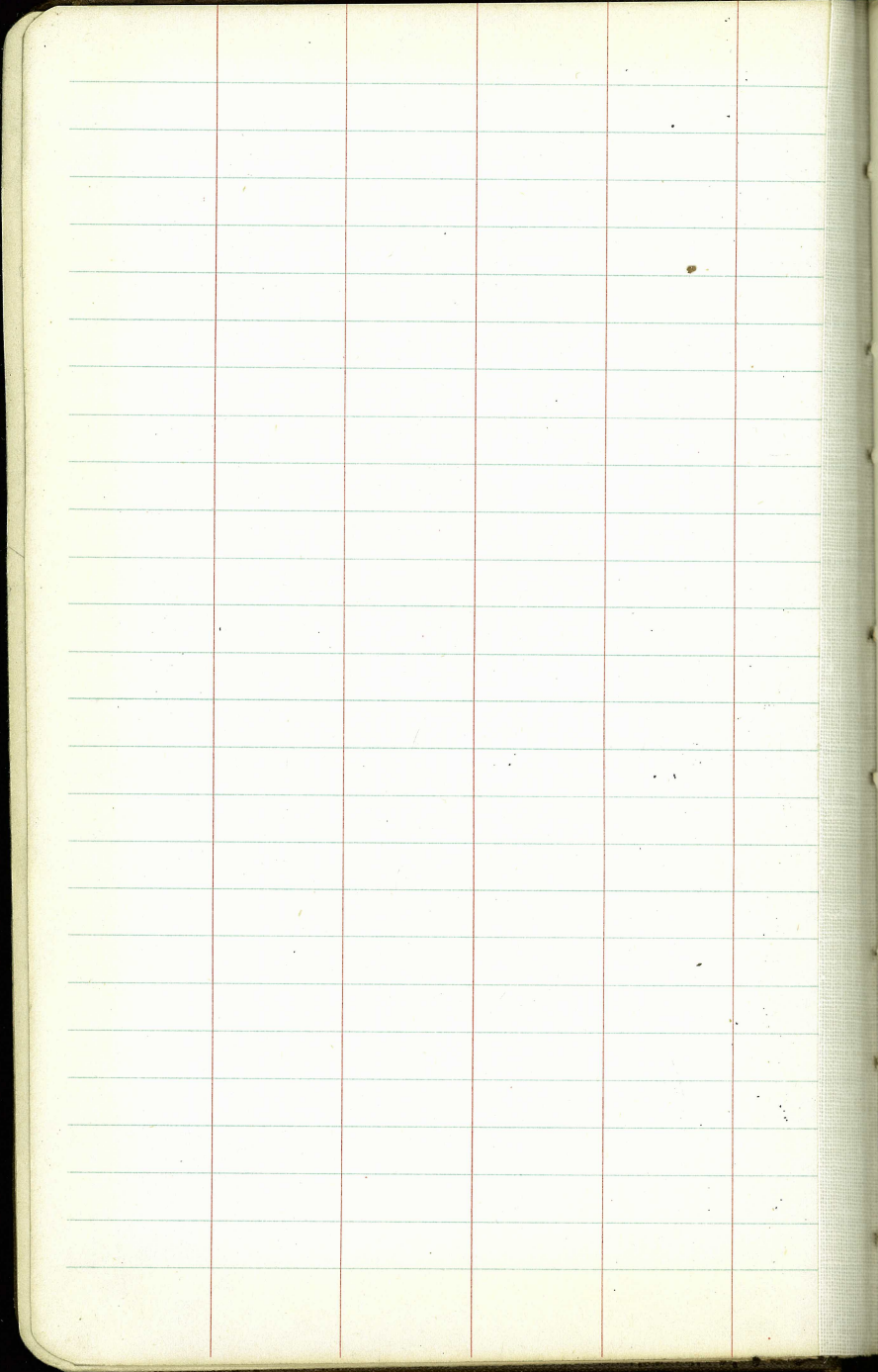
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Made in U. S. A.

INDEX

Pages

1-11 - X-Sect. Alley - Block 21 - K+L Terratta
12-39 - X-Sect. Wightman - Fairmount to Euclid
44 " alley C Turner + Baird Sub
49 X-Sect. Eta. St. 42nd to 43rd

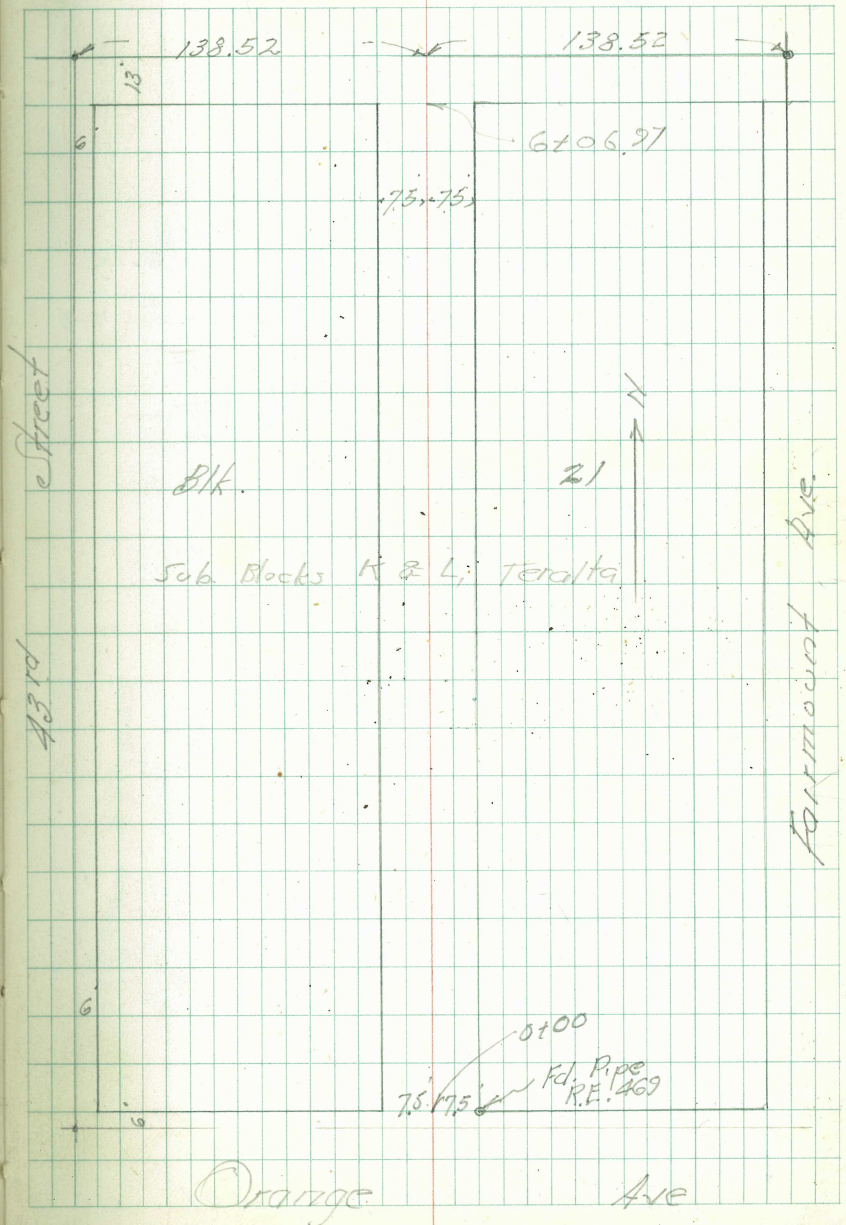


Walker
Hendricks
Becker
Johnson
10-3-47

CROSS SECTION ALLEY BLK. 21
Between 43rd And Fairmount Ave
from Orange Ave to El Cajon Blvd.

Indexed
c.s.k. El Cajon

Blvd. 2



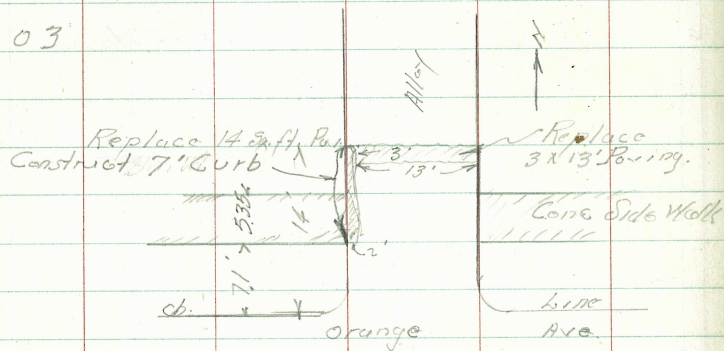
Cross Sections - Alley Blk 21

Lit.

£

ft.

0-03



481
75
as walk

498
55

505

498
75

488
75
66

359.73

359.56

359.43

359.39

359.35

359.59

0-6.9

486
75
End

503
75

516
55

520

524
75

500
66

0-14 Cont

360.77
762
131
Cb.

360.18
441
131
Gut.

360.57
402
100
Cb.

357.85
474
100
Gut.

358.22
637
100
Gut.

358.73
586
100
Cb.

358.02
657
122
Gut.

358.53
606
122
Cb.

0-14

360.08
451
50
Cb.

359.38
421
50
Pav.

359.70
489
35
Cb.

359.10
549
35
Gut.

357.04
555
25
Pav.

359.07
552
Pav.

359.03
556
75
Pav.

358.94
565
35
Pav.

359.62
497
95
Cb.

358.57
602
50
Pav.

359.17
542
50
Cb.

0-40 - Orange

358 364.59 361.01

364.59

Cross Sections Alley Blk 21

2+50

2+37 Garage on Lt, Conc. Floor & Apron

2+12 Garage on Lt, Conc. Floor
" Apron

PA 4287
2+00 Elec. Pole 7.3' Lt. = vl. edge

1+50

T.P. 2.81 361.32 6.41 358.51

1+45

1+30 Reg. 2 Car Garage on Rt. Conc. Floor
" Apron

364.92

3580	357.2	357.0	356.9	356.6	356.4
151	17	13	14	17	19
	75	6		75	15
35860	358.60	358.08			
272	272	324			
189	189	16			
Conc. Floor	Conc. Floor	on Apron			
358.97	358.13				
285	319				
18.7	16.8				
Floor	Apron				
358.6	357.9	357.9	357.9	357.5	
2.7	3.1	3.4	3.4	3.8	
12	75	5	75	12	
359.3	359.3	358.6	359.1	358.2	358.0
2.0	2.6	2.7	2.7	3.1	3.3
12	75	5	75	12	26
			361.32		
				359.02	
				5.20	
				7.1	
				on Apron	
				359.23	
				5.69	
				7.7	
				on Apron	
				359.22	
				5.70	
				10	
				on Floor	
				364.92	
				on Apron	
				on Floor	

Cross Sections Alley Blk 2

3+99 = Light Pole # PA 4267 7.2' Lt = W. edge

3+65 = Garage on Rt. Conc. Floor Conc. Apron

3+50

3+20 Pole Anchor 6' Lt.

3+00 = Elec. Pole PA 4251 7.2' Lt. = W. edge

2+72 = N end 2 Car Garage Conc. Floor Poor Condition

2+53 = Beg 2 Car Garage on Lt. Conc. Floor Poor Cond.

361.32

Lt.

Rt.

Rt.

7

355.4	355.5	355.6	355.03	355.98
5.9	5.8	5.7	6.29	5.84
	5.5		8.7	12.3
			Conc. Apron	Conc. Floor
	356.04			
	5.28			
	on Rim Mt.			
356.4	356.3	356.3	356.5	356.4
4.9	5.0	5.0	5.8	5.9
11	7.5		7.5	12
	357.25			
	4.07			
	14.7			
	Conc. Floor			
	357.59			
	3.78			
	14.5			
	Conc. Floor			
	<u>361.32</u>			

Cross Section Alley

4+50

4+41 = $\frac{1}{2}$ Garage on Rt. Conc. Floor

4+37 = $\frac{1}{2}$ 2 Car Garage on Lt. Conc. Floor

4+14 = $\frac{1}{2}$ 2 Car Garage on Lt. Conc.

4+06 = $\frac{1}{2}$ Garage on Rt. Conc. Floor.

TP 4.82 352.99 6.15 355.17

4+00

361.32
5

5.5
22

5.0
12

5.0
7.5

6.4

5.6
7.5

5.9
3.1

359.5

355.0

355.0

354.6

354.4

354.1

5.54
19.9
on Conc. Floor

5.03
24.8
on Floor

355.24

4.75
16.6
on Conc. Floor

5.40
20.4
on Conc. Floor

359.29

6.1
12

6.3
7.5

6.2

6.3
7.5

7.0
2.0

355.2

355.0

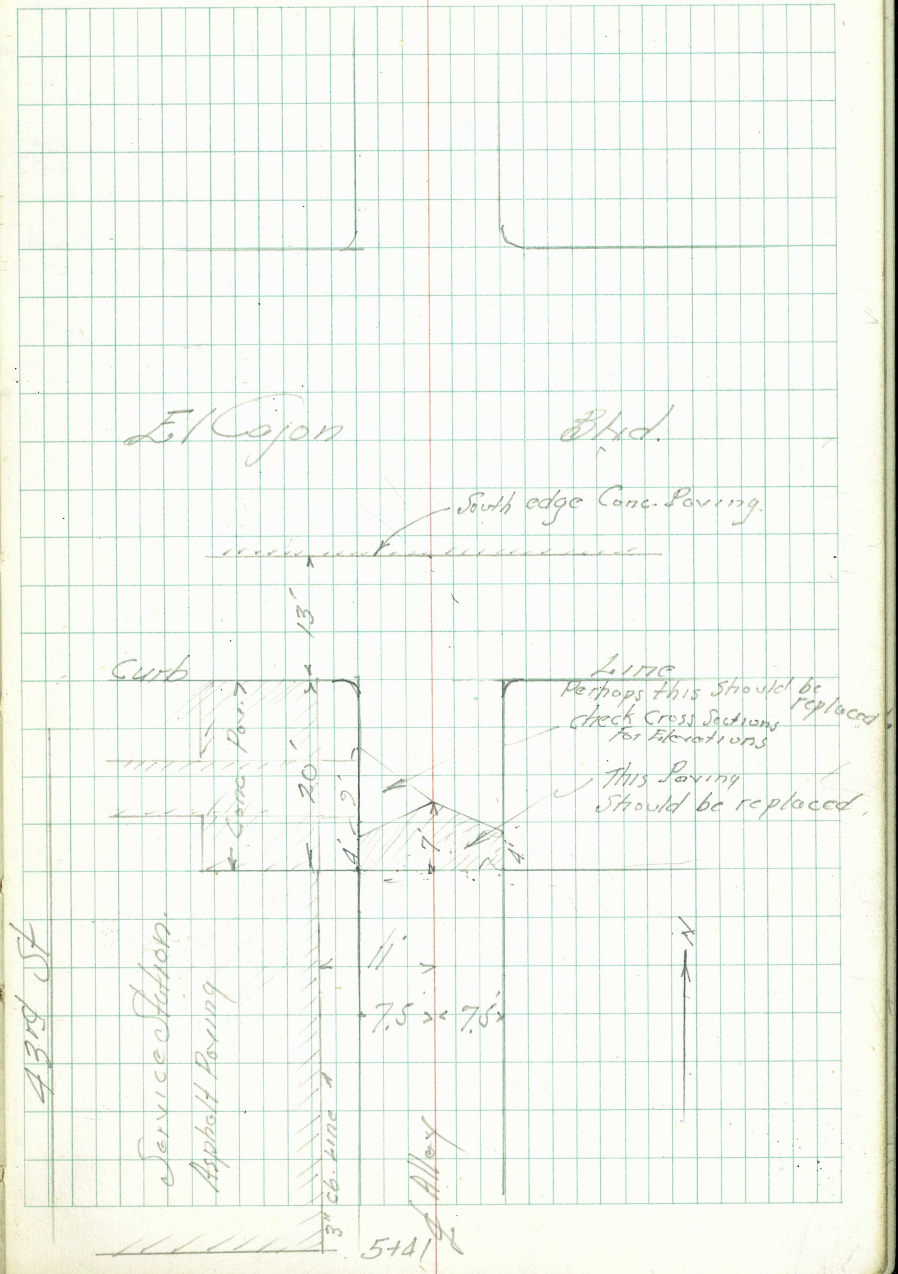
355.1

355.1

354.3

361.32
5

Cross Section Alley
Cont. from P-10



X-Sect. Wightman - Fairmount to Euclid

1927
W.O. 31459

12-19-47

12.

Bench Levels

on Wightman

Osborne
Hardin
Smith
Worrell

Starting					
B.M.	4.03	359.36		355.33	NW B.P. Fairmount
	2.22	356.98	4.60	354.76	NW 44 th
	2.54	353.56	5.96	351.02	NW 7 ^{ct.} Highland.
	4.98	352.37	6.17	347.39	347.37
	3.12	351.05	4.44	347.93	347.93
T.P.	3.36	347.29	7.12	343.93	NW 46 th
	5.35	348.00	4.64	342.65	NW 7 ^{ct.}
	3.45	345.60	5.85	342.15	NW 7 ^{ct.}
			5.99	339.61	339.66

See Book 1815-1 to 15
for Wightman - W. to Marlborough

NW 45th = 347.48
NW Chamoune

From Landers levels -
See 1815-21 -
Wheury -

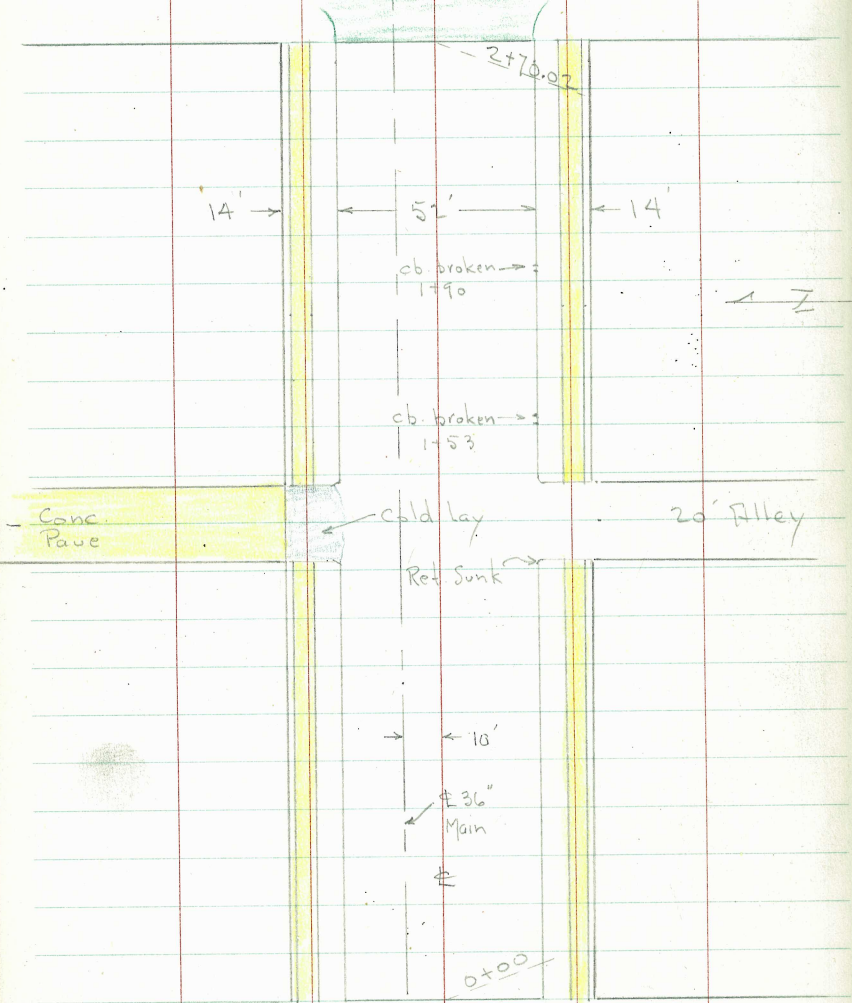
Menlo 47th
SW B.P. Euclid 339.71

44th = 60' st.

St

see P. 17 for Int.

A.C. Pavc

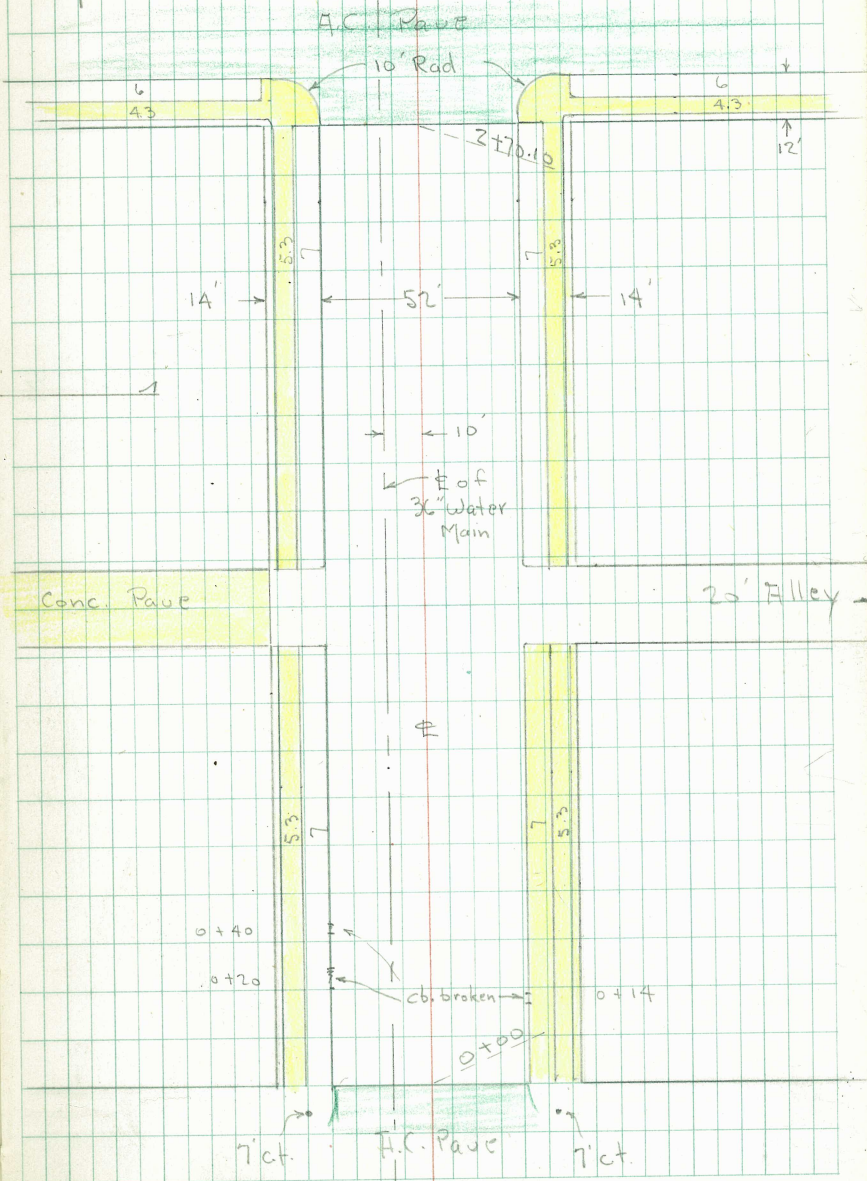


Fairmount = 60'

Ave

Highland - 65' st. - 41' Rdwy.

Ave

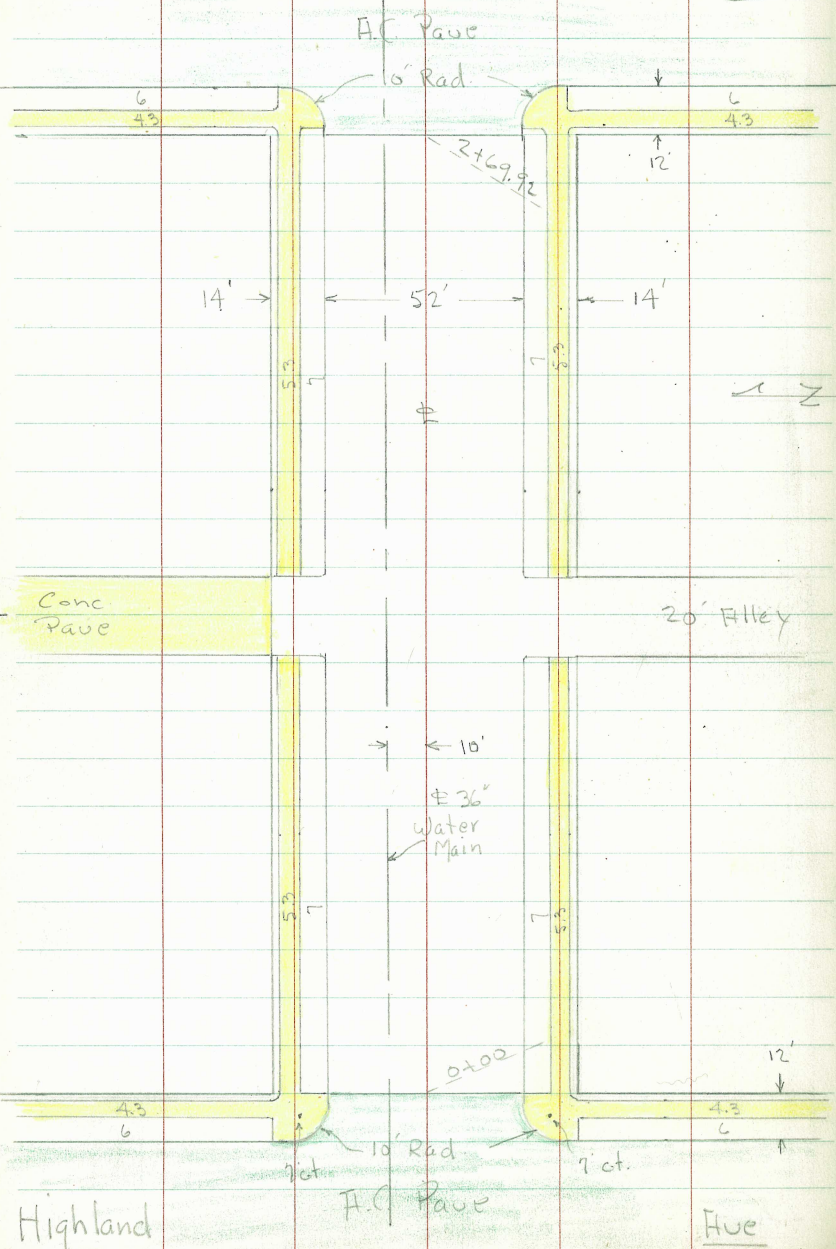


44th

St

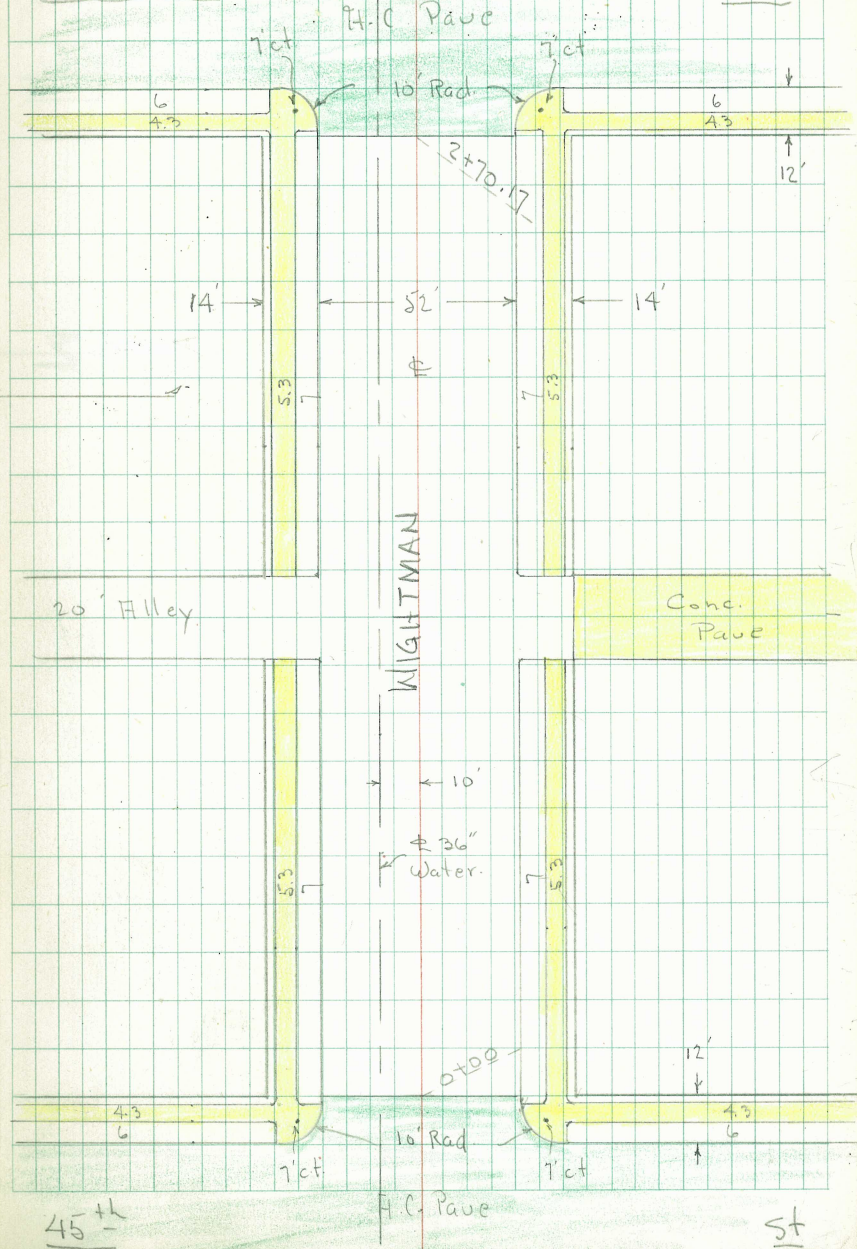
45th - 60'

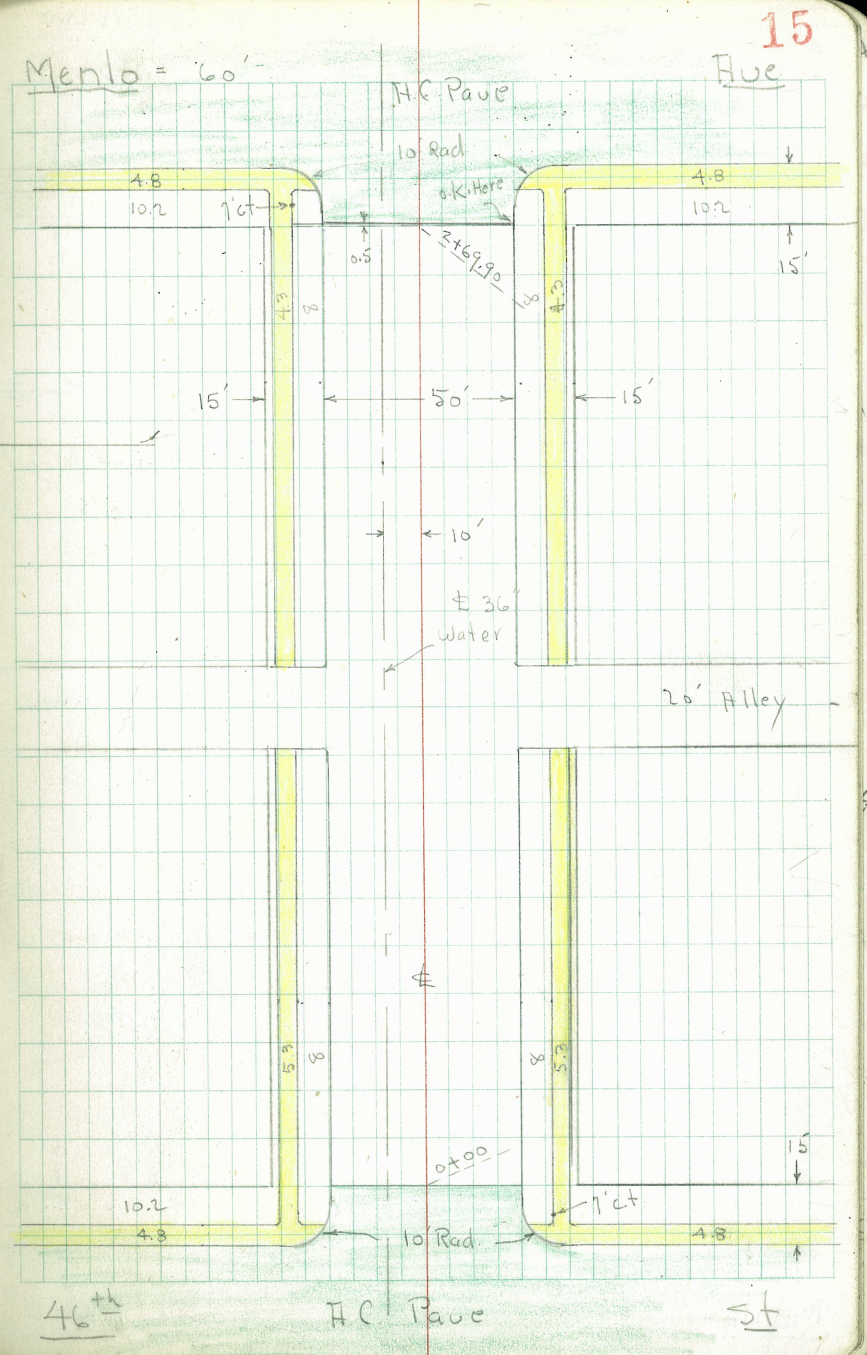
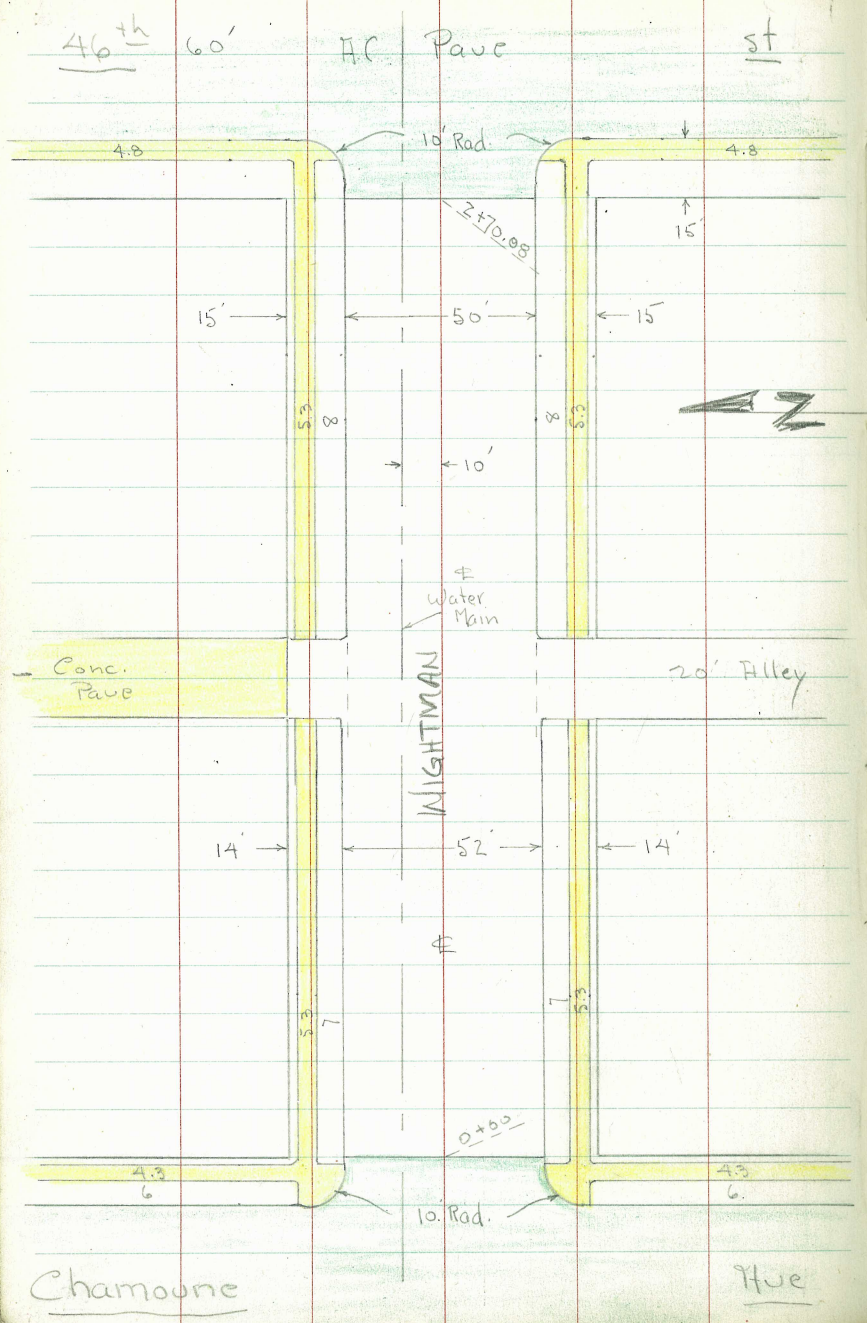
st



Chamoune - 60'

14 Ave



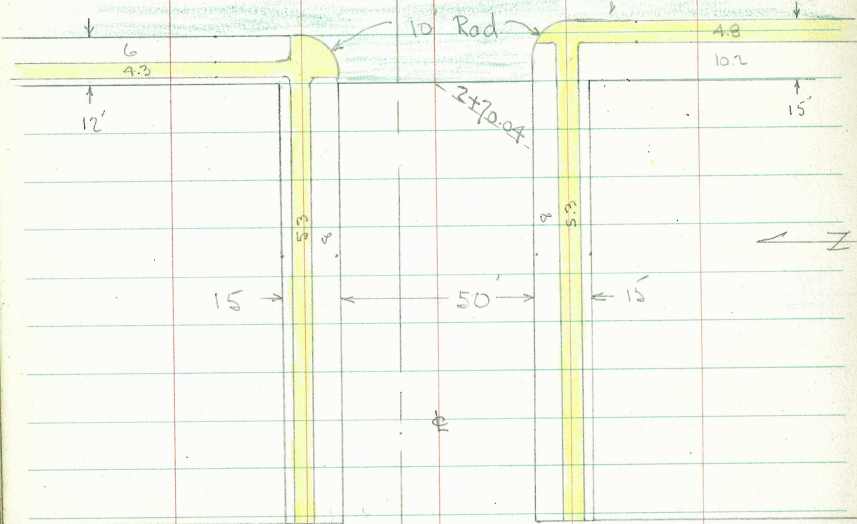


47th = 60'

Note: Jog in curb line

A.C. Pave

st



Conc. Pave

20' Alley

10'

Water Main

10.2
4.8

7'ct.

10 Rad.

10.2
4.8

Menlo

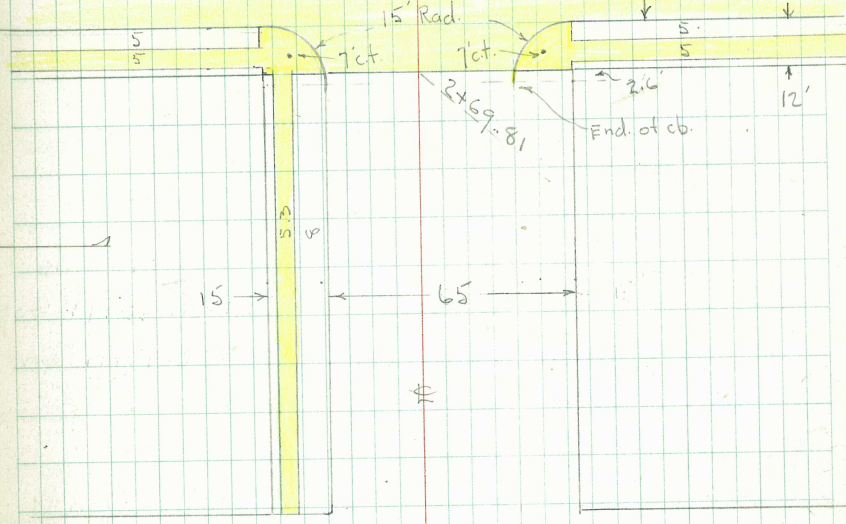
A.C. Pave

Ave

Euclid = 60'

Ave 16

Conc. Pave



Dirt

20' Alley

Note: No Usable evidence of water Main loc from Here

50'

15'

10'

12'

10 Rad.

7'ct.

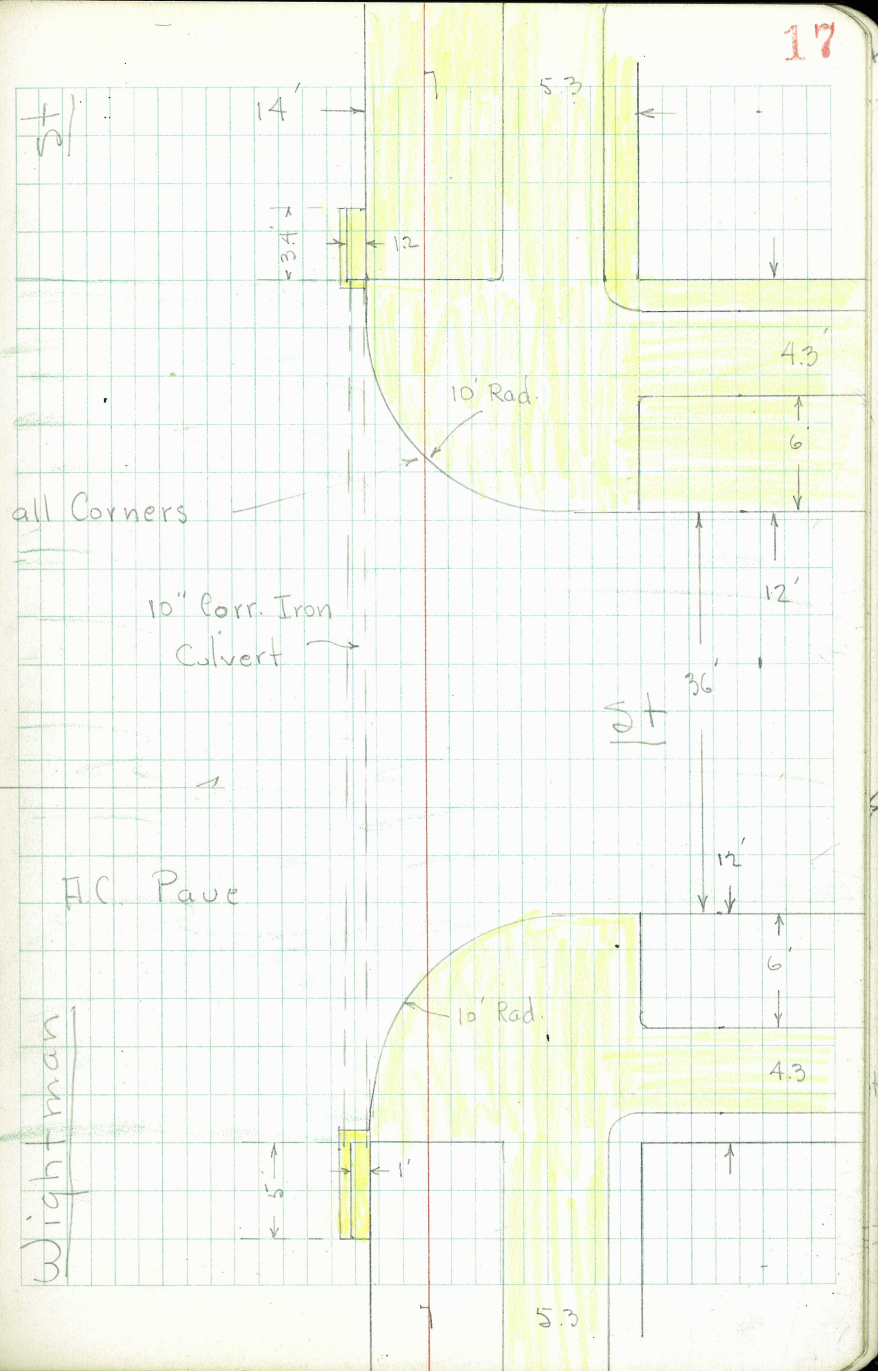
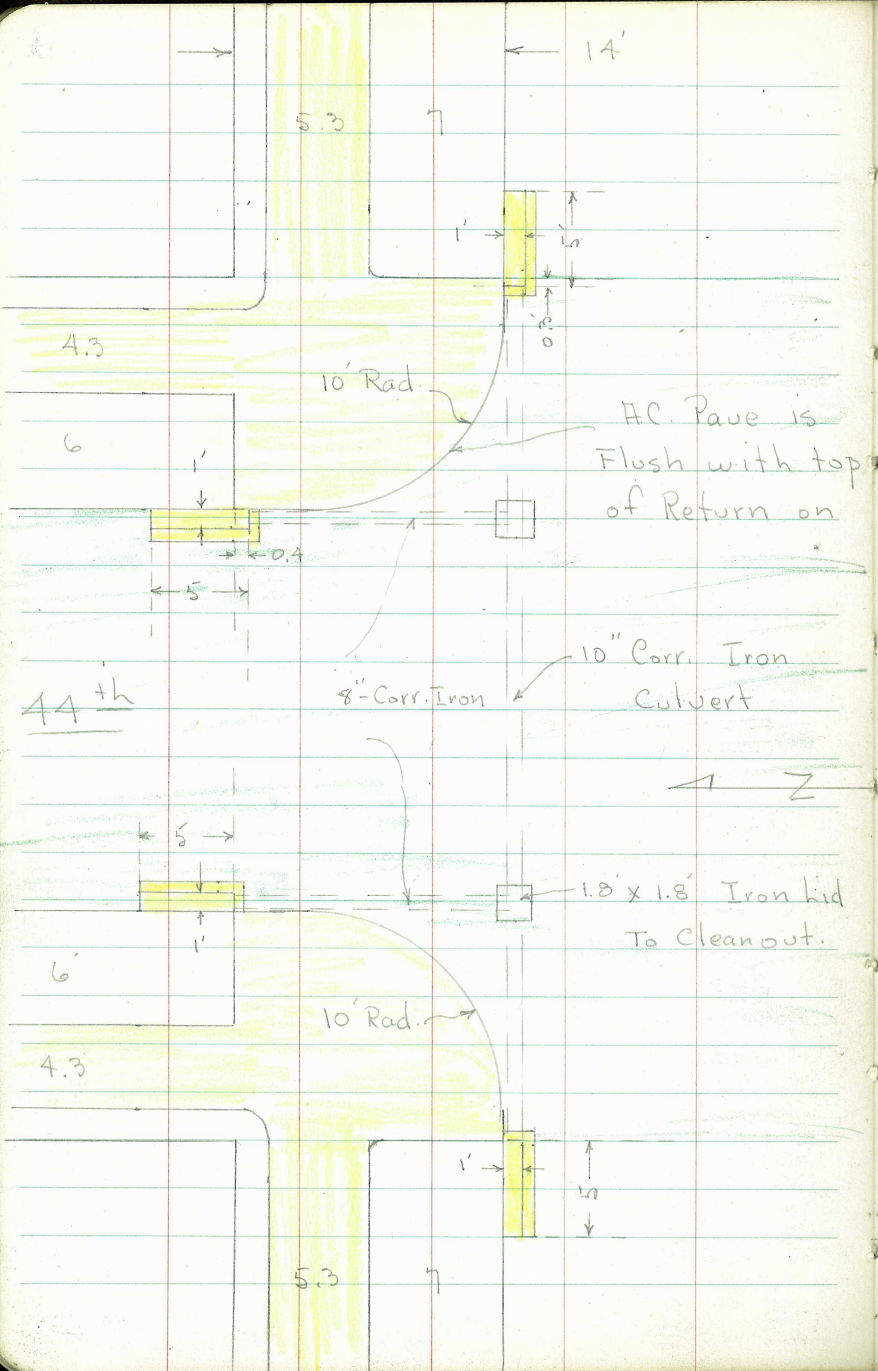
A.C. Pave

Water Main

47th

Note: Jog in cb. Line

st



Wightman

Begin X-Sept. of Wightman St.
 80' St. - 14' cbs. - cbs. + walks in - Dirt
 Graded. - from Fairmount to Euclid
 See B. 1815 - P. 14 + 15 for Int at Fairmount

1+25 - Cont.

1+25 = W.L. 20' Alley - Conc. Pave + Coldlay
 to Gut. - on N.

1+19 = Brk. in cb. - both sides

0+75

Notes Reduced -

W-31-47 - Wherry -

0+25

0+00 = E.L. Fairmount - edge H.C. Pave

4.61 359.94

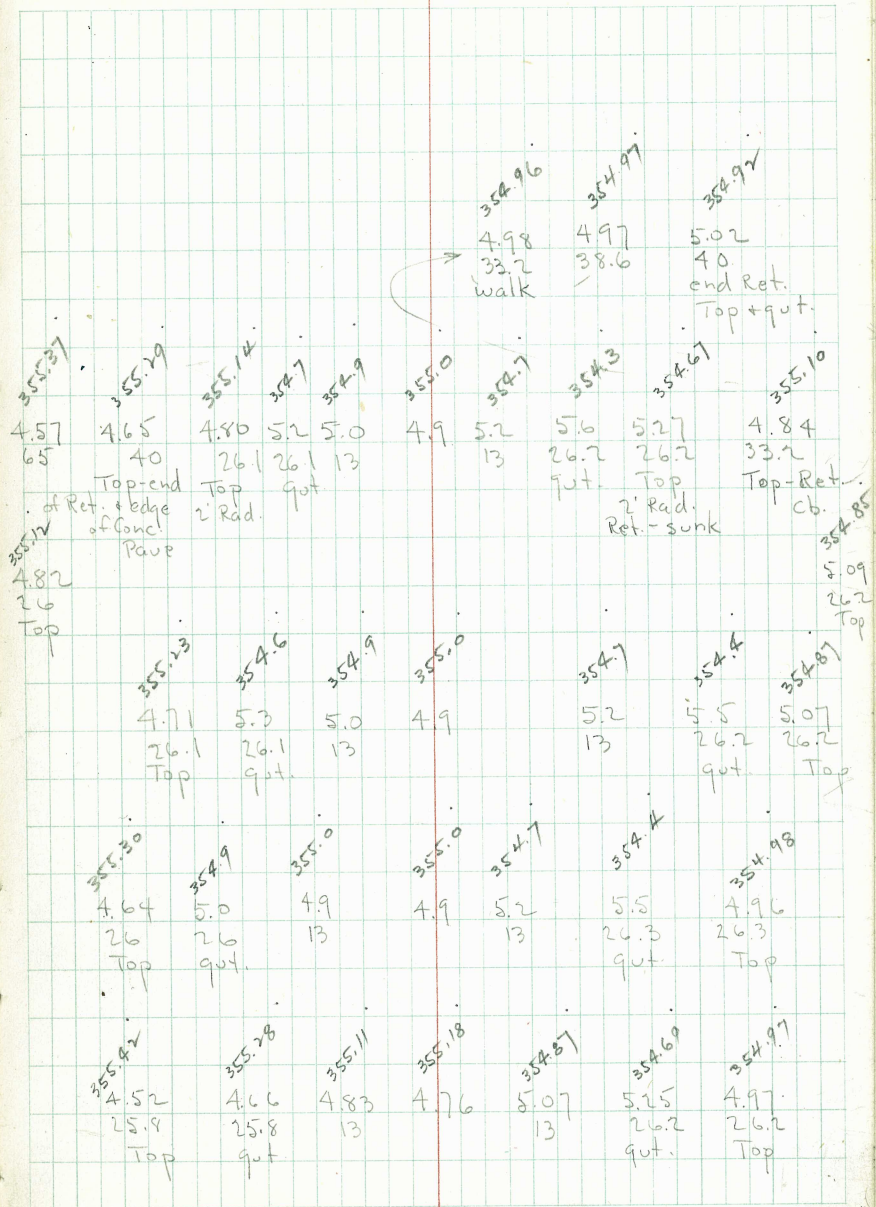
355.33

Lt.

#

Rt.

18



2+65 = w. end of 5' Conc. Inlets - See P. 17

T.P. on BM. 4.30 359.06 5.18 354.76 ^{NW} 44th

2+45

2+12 = ± 23' Conc. Dr. on Lt.

2+10 = ± 10' Conc. Dr. on Rt

1+95

1+90 = ± 1' cb. broken on Rt.

1+84 = Brk. in cb. on Rt.

1+52 = Brk. in cb. on Lt.

1+53 = ± 2' cb. broken on Rt.

1+45 = E.L. Alley

1+35 = ± Alley

355.31
4.63
100

Lt.					±	Rt.				
354.65	353.84	354.4	354.4	354.6		354.5	354.2	353.57	354.39	19
4.1 26 Top	5.22 26 F.L. Inlet.	4.7 23	4.7 13	4.5		4.6 13	4.9 23	5.54 26.1 F.L. Inlet.	4.67 26.1 Top	
354.69	354.0	354.5	354.5	354.3	359.06 ✓	353.7	354.31			
5.25 26 Top	5.9 26 put	5.4 13	5.4 13	5.6 13		6.2 26.1 put	5.63 26.1 Top			
354.98	354.25									
4.96 33 walk	5.69 26 Dr.							353.89 6.05 26 Dr.	354.19 5.25 33 walk	
		354.86	354.4	354.6	354.7	354.4	353.9	354.38		
		5.08 26 Top	5.5 26 put	5.3 13	5.2	5.5 13	6.0 26.1 put	5.56 26.1 Top		
		355.01								
		4.93 26 Top								354.41 5.53 26.1 Top
		355.40	355.29	354.98	354.5	354.8	354.5	354.3	354.66	
		4.54 65	4.65 39.6 Top + Pave-end Ret	4.96 26 Top 2' Rad.	5.4 26 put.	5.1 13	5.1	5.4 13	5.6 26.2 put.	5.28 26.2 Top 2' Rad.
		355.06	355.07	354.5	354.9	354.9		354.6	354.37	
		4.88 65	4.92 39.6	5.4 26	5.0 13	5.0		5.3 13	5.07 40 Top + put. end Ret.	354.3 5.6 26
		edge Conc. Pave		edge Cold Lay						354.6 5.3 40
					359.94					

60' E = E.L. 44th = 0+00 ahead - + edge H.C. Pavc

Rods on Φ of 10' Rad. Ret. curves
H.C. Pavc - flush with top

48' E = E. cb.

30' E = Φ

12' E = W. cb. 44th

Rods on Mid point of Returns = Φ 10' Rad.
Pavc flush with top

2+70.02 = W.L. 44th = edge H.C. Pavc

354.29

4.77
6.5
Top

354.66

4.40
6.5
Top

354.16	353.06 Lt.	354.19	354.03	354.12	354.00 Rt.	353.97	352.99	20	354.04			
4.90	6.00	4.87	5.03	4.94	5.06	5.09	6.17	5.02	5.02			
26 Top cb.	26 FL outlet + 10" pipe	25 Top wall	13		13 wall	25 Top	26.1 FL outlet +10" Pipe	26.1 Top				
		354.22			354.02							
		N.E. Ret.	4.84		5.04				S.E. Ret.			
			Top + pavc		Top + Pavc							
353.78	353.56	354.26	353.51	354.33	354.20	354.19	354.02	353.98	353.89	354.14	353.80	354.07
5.28	5.50	4.80	5.55	4.73	4.86	4.87	5.04	5.08	5.22	4.92	5.26	4.99
6.5 gut.	4.5 FL Inlet.	4.0 Top	4.0 FL Inlet + 8" pipe	2.6 Top C.L. Box	B	13	26	4.0 gut	4.0 Top	6.5 gut.	6.5 Top	
354.74	354.50	354.56	354.44	354.31	354.34	354.24						
4.32	4.56	4.50	4.62	4.75	4.72	4.82						
6.5	4.0	2.6		2.6	4.0	6.5						
354.10	353.85	354.71	353.74	354.71	354.57	354.49	354.37	354.32	354.06	354.34	353.91	354.25
4.96	5.21	4.35	5.32	4.35	4.49	4.57	4.69	4.74	5.00	4.72	5.15	4.81
6.5 Inlet	4.5 FL Top	4.0 Top	4.0 FL Inlet + 8" pipe	2.6 Top Clean out	13		13	2.6 gut	4.0 Top	4.0 Top	6.5 gut	6.5 Top
354.74	353.69	354.66	354.52	354.57	354.41	354.44	354.36					
N.W. Ret.	4.30									4.70 = S.W. Ret.		
	Top + pavc									Top Φ + pavc		
4.34	5.37	4.40	4.54	4.49	4.65	4.62	5.66	4.74				
2.6 Top	2.6 FL Inlet	2.5 Top wall	1.3		1.3	2.5 Top	26.1 FL Inlet + 10" pipe	26.1 Top				
				359.06		wall						

1+45 = E.L. Alley

1+35 = # Alley

1+25 = W.L. 20' Alley - Conc. pave on Lt.

0+93 = # 4" Iron Drain in cb. on Rt. (From Church)

0+75 = # 9' Conc. Dr. on Lt.

0+69 = Brk. in cb. on Rt.

T.P. 4.26 357.41 5.91 353.15

0+40 = # 4' broken cb. on Lt.

0+25

0+20 = # 6' Broken cb. on Lt.

0+14 = # 1.5' Broken cb. on Rt.

0+05 = E. end of Conc. cb. outlet on Lt.
outlet on Rt. is broken off - will take
rods on end. - See sketch P. 17

352.74	352.73	352.52	351.7	352.2	352.2	352.1	351.8	352.37	352.67	21
4.67 65	4.68 40	4.89 26.1	5.7 26.1	5.2 13	5.2 13	5.3 13	5.6 26.1	5.04 26.1	4.74 40	Top + gut
352.60	352.46	352.30	352.0	352.4	352.4		351.3	352.0	352.9	
4.81 100	4.95 65	5.11 40	5.7 26	5.0 13	5.0		5.1 13	5.4 26	4.5 40	Top + gut
352.62	352.99	352.57	352.68	352.0	352.5	352.6	352.4	352.1	352.56	352.16
4.79 65	4.42 40	4.84 40	4.73 26.1	5.4 26.1	4.9 13	4.8	5.0 13	5.3 26.1	4.85 26.1	4.65 33
	Top end ret.	edge Conc. Pave	Top 2' Rad.	gut			gut	Top 2 Rad.	Top Brk. in Ret.	Top + gut end ret.
352.52	352.73	352.9	353.0	352.7	352.7	352.20	352.46	4.95 26.2 FL Pipe		
3.89 33 walk	4.68 26 Dr.	4.5 13	4.4	4.7 13	4.7 26.2 gut.	4.21 26.2 Top	4.21 26.2 Top	4.02 26.2 Top		
352.94	353.1	353.5	353.6	353.4	353.3	353.81				
5.22 26 Top	6.0 26 gut.	5.6 13	5.5	5.7 13	5.8 26.1 gut.	5.25 26.1 Top				
352.11	352.91	353.8	353.9	353.9	353.8	353.5	352.80	353.96		
4.95 26 Top cb.	6.15 26 F.L. outlet	5.3 23	5.2 13	5.2	5.3 13	5.6 23	6.26 26.1 FL end Outlet	5.10 26.1 Top cb.		

359.06

32.5 E. = Φ

12' E. = E. cb.

Rods on Mid point of 10' Rad.

check - N.W. 7'ct. 4.87 351.02 - P. 12

T.P. 4.82 355.89 6.34 351.07

2+70.10 = W.L. Highland = edge of H.C. Pave

2+45

2+05 = Φ 19' Conc. Dr. on Lt.

2+03 = Φ 10' Conc. Dr. on Rt.

1+95

351.19	4.70 65	350.60	5.29 40	350.33	5.56 26	350.93	4.96	350.44 Rt.	5.45 26	350.75	5.14 40	351.20	4.69 65	351.39	4.50 100			
351.09	4.80 65	350.48	5.41 65	350.91	4.98 40	350.39	5.50 40	350.44	5.45 26	350.82	5.07 13	351.05	4.84 13	350.90	4.99 13			
	Top	put.	Top	put.	Top	put.	Top	put.	Top	put.	Top	put.	Top	put.	Top			
		350.42	5.46 put.		350.84	5.05 Top			350.91	4.92 Top		350.53	5.36 put.		5.36 = S.W.			
		350.85	6.56 26 Top	350.43	6.98 26 put.	350.84	6.57 13	355.89	351.05	6.36 13	350.99	6.42 13	350.61	6.80 26 put.	350.98	6.43 26 Top		
		351.17	6.24 26.1 Top		350.5	6.9 26.1 put.		350.9	6.5 13	351.2	6.2	351.1	6.3 13	350.8	6.6 26 put.	351.24	6.17 26 Top	
		351.83	5.58 33 walk		351.07	6.34 26.1 Dr.							351.24	6.17 26 Dr.	351.84	5.57 33 walk		
		351.84	5.57 26 Top		351.1	6.3 26 put.		351.5	5.9 13	351.7	5.7		351.5	5.9 13	351.2	6.2 26.1 put.	351.79	5.62 26.1 Top

357.41

22

0+75

0+65 = ± 11' Conc. Dr. on Rt.

0+60.5 = ± 8.5' Conc. Dr. on Lt.

0+50 = ± 8.5' Conc. Dr. on Lt.

0+25

T.P. 3.42 353.82 5.49 350.40 N.E. 7 ct.

65 E = E.L. Highland = 0+00 ahead - + edge of H.C. Pave

Roads on ± 10' Rad. Ret.

53' E = E.cb.

Lt.		Rt.	
349.46 4.36 26.2 Top	349.8 5.0 26.2 gut.	349.4 4.4 13	349.0 4.8 13
349.80 4.02 33.2 Walk	349.08 4.74 26.1 Dr.	349.12 4.70 26.1 Dr.	348.9 4.9 25.9 gut.
349.87 3.95 33.2 Walk	349.9 3.9 13	349.5 4.3 13	349.14 4.63 25.9 Dr.
350.05 3.77 26.2 Top	349.3 4.5 26.2 gut.	349.3 4.5 25.9 gut.	349.84 3.98 23 walk
350.25 5.64 26 Top	349.70 6.19 26 gut.	350.11 5.78 13	350.18 3.64 25.9 Top
349.80 6.09 gut.	350.28 5.61 Top	350.26 5.63 13	350.20 5.69 13
350.49 5.40 65 Top	349.99 5.56 40 Top	350.27 5.89 13	349.85 6.04 25.9 gut.
349.99 5.90 65 gut.	350.33 6.08 40 gut.	350.50 5.88 13	350.06 5.83 gut.
349.81 5.97 40 gut.	349.92 5.62 26 gut.	350.41 5.48 13	350.17 5.33 25.9 Top
349.92 5.97 40 gut.	350.27 5.89 13	350.14 5.75 26	350.16 5.12 65 Top
350.41 5.48 13	350.11 5.63 13	350.10 5.69 13	350.16 5.33 25.9 Top
350.14 5.75 26	350.03 5.86 40 gut.	350.06 5.83 gut.	350.06 5.83 gut.
350.03 5.86 40 gut.	350.61 5.28 40 Top	350.09 5.86 65 gut.	350.17 5.12 65 Top
350.61 5.28 40 Top	350.17 5.86 65 gut.	350.16 5.33 25.9 Top	350.16 5.33 25.9 Top
350.17 5.86 65 gut.	350.16 5.33 25.9 Top	350.16 5.33 25.9 Top	350.16 5.33 25.9 Top

2+20

2+12 = £ 10' Conc. Dr. on Rt.

2+01 = £ 16' Conc. Dr. on Lt.

1+99 = £ 8.5' Conc. Dr. on Rt.

1+80

1+45 = E.L. Alley

1+40 - 9.4 Rt. = £ 8" Water Gate

4.77

Top cap.

1+35 = £ Alley

1+25 = W.L. of 20' Alley - Conc. paved on Lt.

1+17 = Brk. in eb. on Rt.

Lt.

Rt.

24

347.92	347.2	347.8	348.0	347.8	347.1	347.7
5.90	6.6	6.0	5.8	6.0	6.7	6.06
26	26	13		13	26.1	26.1
Top	gut				gut	Top

348.78	347.63					
5.54	6.19					
33	26					
walk	Dr.					

348.33	347.6	348.2	348.6			
5.49	6.2	5.6	5.2			
26.1	26.1	13				
Top	gut					

348.32	348.92	348.85	348.77	348.1	348.5	348.9			
4.50	4.90	4.97	5.06	5.7	5.3	4.9			
6.5	4.0	4.0	2.6	2.6	13				
	Top	gut	Top	gut					
		Conc.	2' Rad.						

349.07	348.59	348.3	348.7	349.1	348.9	348.4	349.2
4.75	5.23	5.5	5.1	4.7	4.9	5.4	4.6
6.5	4.0	2.6	13		13	2.6	4.0
		edge	Conc.				

349.26	349.25	348.91	349.02	348.4	348.9	349.1	349.0	348.5	348.92	348.9	349.20
4.46	4.57	4.91	4.80	5.4	4.9	4.7	4.8	5.3	4.90	4.9	4.62
6.5	4.0	4.0	26.1	26.1	13		13	26	26	40.5	40.5
	Top	gut	Top	gut				gut	Top	gut	Top
			edge	2' Rad.					2' Rad.		end Rt
			Conc.								

349.10
4.72
26
Top

353.82

48' E = E. cb.

30' E = \oplus

12' E = W. cb.

Rods on \oplus 10' Rad. Ret.

T.P. 4.89 352.28 6.43 347.39

N.W. BP
45th

2+69.92 = W.L. 45th = edge of A.C. Pavc

2+50

Lt.

\oplus

Rt.

346.98	347.43	346.83	347.38	346.76	346.72	346.63	346.59	346.60	346.58	346.49	347.05	346.25	346.85
5.40	4.85	5.45	4.90	5.52	5.56	5.65	5.69	5.68	5.70	5.79	5.23	6.03	5.43
100	65	65	40	40	26	13		13	26	40	40	65	65
got.	Top.	got.	Top	got.						got.	Top	got.	Top
347.63	347.48	347.36		347.15				347.09	347.10	347.04			
4.65	4.80	4.72		5.13				5.19	5.18	5.24			
65	40	26						26	40	65			
346.93	347.46	346.86	347.38	346.83	346.69	346.67	346.65	346.60	346.59	346.43	347.07	346.28	346.87
5.35	4.88	5.42	4.90	5.45	5.59	5.61	5.63	5.68	5.69	5.85	5.21	6.00	5.41
100	65	65	40	40	26	13		13	26	40	40	65	65
got.	Top	got.	Top	got.						got.	Top	got.	Top
N.W.	347.39	346.77		346.51				346.56	347.14				S.W.
	4.89	5.51		5.72				5.72	5.14				
	Top	got.		got.				got.	Top				
347.36	346.74	347.05	347.14	346.94	346.61	347.08							
6.46	7.08	6.77	6.68	6.88	7.21	6.74							
26.1	26.1	13		13	26	26							
Top	got.				got.	Top							
347.58	346.9	347.4	347.6	347.3	346.9	347.37							
6.24	6.9	6.4	6.2	6.5	6.9	6.45							
26.1	26.1	13		13	26	26							
Top	got.				got.	Top							

353.82

Rods on \pm 10' Rad. Ret.

T.P. 4.59 352.52 4.60 347.93

2+70.17 = W.L. Chamoune = edge F.C. Pave

2+45

2+04 = \pm 11' Conc. Dr. on Lt.

1+95

1+80 = \pm 10' Conc. Dr. on Lt.

1+45 = E.L. Hilley

NW Chamoune

	Lt.		\pm		Rt.						
N.W.	347.94 4.58 Top	347.33 5.19 gut.			346.99 5.53 gut.	347.45 5.07 Top	S.W.				
	347.97 4.56 26 Top	347.50 5.03 26 gut.	352.52 347.69 4.84 13	347.72 4.81	347.89 5.14 13	346.94 5.59 26.2 gut.	347.45 5.08 26.2 Top				
	348.91 4.62 26 Top	347.4 5.1 26 gut.	347.8 4.7 13	347.8 4.7	347.5 5.0 13	347.1 5.4 26.2 gut.	347.43 5.10 26.2 Top				
	348.05 4.48 33 Walk	347.49 5.04 26.1 Dr.									
	347.75 4.78 26 Top	347.4 5.1 26 gut.	347.6 4.9 13	347.8 4.7	347.5 5.0 13	347.0 5.5 26 gut.	347.33 5.20 26 Top				
	347.95 4.58 33 Walk	347.40 5.13 26 Dr.									
	348.00 4.53 40 Top	347.76 4.77 26 Top	347.3 5.2 26 gut.	347.4 5.1 13	347.5 5.0	347.2 5.1 13	347.0 5.5 26 gut.	347.32 5.21 26 Top	347.18 5.35 40 gut.	347.52 5.01 40 Top	347.06 5.47 65
	end Ret.	2' Rad.	352.53			2' Rad. edge Conc.					

0+59 = ± 10' Conc. Dr. on Rt.

0+58 = ± 8.5 Conc. Dr. on Lt.

0+25

T.P. 2.45 351.38 4.59 347.93

60' E. = EL. Chamane = 0+00 ahead = edge H.C. Pipe

Rods on ± 10' Rad. Ret.

48' E. = E. cb = Cross gutter

30' E. = ±

12' E. = W. cb - Chamane = cross gut.

347.09
5.43
100
gut.

347.21
5.11
100
gut.

347.32 4.06 375 walk	480 26 Dr.	346.58 4.7 26.1 gut.	347.2 4.2 13	347.3 4.1 13	346.9 4.5 13	346.4 5.0 26 gut.	346.81 4.57 26 Top					
347.50 5.02 26 Top.	346.94 5.58 26 gut.	347.14 5.40 13	347.11 5.41	346.83 5.69 13	346.50 6.02 26 gut.	347.01 5.51 26 Top						
347.51 5.01 Top	346.97 5.55 gut.				346.47 6.05 gut.	347.00 5.52 Top	S.E.					
347.61 4.91 6.5 Top	346.96 5.56 6.5 gut.	347.50 5.02 4.0 Top	346.87 5.65 4.0 gut.	346.84 5.68 2.6	346.67 5.85 1.3	346.65 5.87	346.55 5.97 1.3	346.47 6.05 2.6	346.43 6.09 4.0 gut.	346.97 5.55 4.0 Top	346.05 6.47 6.5 gut.	346.76 5.76 6.5 Top
347.92 4.60 6.5	347.73 4.79 4.0	347.51 5.01 2.6		347.22 5.30	347.26 5.26 2.6	347.24 5.28 4.0	347.04 5.48 6.5					
348.04 4.48 6.5 Top	347.28 5.24 6.5 gut.	347.91 4.61 4.0 Top	347.23 5.29 4.0 gut.	347.29 5.23 2.6	347.12 5.40 1.3	347.06 5.46	346.98 5.54 1.3	346.91 5.61 2.6	346.87 5.65 4.0 gut.	347.49 5.03 4.0 Top	346.58 5.94 6.5 gut.	347.22 5.30 6.5 Top

352.52

Rt. 5.15
26
Dr.

346.90
4.48
33
walk

28

2+26 = ± 11' Conc. Dr. on Lt.

2+14 = ± 12' Conc. Dr. on Lt.

1+95

1+45 = E.L. Alley - Note - beg. 15' cbs. Here

1+35 = ± Alley

1+25 = W.L. 20' Alley - Conc. pave on Lt.

0+75

0+68 = ± 8.5' Conc. Dr. on Lt.

Lt. Rt. 29

345.32 6.32 33 walk	345.06	344.57 6.81 25 Dr.	344.35 7.03 25 Dr.								
6.06 33 walk	345.65 5.73 25.1 Top	345.0 6.4 25.1 gut.	345.3 6.1 13	345.2 6.2	344.8 6.6 13	344.5 6.9 25 gut.	345.28 6.14 25 Top				
346.12 5.26 65 Top end Ret.	347.00 4.38 40 gut. edge Conc.	346.17 5.21 40 gut. 2' Rad.	346.77 4.61 25.1 Top 2' Rad.	345.9 5.5 25.1 gut.	346.2 5.2 13	346.4 5.0 13	346.1 5.3 13	345.7 5.7 25.1 gut.	346.24 4.96 25.1 Top 2' Rad.	346.53 4.85 40 Top+gut.	
346.12 5.26 100	346.03 5.35 65	345.97 5.41 40 edge Conc.	346.3 5.1 26 edge Conc.	346.4 5.0 13 Cold key	346.6 4.8		346.4 5.0 13	345.9 5.5 26	347.3 4.1 40	349.9 1.5 60	
346.26 5.12 65 Ret.	347.08 4.30 40 Top+end Ret.	346.22 5.16 40 gut. edge Conc.	346.35 4.53 26.1 Top 2' Rad.	346.3 5.1 26.1 gut.	346.6 4.8 13	346.7 4.7	346.5 4.9 13	345.9 5.5 26 gut. Top 2' Rad.	346.44 4.94 26	346.79 4.59 40 Top+gut.	
	347.09 4.29 26 Top	346.5 4.9 26 gut.	347.0 4.4 13	347.2 4.2	347.1 4.3 13	346.2 5.2 26 gut.	346.66 4.72 26 Top				
347.28 4.10 33 walk	346.53 4.95 26 Dr.										

351.38

45' E = E. cb.

30' E = ϕ

15' E = W. cb.

Rods on ϕ of 10' Rad. - Ret.

T.P. 4.18 348.11 7.45 343.93 T.P. N.W. 46th

2+70.08 = W.L. 46th = edge of H.C. Pave

2+45

Lt.

ϕ

Rt.

30

343.72	343.21	343.47	342.97	342.93	343.19	343.25	342.93	342.42	342.43	342.97	342.73	343.35
4.39	4.89	4.64	5.14	5.18	4.92	4.86	5.18	5.69	5.68	5.14	5.38	4.76
Top	gut.	Top	gut.	Top	Top	Top	Top	Cross gut.	gut.	Top	gut.	Top

343.82	343.38	343.14	343.36	342.57	343.41
4.29	4.73	4.97	4.75	5.54	5.19
65	40	25	25	25	40
		in Cross gutter		in Cross gutter	65

344.16	343.65	343.91	343.15	343.21	343.51	343.51	343.22	342.78	342.94	343.51	343.33	343.90
3.95	4.46	4.20	4.66	4.90	4.60	4.60	4.89	5.33	5.17	4.60	4.78	4.21
Top	gut.	Top	gut.	Top	Top	Top	Top	Top	gut.	Top	gut.	Top

N.W.	343.89	343.33	342.90	343.47	S.W.
	4.22	4.78	5.21	4.64	
	Top	gut.	gut.	Top	

343.98	343.34	343.66	343.74	343.50	342.97	343.53	348.11
7.40	8.04	7.72	7.64	7.88	8.11	7.85	
25.1	25.1	12.5	12.5	12.5	25	25	
Top	gut.			gut.	gut.	Top	

344.52	343.8	344.2	344.3	343.9	343.4	344.00
6.86	7.6	7.2	7.1	7.5	8.0	7.38
25.1	25.1	13		13	25	25
Top	gut.			gut.	gut.	Top

351.38

1+25 = w.l. 20' Hilley

Water Gate
1+23 = 5.8 Rt. = \pm 20' M.H. 5.51 on Rim
1+18 = \pm 10' Conc. Dr. on Lt.

0+75

0+56 = \pm 11' Conc. Dr. on Lt.

0+50 = \pm 9' Conc. Dr. on Rt.

0+25

60' E. = E.L. 46th = 0+00 ahead = edge A.C. Pavc

Rods on \pm of 10' Rad. - Ret.

	342.36	342.06	342.4	342.7	342.5	342.4	342.1	342.49	342.5	342.78
	4.75	5.05	5.7	5.4	5.6	5.7	6.0	5.62	5.6	5.33
	40	25.1	25.1	13		13	25	25	40	40
	Top	Top	Top			Top	Top	Top	Top	Top
	end ret.	2' Rad.					2' Rad.			
	342.22	342.44								
	4.89	5.67								
	33	25.1								
	walk	Dr.								
	342.17	342.5	342.7	342.7	342.4					
	4.94	5.6	5.4	5.4	5.7					
	25.2	25.2	13		13					
	Top	Top								
	342.39	342.60								
	4.72	5.51								
	33.2	25.1								
	walk	Dr.								
	342.35	342.7	342.9	342.9	342.6					
	4.76	5.4	5.2	5.2	5.5					
	25.1	25.1	13		13					
	Top	Top								
	342.46	342.86	342.97	342.26	342.85					
	4.65	5.31	5.04	4.91	5.26					
	25.1	25.1	12.5		12.5					
	Top									
	342.95	342.49								
	5.16	4.62								
	Top	Top								
	342.99	342.40								
	5.12	5.71								
	Top	Top								
	N.E.									S.E.

348.11

Lt. Rt.

12-22-47.
7.0.

0+50

0+20

60' E. = E.L. Manlo = 0 to ahead = edge H.C. Pavc

± 10' Rad. - Ret.

45' E. = E. cb.

30' E. = ±

15' E. = w. cb. = cross gutter

	344.87	Lt. 344.2	344.1	344.3	344.0	Rt. 343.4	344.153
	348	4.1	4.2	4.0	4.3	4.9	4.20
	25	25	13		13	24.9	24.9
	Top	gut.				gut.	Top
	344.02	343.2	343.4	343.6	343.3	342.8	343.47
	4.33	5.1	4.9	4.7	5.0	5.5	4.88
	25	25	13		13	24.9	24.9
	Top	gut.				gut.	Top
	343.55	342.89	342.99	343.17	342.88	342.50	343.08
	4.80	5.46	5.36	5.18	5.47	5.85	5.27
	25.2	25.2	12.5		12.5	25	25
	Top	gut.				gut.	Top
NE	342.52	342.89				342.61	343.11
	4.83	5.46				5.74	5.24
	Top	gut.				gut.	Top
	344.52	343.96	343.57	342.94	342.75	342.67	342.63
	3.83	4.39	4.78	5.41	5.60	5.68	5.72
	65	65	40	40	25	13	
	Top	gut.	Top	gut.			
	343.95	342.92	342.65		342.38	342.37	342.37
	4.40	5.43	5.70		5.97	5.98	5.98
	65	40	25		25	40	6.13
	342.65	343.04	342.60	342.03	341.83	341.74	341.66
	4.70	5.31	5.75	6.32	6.52	6.61	6.69
	65	65	40	40	25	13	
	Top	gut.	Top	gut.			
	341.59	341.54	341.53	342.05	341.17	341.80	
	6.76	6.81	6.82	6.30	7.18	6.55	
	13	25	40	40	65	65	
		gut.	Top	Top	gut.	Top	
	348.35						

0+90

0+64 = Top cb. at edge of Dr. on Rt.

0+50 = inq Conc. Dr. on Rt.

0+45 = Top cb. at edge of Dr. on Rt.

0+20

60' E. = E.L. 47th = 0+00 ahead = edge of A.C. Pave
Piece of Pave broken out on Rt. - See sketch.

± 10' Rad. - Ret.

48' E. = E. cb. to N.

45' E. = E. cb. to S.

	341.06	340.4	340.7	340.6	340.5	340.0	340.56	36
	5.48 25.2 Top	6.1 25.2 gut.	5.8 13	5.9	6.0 13	6.5 24.9 gut.	5.98 24.9 Top	
	341.21	340.6	340.8	340.8	340.6	340.20	340.68	
	5.33 25.3 Top	5.9 25.3 gut.	5.7 13	5.7	5.9 13	6.34 24.9 Dr. walk	5.54 33 walk	5.86 24.9 Top
	341.33	340.7	340.9	341.0	340.7	340.2	340.88	
	5.21 25.2 Top	5.8 25.2 gut.	5.6 13	5.5	5.8 13	6.3 24.9 gut.	5.6 24.9 Top	5.74 24.9 Top
	341.46	340.87	341.17	341.33	341.01	340.52	340.37	340.96
	5.08 25.1 Top	5.67 25.1 gut.	5.37 12.5	5.21	5.53 12.5	6.02 22 edge	6.17 25 gut. 3' west.	5.58 25 Top
NE	341.50	340.99			340.61	340.99		SE
	5.04 Top	5.55 gut.			5.93 gut.	5.55 Top		
	341.63	341.07	341.45	341.05	341.04	341.36	341.41	341.09
	4.91 65 Top	5.37 65 gut.	5.09 40 Top	5.49 40 gut.	5.50 25 cross gut.	5.18 12.5	5.13	5.45 12.5
								5.94 25 cross gut.
								5.93 27.5 gut.
								5.54 27.5 Top
	341.14	341.09	341.38	341.43	341.12	340.60	340.70	341.02
	5.40 40 Cross gut.	5.45 25	5.16 12.5	5.11	5.42 12.5	5.94 25 cross gut.	5.84 40 gut.	5.52 40 Top
								5.66 65 gut.
								5.12 65 Top
				340.54				

Ret on N.E. Cor. - Wightman & Euclid.
 48' E. = E. cb. = 5.82 Rt. = P.C. of Large Rad.

30' E. = Φ

Ways from about N.L. = P.C.

12' E. = W. cb. = cross gutter - flows both

339.56
6.18
100
gut.

2 + 69.81 = w.l. Euclid & edge of Conc. Pavc

2 + 67.2 = w. end of 15' Rad. Ret. on Rt.

2 + 66.8 = P.C. of 15' Rad Ret. on Lt.

2 + 60

Lt.

C

Rt.

38

5.62 6.5 Top	6.02 6.5 gut	5.52 4.0 Top	5.97 4.0 gut	5.58 2.5 Top	6.01 2.5 gut	6.18 9.0 Top	5.77 Top	6.33 2.5 gut	5.92 4.0 Top	6.45 4.0 gut	6.02 4.0 Top	6.54 5.82 Top	6.14 5.82 Top
--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	-------------	--------------------	--------------------	--------------------	--------------------	---------------------	---------------------

340.32	340.32	340.26	340.10	339.93	339.82	339.65
5.42 6.5	5.42 4.0	5.44 2.5	5.64	5.81 2.5	5.92 4.0	6.09 6.5

340.09	339.66	340.23	339.78	339.76	339.67	339.55	339.45	339.32	339.23	339.63	339.19	339.55
5.65 6.5 Top	6.08 6.5 gut	5.51 4.0 Top	5.96 4.0 gut	5.98 2.5 Top	6.07 12.5 Top	6.19 12.5 Top	6.29 12.5 Top	6.42 2.5 Top	6.51 4.0 gut	6.11 4.0 Top	6.56 6.5 Top	6.19 6.5 Top

PC = High point

340.48	340.17	340.19	340.14	339.93	339.57	339.93	339.83
5.26 2.5 Top	5.57 2.5 gut	5.55 12.5 Top	5.60	5.81 12.5 Top	6.23 2.5 gut	5.81 2.5 Top	5.91 4.0 Cor. Ret.

340.54

5.20
2.5
Top

340.55

5.19
2.5
Top

340.0

5.7
2.5
gut

340.2

5.5
13

340.2

5.5

339.9

5.8
13

339.4

6.3
23

340.6

5.1
26

341.0

4.7
40

341.2

4.5
45

340.00
5.74
24.7
Top

345.74

Rods around the N.W. + S.W. Returns

Wightman + Euclid.

N.W. Ret - 242 Ground - 4 parts - 6.05' each

Beq. W. end = P.C.	5.20	340.54	T = Top
3' w. of w.l.	5.6	340.11	g = gut
6.05' E = 1/4	5.32	340.42	T
" = $\frac{1}{2}$	5.63	340.11	g
" = $\frac{3}{4}$	5.40	340.34	T
" = $\frac{3}{4}$	5.84	339.90	g
" = $\frac{3}{4}$	5.46	340.28	T
" = $\frac{3}{4}$	5.93	339.81	g
6.05' = P.C. = N.L. Wightman	5.51	340.23	T
"	5.96	339.78	g

S.W. Ret - 23.8 Ground - 4 - 6' each

Beq - P.C. = S.L. Wightman	6.11	339.63	T
"	6.51	339.23	g
6 = 1/4	6.03	339.71	T
"	6.48	339.26	g
6 = $\frac{1}{2}$	5.98	339.76	T
"	6.35	339.39	g
" = 3/4	5.88	339.86	T
"	6.25	339.49	g
6 = end = 2.6 w. of w.l.	5.74	340.00	T
Euclid.	6.2	339.5	g

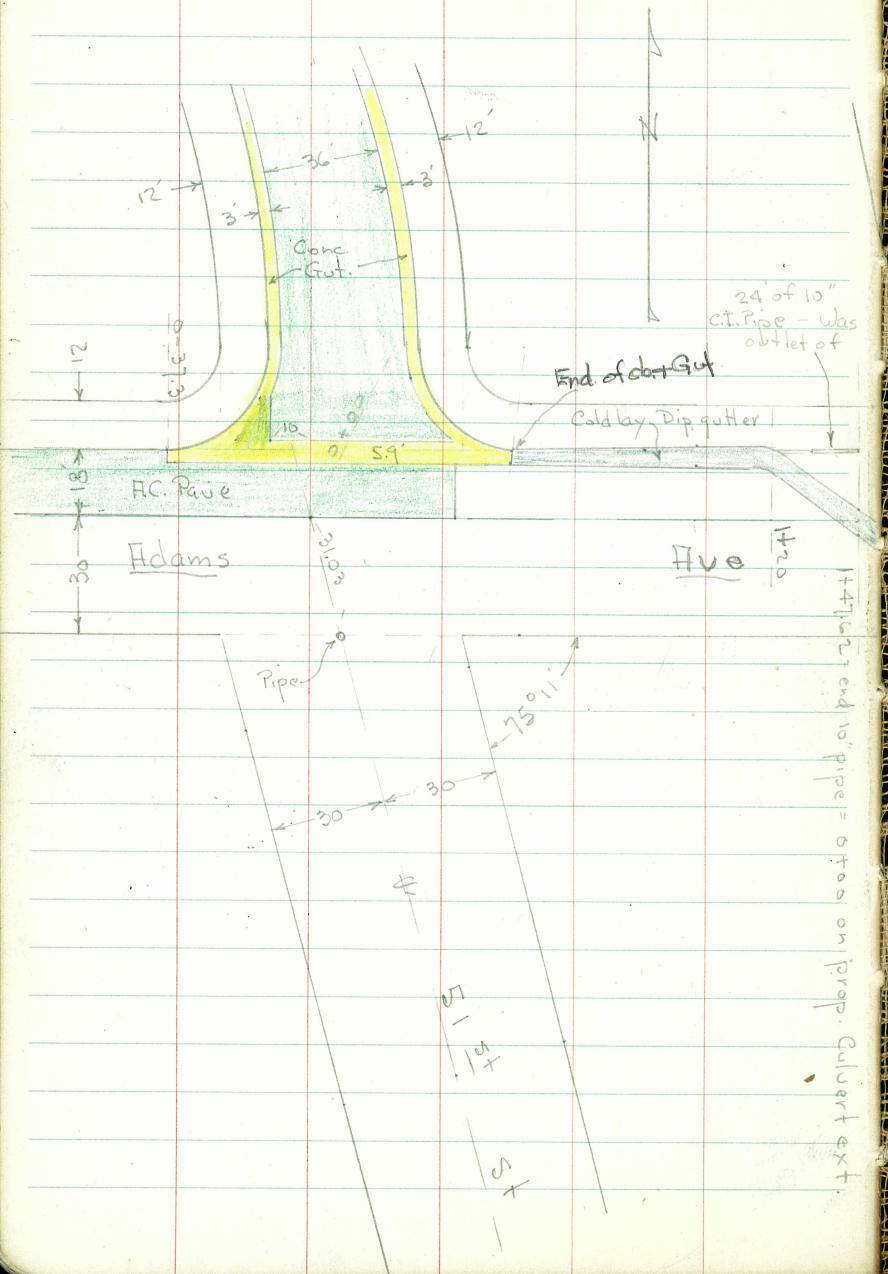
Location + Levels on Conc. gutter +
Cold lay Gut. - N. side Adams + 5th also
300' of prop. ext. of 10" culvert.

W 31200

3-19-48

Osborne
Hardin
Wornell
Rorer

C.L. Drain before extended.



INDEXED
MAY 28 1948

Levels on Int. of 51st & Adams

0+344 = Junction of edge of gut.

0+26 = opp. N. P.C. of 27' Rad. Ret. on ht

0+00

0-10

0-20

0-37.3 = opp Wly. of Conc gutter.

check BM. end cb - 1679-41	6.20	387.56	387.58
	5.53	393.76	385
	5.25	392.08	386.83 = c+A"
			1679-37

	5.17	388.59	388.11
Top	4.5	388.59	388.11
Bottom	4.5	388.59	388.11
	5.68	388.08	387.54
	2.13	387.73	387.60
conc	1.6	387.61	387.53
edge	0.4	387.73	387.64
conc	6.0	388.06	387.99
edge	5.4	388.06	387.99
conc	5.10	388.36	388.30
edge	5.10	388.36	388.30
	5.17	389.1	389.1
	4.7	389.1	389.1
	18	389.1	389.1
	5.17	388.15	388.15
Top	4.5	388.15	388.15
Bottom	4.5	388.15	388.15
	5.61	388.11	388.11
	5.76	388.00	388.00
conc	1.6	388.12	388.12
edge	0.4	388.22	388.22
conc	5.10	388.33	388.33
edge	5.10	388.33	388.33
	5.17	389.12	389.12
	5.10	388.65	388.65
edge	5.10	388.65	388.65
	4.2	389.6	389.6
	5.2	389.6	389.6
	18	389.6	389.6
	5.17	389.6	389.6
	5.2	390.0	390.0
	18	390.0	390.0
	4.92	388.84	388.84
Top	18.3	388.84	388.84
Bottom	18.3	388.84	388.84
	5.17	388.60	388.60
conc	1.6	388.60	388.60
edge	0.4	388.60	388.60
conc	5.10	388.60	388.60
edge	5.10	388.60	388.60
	4.92	388.63	388.63
edge	18.3	388.63	388.63
conc	18.3	388.63	388.63

393.76

Top 10" pipe-end

8.55

1+49.7 - Lt. end wall

1+47.62 = opp. end 10" Pipe - only 24' long -
Not Connected.

Conc. wall

1+40 29.5 Lt. end Conc. wall fence + 29.2 Lt. Beg. 8"

1+34 21.6 Rt. Uly. P. pole # 5076

1+20 - Hng. of C.L. Drain

6.4
35

0+90 - 29.5 Lt. - Beg 6" Conc Base for board fence

0+80

0+52.4 - end of cb. + conc. gut on N. - Beg.
Cold bay Drain

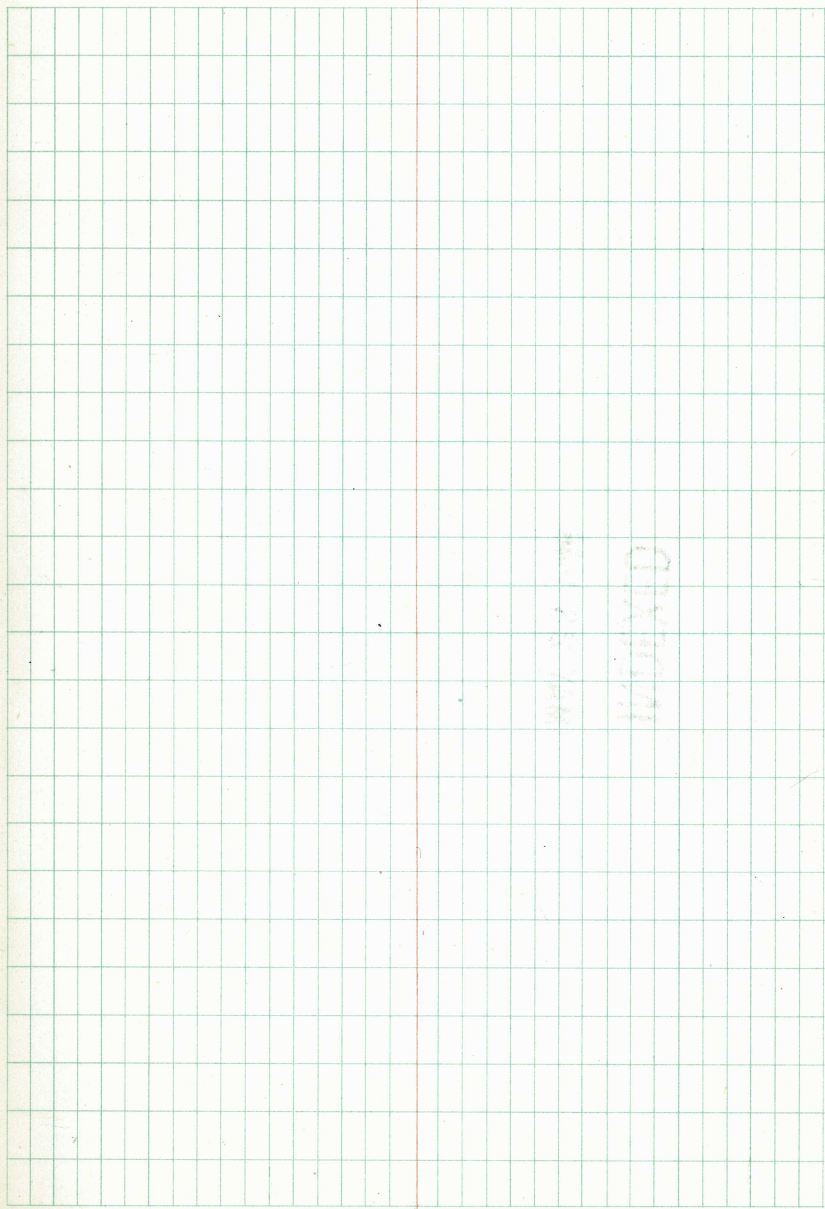
0+37.5 - E. edge of H.C. Pavc

Top wall	4.66 29.9	29.9	23	9.4	7.6	9.0	8.2	4.0	9.0	9.0	4.0
	389.10	389.10	385.0	384.31	386.3	384.8	385.6	385.3	384.8	384.1	384.7
Top wall	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6
	387.90	387.90	387.4	387.1	386.2	387.1	386.6	386.1	387.1	386.1	385.9
Top wall	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6
	387.93	387.93	387.9	387.2	386.6	387.0	387.7	387.9	388.1	388.1	388.1
Top wall	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6
	388.1	388.1	387.2	386.6	387.0	387.7	387.9	388.1	388.1	388.1	388.1
Top wall	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6
	387.99	387.99	387.56	387.56	387.15	387.95	389.2	389.1	389.9	389.1	388.1
Top wall	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6
	387.42	387.42	387.15	387.15	387.15	387.95	389.2	389.1	389.9	389.1	388.1
Top wall	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6
	387.99	387.99	387.60	387.60	387.95	388.23	389.2	389.1	389.9	389.1	388.1
Top wall	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6
	387.99	387.99	387.60	387.60	387.95	388.23	389.2	389.1	389.9	389.1	388.1
Top wall	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6	0.5 29.6
	387.99	387.99	387.60	387.60	387.95	388.23	389.2	389.1	389.9	389.1	388.1

393.76

Profile of Prop. Drain on Ext. of
 N. cb Line - 300' E of end of 10" pipe
 El. of Flow line of 10" Pipe 384.31
 All rods will be Minus from this elev.

	Rods.	Elev	
0+00 - Fl. 10" Pipe	- 0.0	384.31	
0+06	- 1.2	383.1	
0+50	- 27.2	357.1	
1+00	- 49.3	335.0	
1+50	- 66.8	317.5	
2+00	- 77.9	306.4	
2+50	- 89.5	294.8	
3+00 = in Waterway of N. & S. Canyon	- 93.0	291.3	= elev. of Ground at bottom



1 sec 2d alley, Blk C

Mescal Turner & Baer Sub.

699
Green
Roberts

W.C. 21001

5-28-48

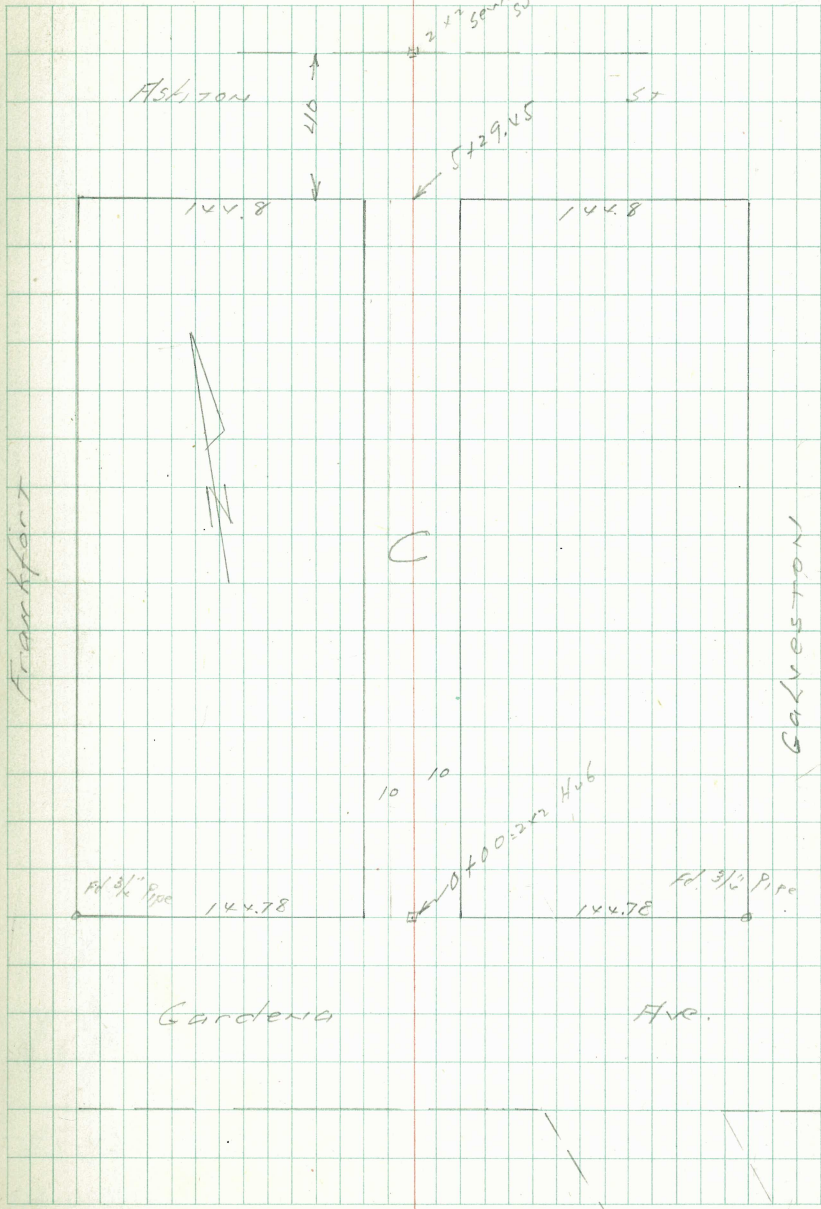
Ref. 1590-23-48 ^{Pages}

Rushed

INDEXED

MAY 28 1948

Frankfort



Galveston

10 10

144.78

144.78

Gardenia

Ave.

1750

1700

175

0755 9' Pt end fence

0750

0725 T.L.P. 10.3 Lt. 450839 H

0700.5 Bay Park fence 10.2 Pt

0700 N.W. Gardena Ave.

T.P. 8.66 64.94 916 5628

B.M.
NWBP
Frankfort
and
Gardena

134 6544

6410 6412

1590-2-3-
48

Bay Park V.L.
Sewers

Notes Reduced
5-28-48
O.H.S.

LT- West

7.1 57.8
x/0

7.5 57.4
/0

7.7 57.2
9/1

7.1 57.8
x/1

7.8 58.1
/0

7.8 57.9
8/0

7.7 57.2
/0

8.7 56.2
/0

7.2 57.7
x/0

8.0 56.9
/0

7.7 57.2
/1

8.2 56.7
/0

9.4 55.5
/0

7.6 57.5
x/0

8.3 56.6
/0

8.1 56.3
/0

8.8 56.1
/0

Fence
9.8

9.4 55.5
/0

8.5 56.4
/0

8.7 56.2
/0

9.0 55.9
/0

64.94

3100

2 + 80 TEL.P. 469010 H : 85 Lt.

775

2450

T.P. 9.49 72.78 16.5 63.79

725

22405 end fence 11.2 ft.

2100

1 + 85 Beg. wire fence 11.4 ft.

1775

1754 8.7 Lt. TEL.P. 450840 H

64.94

27

51.0 64.9

51.0 64.3

51.0 63.6

51.0 62.9

51.0 62.1

51.0 60.9

51.0 65.5

51.0 64.8

51.0 63.9

51.0 62.8

51.0 61.2

51.0 59.9

71.0 65.7

81 64.7

90 63.8

72.78
70 62.9

80 61.2

70 60.2

71.0 65.8

71.0 64.9

80 64.0

80 62.8

80 61.6

80 60.2

81.0 67.2

81.0 65.5

81.0 64.1

81.0 62.8

80 61.9

80 60.5

46

64.94

160

130 Tol P 469011 H 7.8 Lt

11

175

3 + 42.5 Beg. Hog wire fence (Fd. 3/4" pipe 10' Ft) 10.2 Rt

3 + 25

72.78

66.3

66.1

66.2

66.2

65.9

65.5

68.0

68.2

68.2

67.7

66.9

66.1

68.9

67.0

68.5

68.2

67.0

66.2

69.9

69.7

69.3

68.8

67.6

66.9

Fence 10.2

Fence 10.2

Fence 10.2

Fence 10.2

Fence 10.2

Fence 10.2

Fence 10.2

Fence 10.2

66.6

67.0

67.3

67.6

67.6

67.7

67.6

47

72.78

Check to NWBP Frankfort
and
Ashton 7.14 55.56 55.63 = Walker
55.55 = Moore

on Sowers and see Bay Park V.L.

T.P. 1.69 62.70 11.77 61.01

5129.45 S.L. Ashton 10.2 Pt. End of Fence

7.14 T.C.P. 9.4 L. 469012 H.

5+00

72.78

66.2
40

67.9
10

68.5
4.3

69.3
10.5

71.3
40

66.5
40

68.2
10

68.7
3.9

69.6
10.7

Fence
10.2

71.6
40

72.78

X-Sec. for Grade

Eta. St. 42nd to 43rd

12-28-48

W.O. 25001

Sommermejer
McCoy
Jones

● = Fed. Pipe

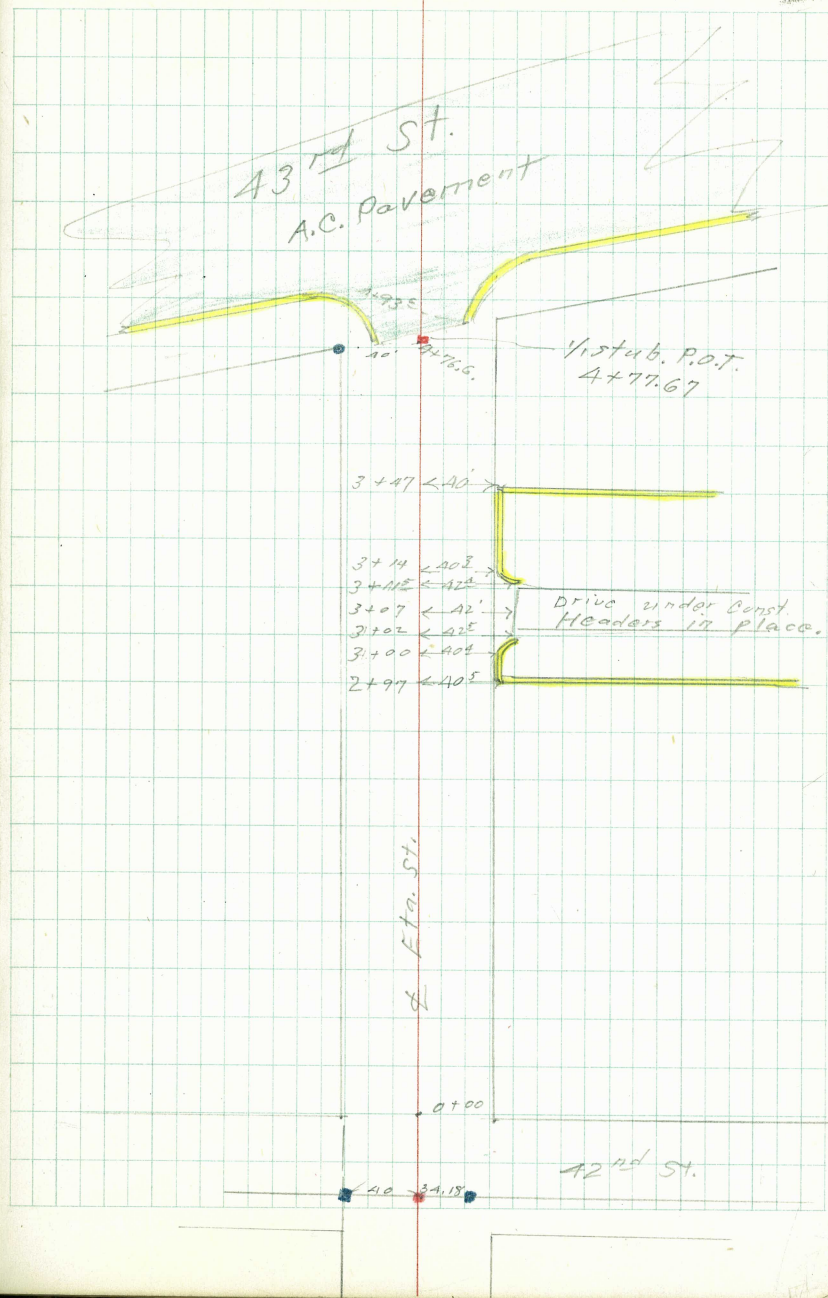
■ = Fed. Man

■ = set stub

INDEXED

WK
JAN 20 1949

49



1+00

35 ^g	32 ^g	33 ^g	40 ^g	41 ^g	40 ^g	34 ^g	27 ^g
10.8	13.9	13.2	6.3	4.6	5.6	12.2	18.5
125	100	75	40	15		40	100

0+50

33 ^g	36 ^g	36 ^g	32 ^g
12.5	10.4	9.9	14.4
40	25		40

T.P. 12.28 46.40 1.16 34.12 46.40

0+00 = Ely line 42nd

31 ^g	29 ^g	30 ^g	28 ^g	24 ^g
4.3	6.2	4.8	6.5	10.8
100	40		40	100

0-06 = Ely edge traveled road on 42nd

28 ^g	28 ^g	27 ^g
6.8	6.4	7.6
40		40

0-30 = \pm 42nd

31 ^g	28 ^g	27 ^g	26 ^g	24 ^g
3.6	7.1	7.4	8.9	11.2
100	40		40	100

W. 13' + No. Prop. Mon.
42nd + Eta.

7.43 27.85 B.M. # 2

T.P. 11.43 35.28 7.49 23.85

T.P. 0.49 31.34 12.58 30.85

N.W.B.P. 42nd + 0.59 43.43 — 42.84

Division

F.B. 1381
2
= B.M. # 1

Notes Reduced
1-25-49 C.A.S.

35.28

3+02 42^E: End wall.
 3+00 40^E Rt. = B.C. in wall (P. 49)

also = start E. & W. Conc. wall (P. 49)

2+97 40^E Rt. = W. face 8" wide N. & S. Conc. wall

2+70

T.P. 9.42 52.81 3.01 43.39

2+35

1+80

1+50

46.40

42 ^Z	41 ^Z	43 ^Z
10.1	11.1	9.5
<u>42^E</u>	<u>42^E</u>	<u>42^E</u>
End	Base wall	Top wall

50 ^Z	49 ^Z	44 ^E	42 ^E	42 ^E	41 ^E	43 ^Z
2.1	5.8	8.3	10.4	10.4	11.2	9.5
<u>100</u>	40	40	40	40	40	40
			End	End	Base wall	Top wall

42 ^Z	41 ^E	43 ^Z	42.9
10.5	11.3	9.5	9.9
<u>40^E</u>	<u>40^E</u>	<u>40^E</u>	<u>40^E</u>
End	Base wall	Top of wall	Top of wall

48 ^E	48 ^B	46 ^Z	43 ^B	41 ^Z	39 ^Z
2.3	4.0	6.4	7.0	11.4	13.8
<u>100</u>	87	40	52.81	40	100

43 ^Z	45 ^B	45 ^L	41 ^Z	40 ^Z	37 ^L
2.8	9.6	1.3	7.5	5.1	9.3
<u>115</u>	90	40		40	100

36 ^E	33 ^Z	41 ^Z	45 ^Z	44 ^Z	38 ^Z	33 ^Z
9.9	12.8	2.1	1.1	1.8	8.4	12.7
<u>150</u>	112	40	45		40	100

43 ^Z	44 ^Z	43 ^Z	37 ^E
2.8	1.5	2.9	8.8
<u>40</u>	23		40

46.40

3+48

3+47 Cont.

also = East. face 8" wide No. + So. Conc. wall

3+47 40' RT. = End E. + W. Conc. wall

3+1A 40³ RT. = E.C. in E. + W. Conc. wall (P. 49)

3+11^E = Start 8" wide Conc. wall 42^A RT. (P. 49)

Construction. 113' RT. = \pm Bar.

3+07 42' RT. = \pm No. + So. conc. drive under

52.81

52 ¹	48 ⁹	46 ³	44 ⁹	43 ¹
<u>10.1</u>	<u>4.2</u>	<u>5.9</u>	<u>7.9</u>	<u>9.4</u>
100	40		40	65

43 ⁴	43 ³
<u>9.4</u>	<u>9.5</u>
65	65
End	Top of wall

52 ³	48 ⁵	46 ³	44 ²	43 ⁴	42 ⁴	43 ⁴
<u>0.0</u>	<u>4.3</u>	<u>5.9</u>	<u>7.9</u>	<u>9.4</u>	<u>10.4</u>	<u>9.4</u>
100	40		39	40	40	40
			End	End	Base of wall	Top of wall

42 ³	42 ²	43 ⁴
<u>9.9</u>	<u>10.8</u>	<u>9.4</u>
40	40 ³	40 ³
End	Base of wall	Top of wall

42 ⁸	42 ²	43 ³
<u>10.0</u>	<u>10.8</u>	<u>9.5</u>
42 ⁵	42 ³	42 ³
End	Base of wall	Top of wall

42 ⁵	42 ³
<u>10.2</u>	<u>10.1</u>
42	113'
Top of header	Bar. floor

52.81

4784⁷ = start. Pavo. on ♀ Eta.4781 = top cut for 43rd st. on ♀ Eta.

also = start A.C. Pav.

4776⁶ 28² = start. Cb. on left.4773² 40' Lt. = 3/4" prep pipe
33' Lt. = top of cut for 43rd st.

4750

4700 66' RT = ♀ Sing. Car. dirt floor

52.81

45⁰
7.85

44 ¹	43 ³	40 ⁵	40 ³	41 ⁶
8.7	7.5	12.4	12.1	11.2
	15	19	30	40

42 ⁸⁴	42 ²¹
9.97	10.60
28 ³	28 ³
top of	Pavo.

43 ²	43 ²	47 ⁶	45 ²	45 ³	41 ²	42 ²	42 ⁹	43 ⁸
8.9	7.1	6.2	7.6	7.5	11.1	10.6	7.9	9.0
50	40	33		8	24	38	40	50

48 ²	47 ²	47 ¹	47 ⁰	45 ⁰	44 ²	45 ⁵	45 ⁵
7.4	5.5	5.7	5.8	7.8	7.9	7.3	7.3
60	40		10	20	35	40	50

52 ³	49 ¹	47 ¹	45 ⁵	45 ²
0.6	3.7	5.7	7.3	7.6
90	40		40	66

66
dirt floor

52.81

Orig. B.M.	42 nd + Division N.W.B.P.	3.66	42.84	✓
N.W.B.P. Highland ^{ly} Division	13.00	46.50	1.80	33.50
				33.46 (0.04)
T.P.	0.03	35.30	11.45	35.27

4+97 Cont.
(Curb returns are on straight grade)

Section along west curb line 43rd

4+97 = Approx. ^{45th} Curb line 43rd

T.P. Back edge
Cl. 31' Rt.
4+93.6

6.68	<u>46.72</u>	12.77	40.04
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A.C. Pavc.

4+93.6 31' Rt. = start curb and

52.81

45 th	44 th	39 th	36 th	37 th
1.21	1.80	7.68	10.14	9.59
100	100	55 th	100	100
cl.	pave	cl. E.C.	pave	cl.

43 th	42 th	42 th	41 th	40 th	39 th	39 th	38 th
3.23	3.80	4.33	5.17	5.97	6.80	7.69	8.38
57 th	57 th	40	20	20	20	40	55 th
cl. E.C.	pave	pave	pave	pave	pave	pave	pave

46.72

39 th	40 th
13.42	12.80
31	31
pave	pave
	cl.

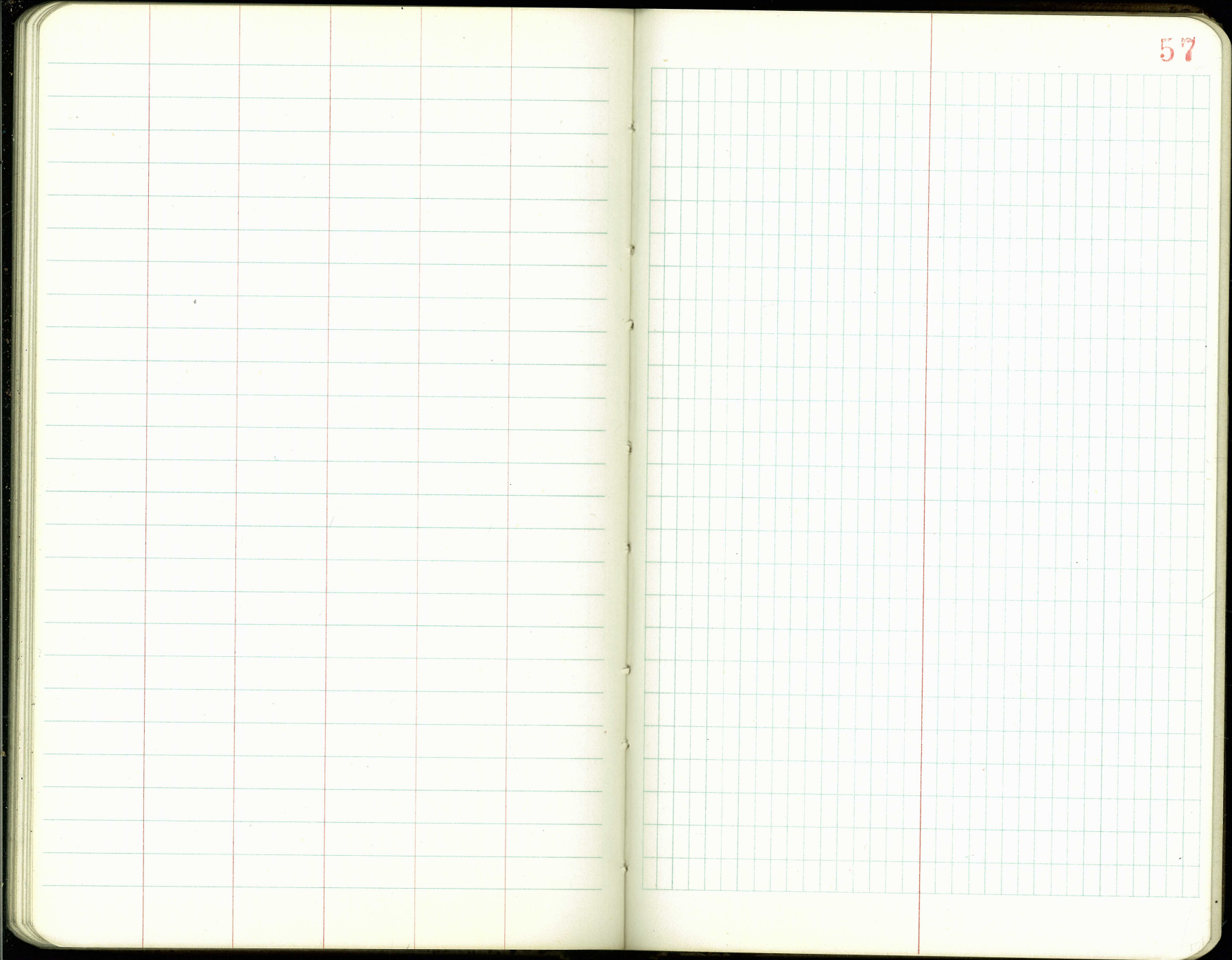
52.81

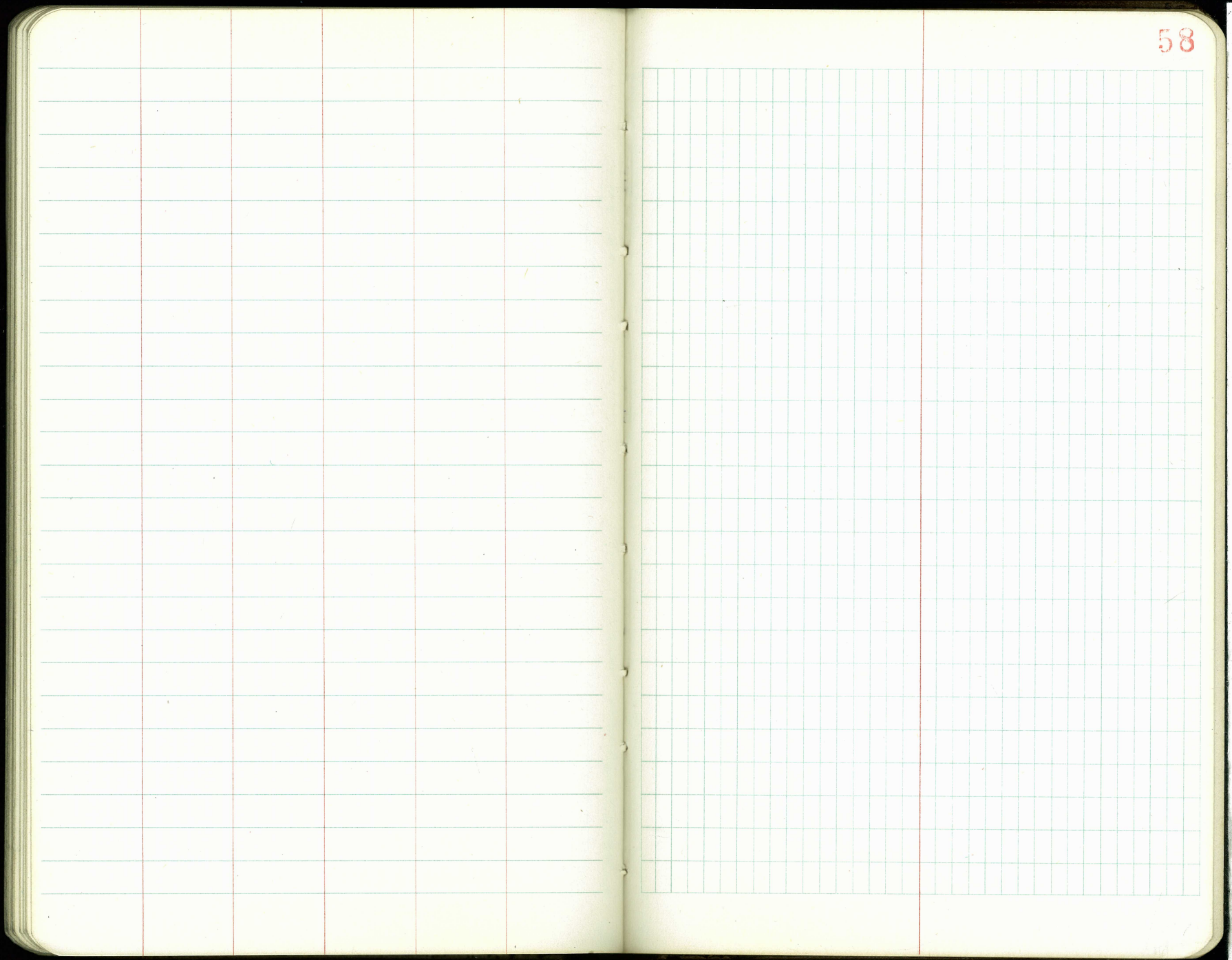
This page is a ledger-style page with four vertical red lines that divide the page into five columns. The columns are of varying widths, with the two inner columns being the widest. The page is filled with horizontal blue lines, creating a grid for data entry. There are 24 horizontal lines in total, including the top and bottom lines.

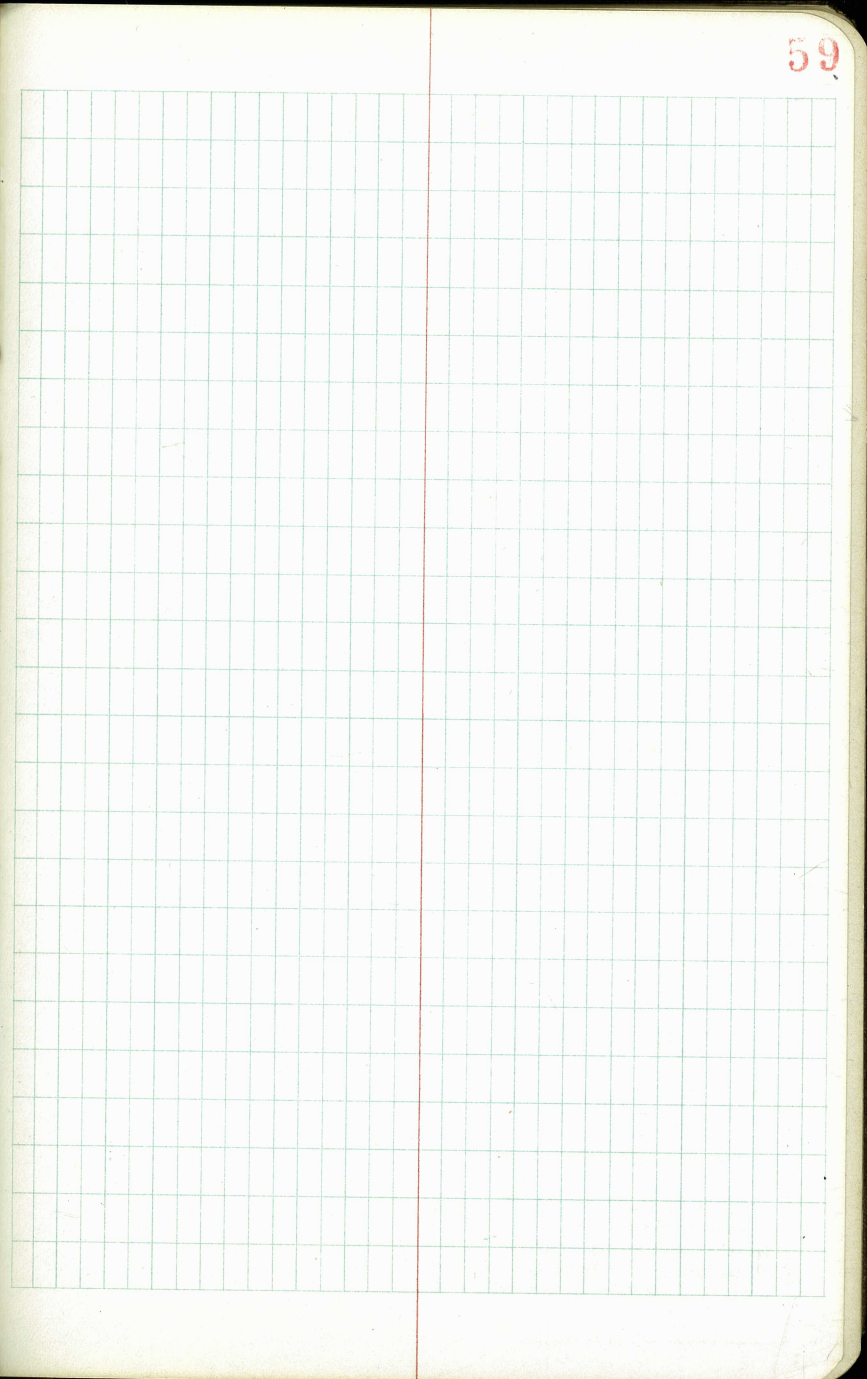
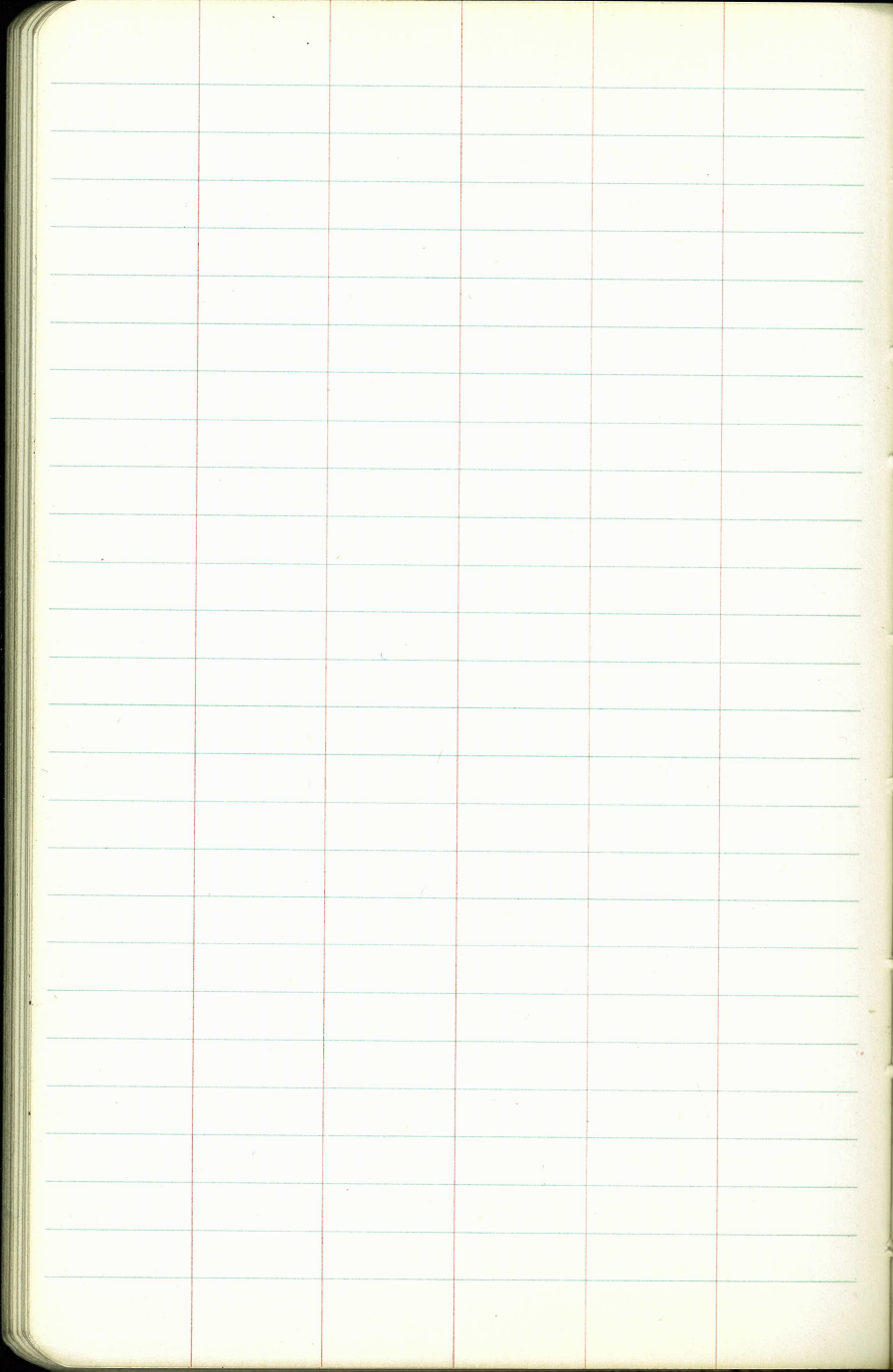
This page is a grid-style page with a single vertical red line on the left side, creating a narrow margin. The rest of the page is filled with a grid of blue lines, forming a table with 24 rows and 20 columns. The grid is used for detailed data recording or calculations.

This page is a ledger with a header section at the top and 20 columns below. The columns are defined by vertical red lines. The first column is the widest, followed by a narrow column, and then several columns of varying widths. The page is otherwise blank.

This page is a ledger with a header section at the top and 20 columns below. The columns are defined by vertical red lines. The first column is the widest, followed by a narrow column, and then several columns of varying widths. The page is otherwise blank.

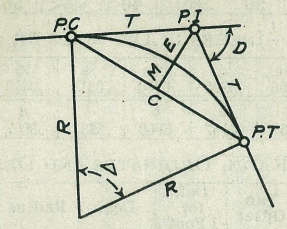






DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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CURVE FORMULAS

- Radius= $R = \frac{50}{\sin \frac{D}{2}}$ (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) $\Delta = \text{Central Angle}$

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.—Sta. 161+60.35 to find Sta. of P. C. and P. T. $\Delta = 62^\circ 10'$ $D = 8^\circ 20'$. From Table IV for 1° curve $T = 3454.1$ and $+8\frac{1}{3} = 414.49$ 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 = $7.27 \frac{(54.50 \div 100)^2}{100} = 2.16$ ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2 \div (2 \times 688.26) = 2.16$ ft.

Deflections.—Deflection angle = $\frac{1}{2} D$ for 100 ft., $\frac{1}{4} D$ for 50 ft., etc. For c ft. = (in minutes) $.3 \times C \times D^\circ$ or = defl. for 1 ft. from Table III $\times C$. For Sta. 158 of above curve = $3 \times 54.5 \times 8\frac{1}{3} = 136.2'$ or $2^\circ 16.2'$, or = $2.50 \times 54.5 = 136.2'$ from Table III. For Sta. 159 deflection angle = $2^\circ 16.2' + 8^\circ 20' \div 2 = 6^\circ 26.2'$, 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 $8^\circ 20' = 960.6 \div 8\frac{1}{3} = 115.27$ and from Table V correction = .10 or $E = 115.37$ ft. Or suppose $\Delta = 32^\circ$ and E is measured and found to be 42 ft. What is D ? From Table IV $E = 230.9$ and $\div 42 = 5.5$ or $D = 5^\circ 30'$.

393.76

9.45

384.31

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 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.

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