

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 $1\frac{1}{2}$ see inside of back cover.

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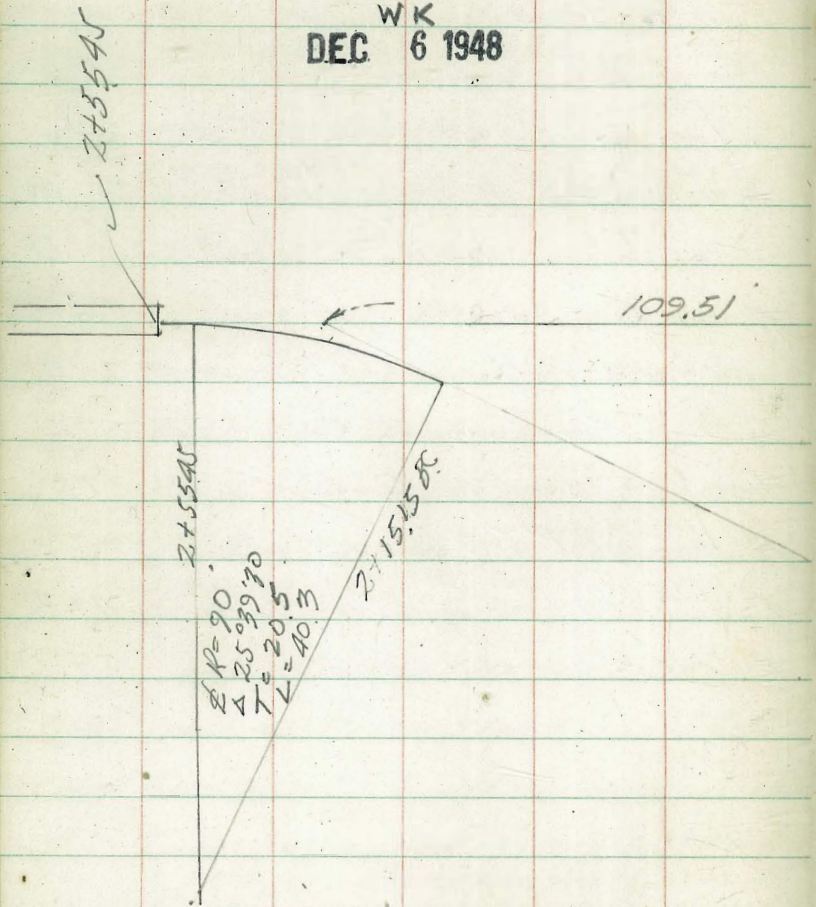
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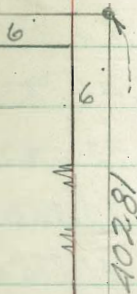
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Bramson Place
Grades - Storm Drain

INDEXED
WK
DEC 6 1948



33rd



Bramson Pl.

ct.

0+00

Culvert Grades - Bramson Pl.

Cuts

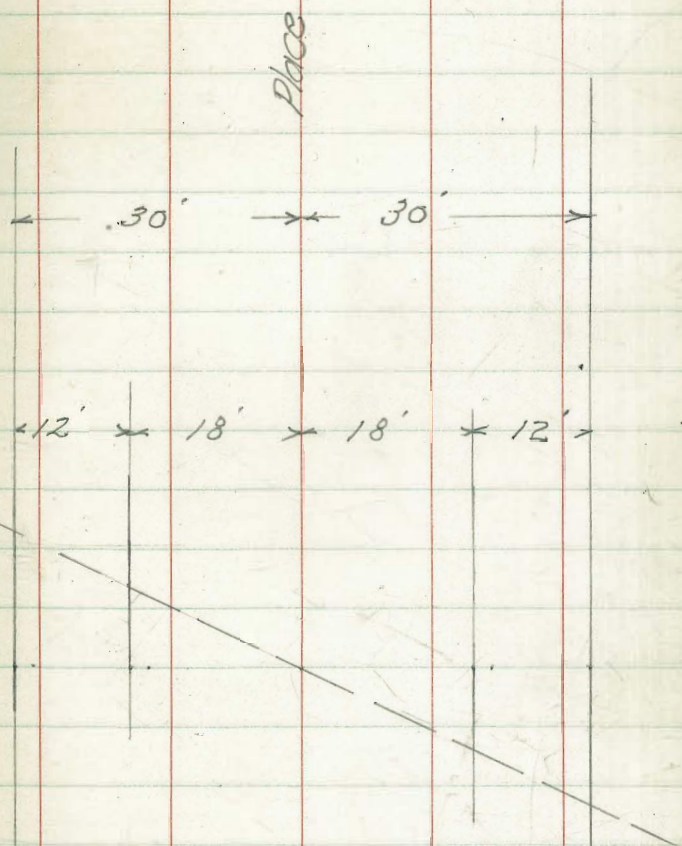
2+60.86 = ^{End} Existing Box Culvert	7.25	359.64	359.40	
2+55.47 = F.C.	6.45	360.47	359.34	1.13
2+45.39	6.59	360.33	359.19	1.14
2+35.31	6.19	360.73	359.04	1.69
2+25.23	5.51	361.41	358.89	2.52
2+15.15 = B.C. H.	6.43	360.49	358.74	1.75
2+00	6.65	360.27	358.52	1.75
1+75	7.84	359.08	358.15	0.93
1+50	8.18	358.74	357.77	0.97
1+25	8.55	358.37	357.40	0.97
1+07.51 = Ncb Bramson	9.08	357.84	357.14	0.70
0+87.54 = S Bramson	8.43	358.49	356.84	1.65
0+67.57 = South cb Bramson	8.29	358.63	356.54	2.09
0+50	9.48	357.44	356.28	1.16
0+25	10.15	356.77	355.90	0.87
0+00 =	11.50	355.42	355.53	

T.P. 3.62 366.92 9.13 363.30
 - 2.13 372.43 374.56
 K

Conc. Wall = 0-1544 F.B. 1723
 30

Bramson Place
Grades - Curb Inlets

chk. at 50 P-3	12.42	357.44		
N cb Inlet, East stake	1.57	368.29	365.47	2.82
N cb Inlet, West stake	1.60	368.26	365.47	2.79
South cb Inlet, East stake	4.38	365.48	364.82	+0.66
South cb Inlet, West stake	5.24	364.62	364.82	-0.20
TP	7.83	369.86	4.89	362.03
		366.92		
		P. 3		



Bramson

Additional Stakes
for Culvert P-3

5

0+50

12.94 356.92 356.28

+0.64 6 Lt.

0+25

13.53 356.33 355.90

+0.43 6 Lt.

369.86

Walker
Hendrick
Becker
Johnson
9-28-47

Bramson Place - Grades cb Inlets

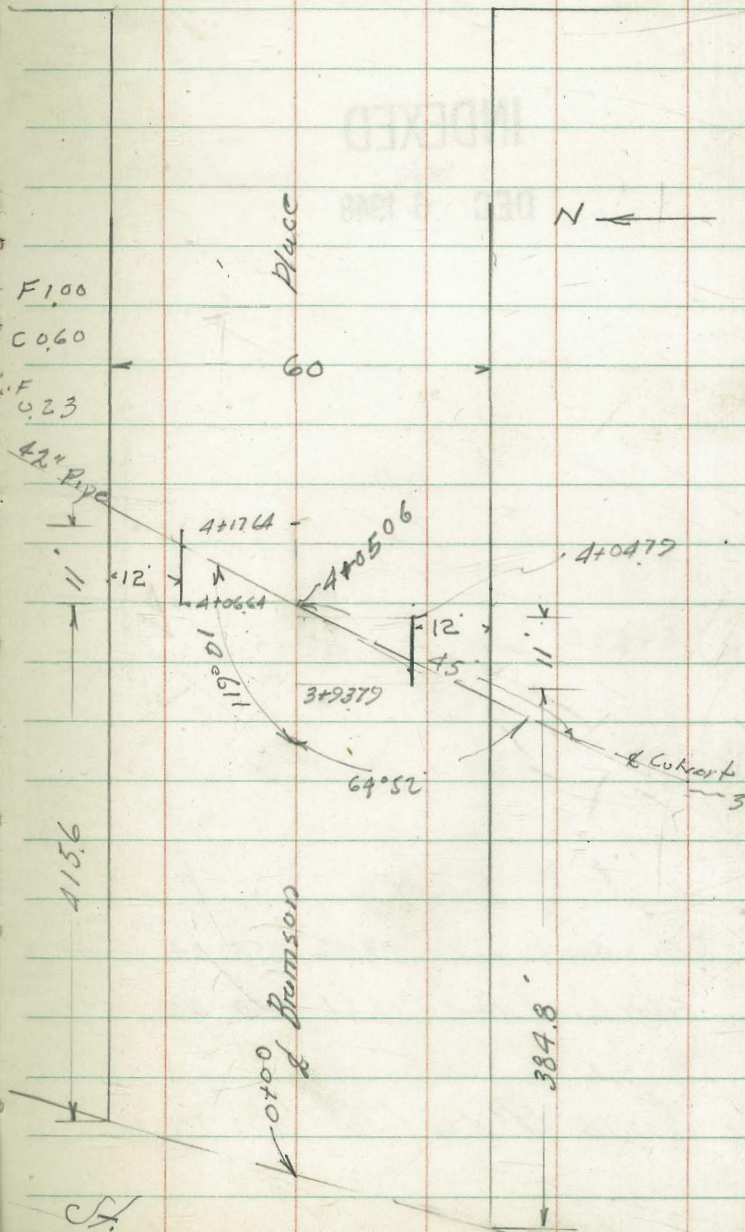
33rd St.

6

El. Top cb.

4+17.64 = East end 10' cb inlet on North	4.98	365.40	365.40
4+06.64 = West end 10' cb inlet on North	5.98	364.40	363.40
4+04.79 = East end 10' cb inlet on South	4.96	365.42	364.82
3+93.79 = West 10' cb inlet on South	5.79	364.59	364.82

TP	2.31	370.38	7.75	368.07	BM SW 1/8 P. El. Cap 1017 + 33.10
	1.57	375.82		374.25	



Elevation sewer
8th & Robinson

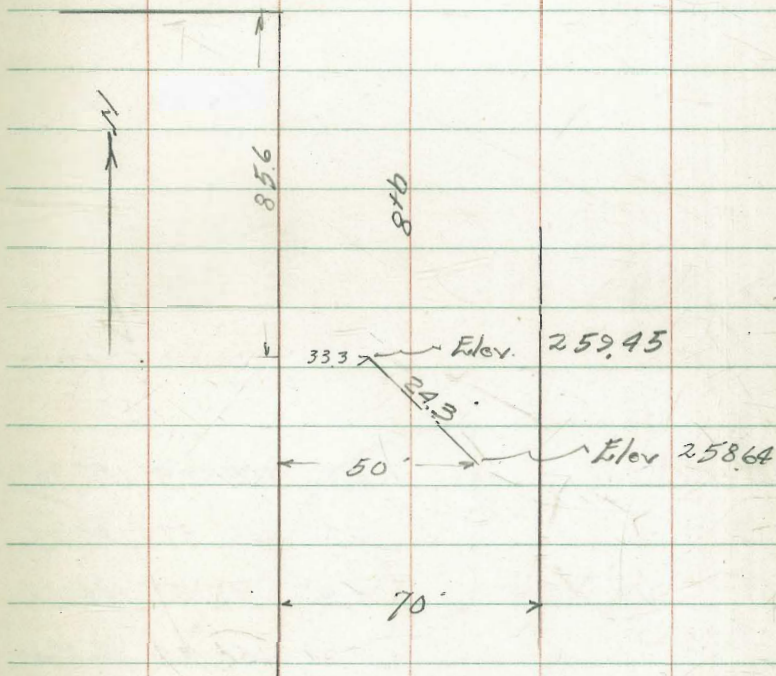
Walker
Hendricks
Becker
Johnson
3-25-47

INDEXED
WK
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Flow South end 13.02 258.64
Flow Little Bend 12.21 259.45

0.94 271.66 270.72

Robinson



Curb Grades St. Returns

24th And G. St.

Profile #361

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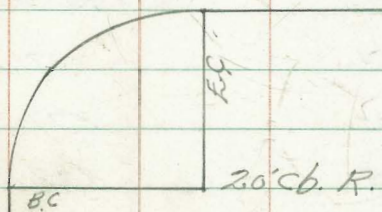
WK
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DEC 7 1948

24th St

	El. c.b.		Fills	offsets
①-FC.	4.76	145.93	146.15	-0.22
②	5.32	145.37	145.93	-0.56
③	5.65	145.04	145.68	-0.64
④	5.91	144.78	145.40	-0.62
BC.	6.27	144.42	145.09	-0.67

NOTE
6' in st.



G. St.

4.28 150.69

146.91

NOTE-B.P.
G-24th

Walker
Hendricks
Becker
Johnson
9-2-47

Check and Replace Missing Grade Stakes

in Alley Block 33 - Teralta

Between Cherokee & 37th

From Orange Ave to El Cajon

Plan 6701-1

INDEXED

WK
DEC 6 1948

4+00 Lt.		4.08	373.78	373.46	+0.32
3+50 ckt		4.51	373.35	373.26	+0.09
4+5					
4+50 ckt		4.06	373.80	373.66	+0.14
8M 441					
4+00 on Rt	377.86		373.45	373.26	

0+60 Lt		3.65	372.75	371.91	+0.84	2' Lt. = Cross on Walk
0+40 Rt		3.87	372.53	371.50	+1.03	
0+40 Lt.		3.77	372.63	371.59	+1.04	
0+00 Rt		5.23	371.17	370.80	+0.37	
0+00 Lt.		5.05	371.35	370.71	+0.64	
8M.						
0+20	3.98	376.40	372.42			

T

Walker
Hendricks
Baker
Johnson
9-10-6-47

Grades - Curb = In Portion Lots 13, 14
Culcher Tract Sub Map 1829
on 60th St.

INDEXED

DEC 6 1948

Note: Stakes set 3' East of back edge cb. - per request Contractor.

Marked T.P. #6 West side of 60th & Bradford

chk. Hail 6.53 440.41

2+87 5.25 441.05 441.24 441.14

2+60=Bk 8.19 438.81 438.68

2+45 9.61 437.39 437.41

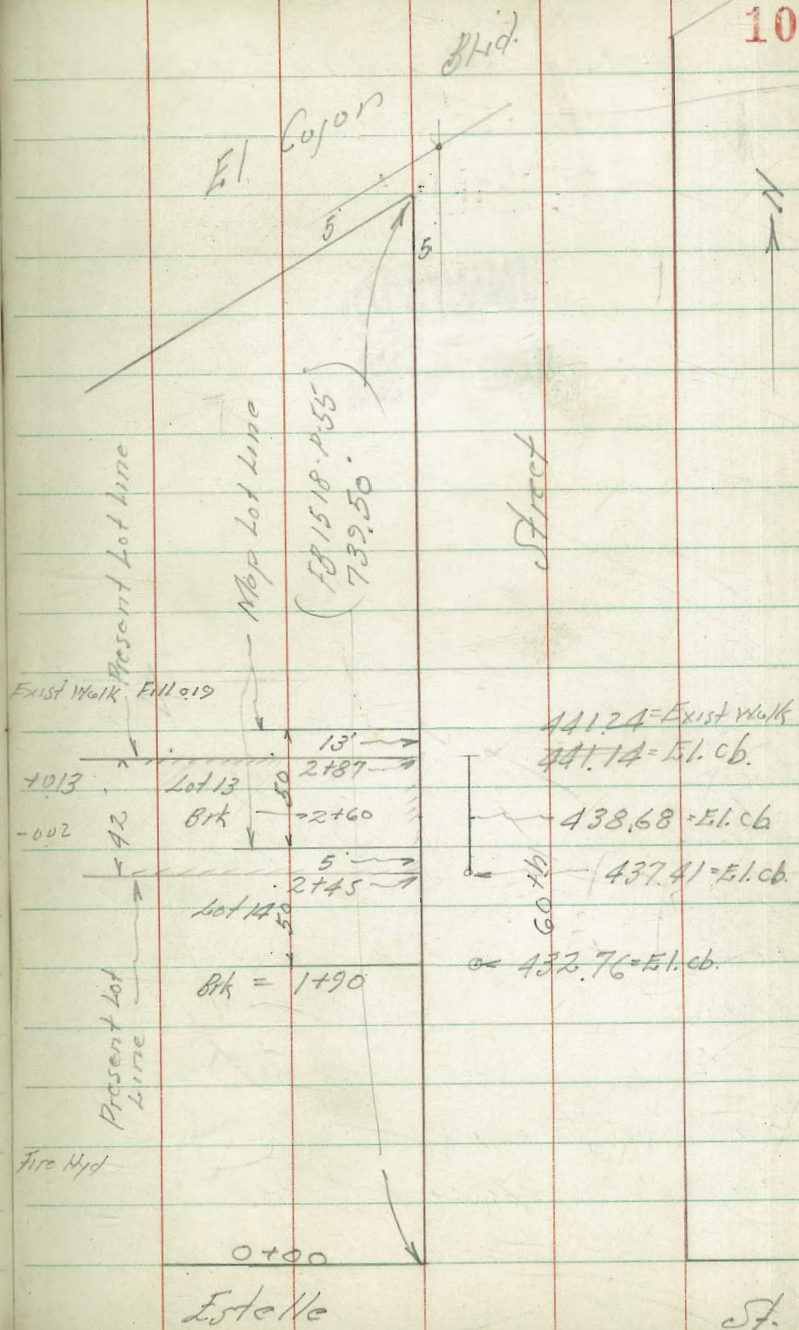
1+90=Bk 432.76

T.P. 1.99 447.00 12.88 445.01

T.P. 0.01 457.89 13.13 457.88

1.99 471.01 469.52

0+00=H.L. Estelle



St.

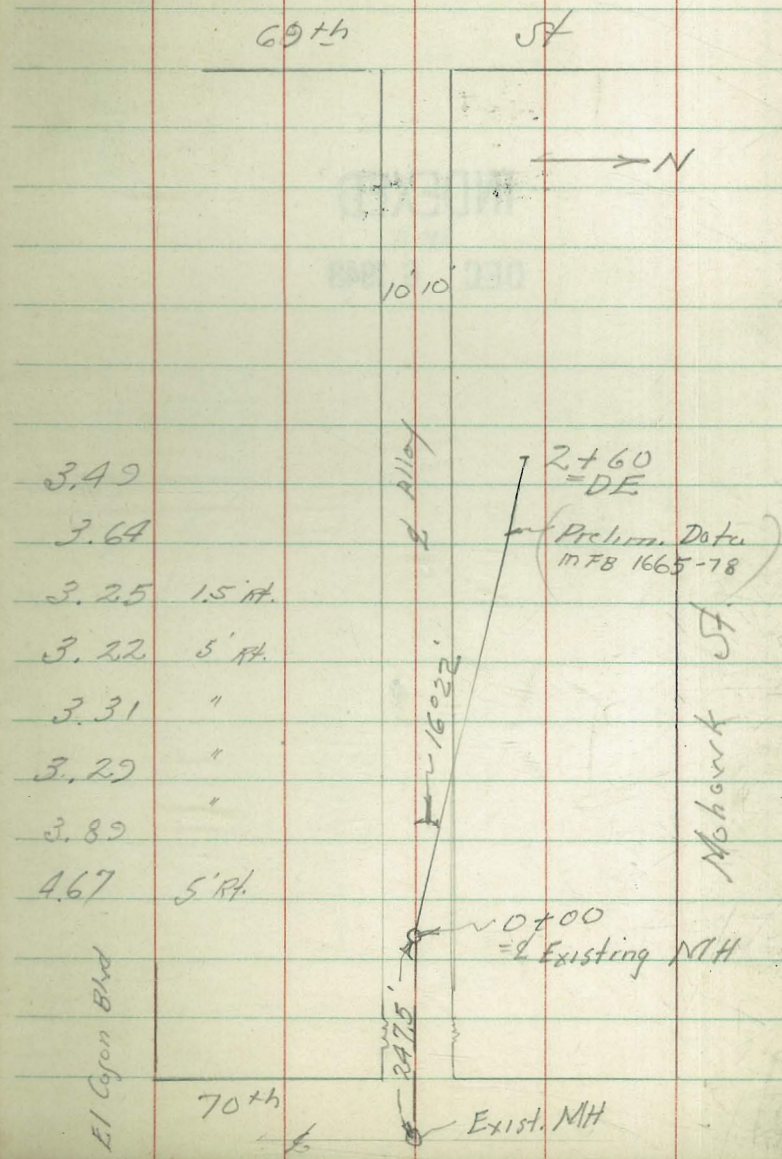
Sewer Grades

Walker
Becker
Johnson
10-7-47

Block 8 - La Mesa Colony
Plan B-3341 (NO 60155)

INDEXED
REC. 6/6/1948

2+60	5.29	463.17	459.68
2+35	5.32	463.14	459.50
2+10	5.88	462.58	459.33
1+75	6.16	462.30	459.08
1+40	6.31	462.15	458.84
1+05	6.58	461.88	458.59
0+70	6.22	462.24	458.35
0+35	5.69	462.77	458.10
0+00 on Flow Existing MH	10.60		457.86
0+00 on Rim Exst. MH	4.73	463.73	
4.20	463.46		464.26



3.49	
3.64	
3.25	1.5' R.
3.22	5' R.
3.31	"
3.29	"
3.89	"
4.67	5' R.

2+60 = DE
Prelim. Data
in FB 1665-78

0+00 = Existing MH

Exist. MH

El Cajon Blvd

Alley

70th

Construction Grades

Portion of Alley Block A

Redland Gardens - Plan 7013-6

W.D. 800 67

Grades P-13, 14, 15

INDEXED

W.K.

DEC 6 1948

12

Madison

Ave

67008

10 10

56th St

Block

A

Redland

Gardens

El Centro Drive

10 10

East & West

60700

Alley

Grades Alley Bk-A
Sketch p. 12

H L R

13

1+50.2 = Bay. Parking

	C. 0.83	C 1.42	
2' H	C 0.57	C 1.56	2' H.
	456.89	457.09	
	456.73	456.93	

1+48 = Bk

	C. 0.54	C 1.58	
2' H	C 0.75	C 1.51	2' H.
	456.93	456.93	
	456.84	456.86	

1+05

	F 0.05	C 1.25	
2' H	F 0.11	C 1.20	0.38 H.
	456.79	456.69	
	456.33	456.59	

0+70

	C. 0.82	C. 0.92	
0.42 H	C 0.78	C 0.89	0.10 R
	456.06	456.36	
	456.02	456.33	

0+35

	C. 0.89	C. 0.14	
0.49 H	C 0.86	C 0.12	0.13 H.
	455.73	456.08	
	455.71	456.06	

0+00 = N.L. E. West Alley

455.40

	C. 0.82	C. 0.70	
0.65 H	C 0.57 C 0.51	C 0.44 C 0.44	0.19' H.
	455.40 455.90	455.8 455.8	
	455.91	456.06	

8.69 463.39

454.70

B.M. on Hill
1+60.08

FB 1753 -46

463.89

Alley Block A
Redlands

3+00.9 = End Parking

2+90 Bk

2+70 Bk

2+50 Bk

2+30 Bk

2+10 Bk

1+75

463.39
9

	C041	C189	
0.60 H.	C043	C191	462 ft.
	458.16	458.38	
	458.20	458.40	

	C035	C121	
0.6 H.	C072	C428	5' ft.
	458.20	458.40	
	458.27	458.47	

	C003	C116	
5.2 H.	000	C113	3' ft.
	458.30	458.50	
	458.27	458.97	

	C003	C203	
5.18 H.	000	000	2.7 ft.
	458.20	458.40	
	458.17	458.37	

	C071	C113	
1.7 H.	C058	C100	0.19 ft.
	458.10	458.90	
	457.97	458.17	

	C039	C116	
2' H.	C023	C100	0.10 ft.
	457.80	458.00	
	457.64	457.84	

	C180	C204	
1.03 1.0 Alley	C164	C188	2' ft.
	457.27	457.47	
	457.11	457.31	

463.39
9

Alley Block #
Redlands

6+00.8 181.153-62
chk wcb 1136 452.03

0.02

452.05

4+00 = End Post Grading

3+60

3+90 = End Grading

3+40

3+30

3+10 = Bk

46339

15

INDEXED

DEC 6 1948

F0.89 639
457.00 729

C057 619
457.2 562
057

C1.28 600
457.35 128

C1.18 580
457.55 466
118 5' H.

457.70

457.90

457.70
457.90

457.90
458.10

0.6' Bk C045
C056
458.07
458.16

C1.97 460' RT.
C2.96
458.27
458.36

46339

Walker
Hendricks
Beckel
Johnson
10-23-47

5TH AVE. & L-ST.
Elev. of Top Paving

16

INDEXED

DEC 6 1948

St. 5th & L. 130 487-181373
chk Top Hyd (Before Mowing) Elev.
Top Paving

4.48 1.69 2.08

fill offset
-0.39 5' East.

TP 4.05 6.17 6.75 2.12

3.87 8.87 5.00

Walker Levels To determine Settlement.
Johnson on Univ. Ave
Folpe
Crawford Between Florida & Alabama
8-23-49
(3rd Set Levels)

1st + 2nd Set see P-48-49

North Hub

428 270.98

North Ld + Tack

411 271.15

South Hub.

591 262.35

9.30 275.26

265.96

BM. N.Y. Univ. & Alabama

INDEXED

DEC 1 1949

5TH AVE

AND HARBOR DRIVE

PAVING - Curbs

INDEXED

WK

DEC 6 1948



14'

14'

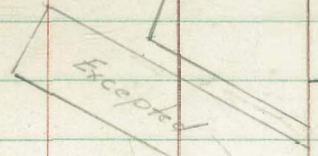
South line L-5th

40'

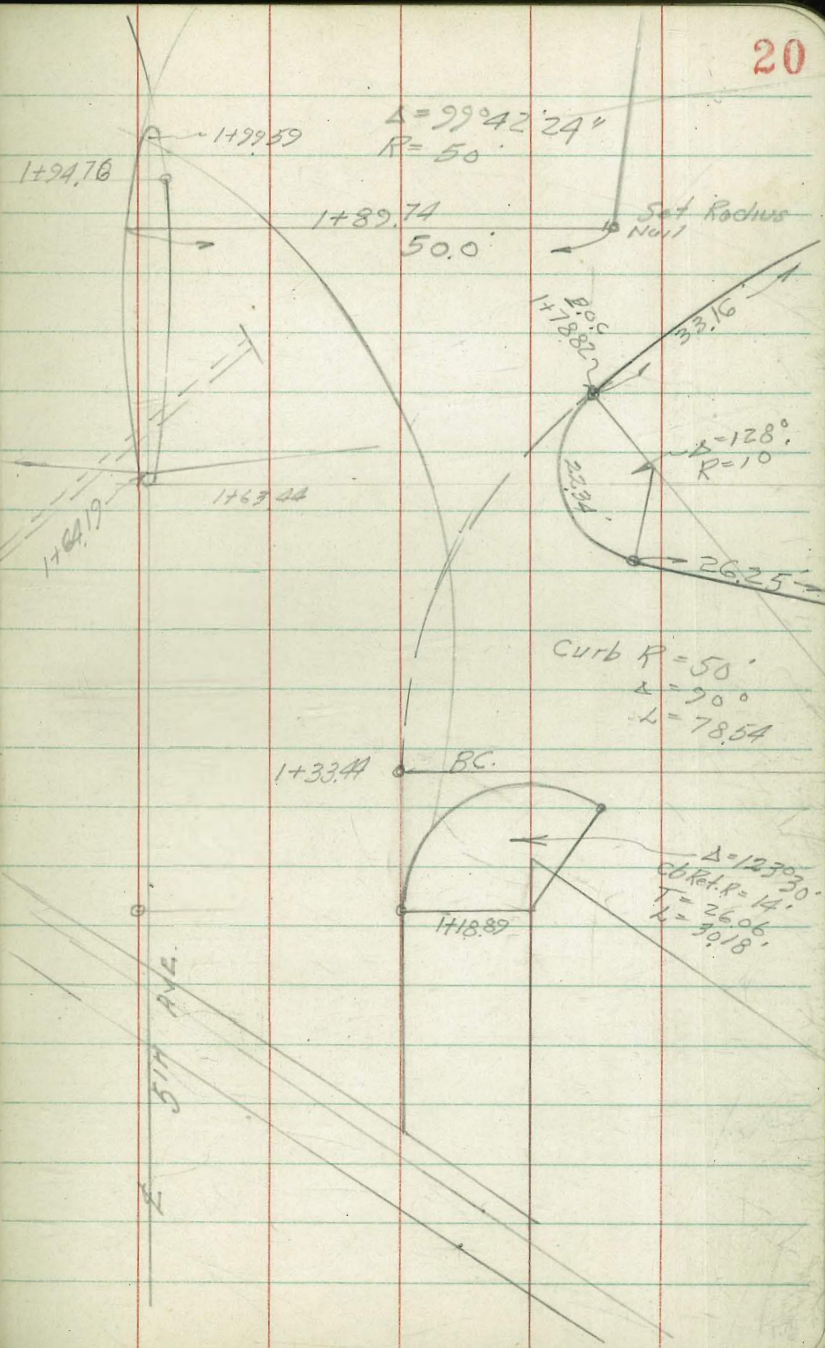
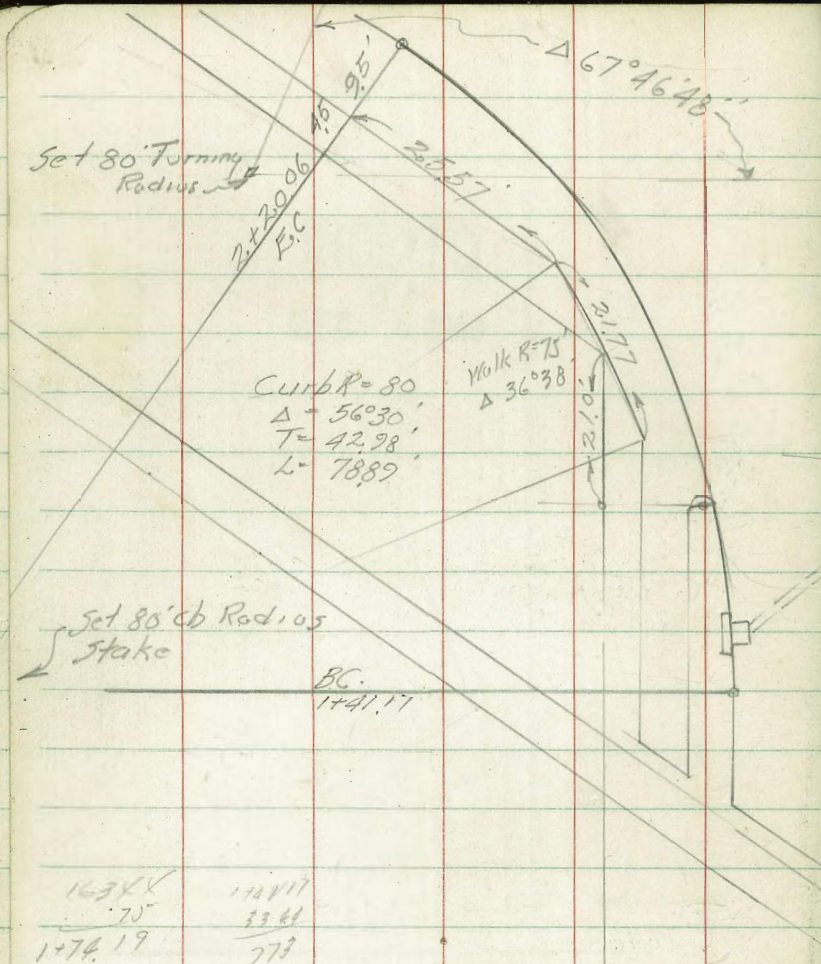
40'

0+00

5TH AVE



L- Street



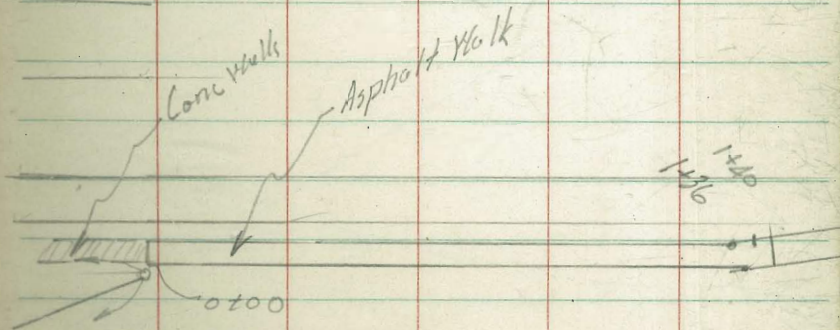
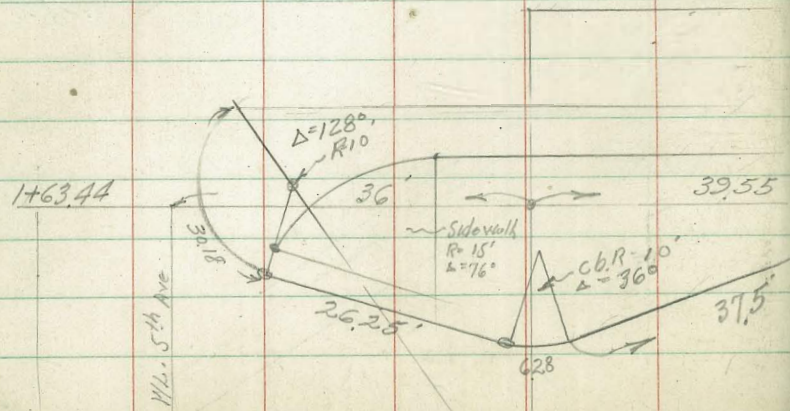
5th Ave.

AND HARBOR DRIVE

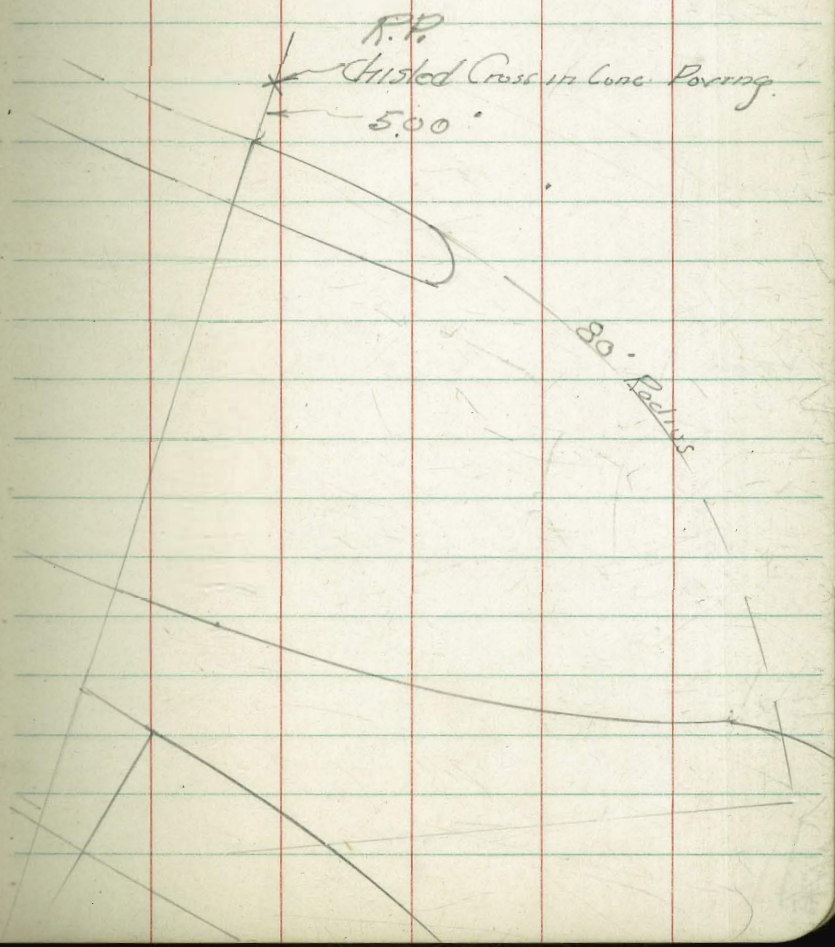
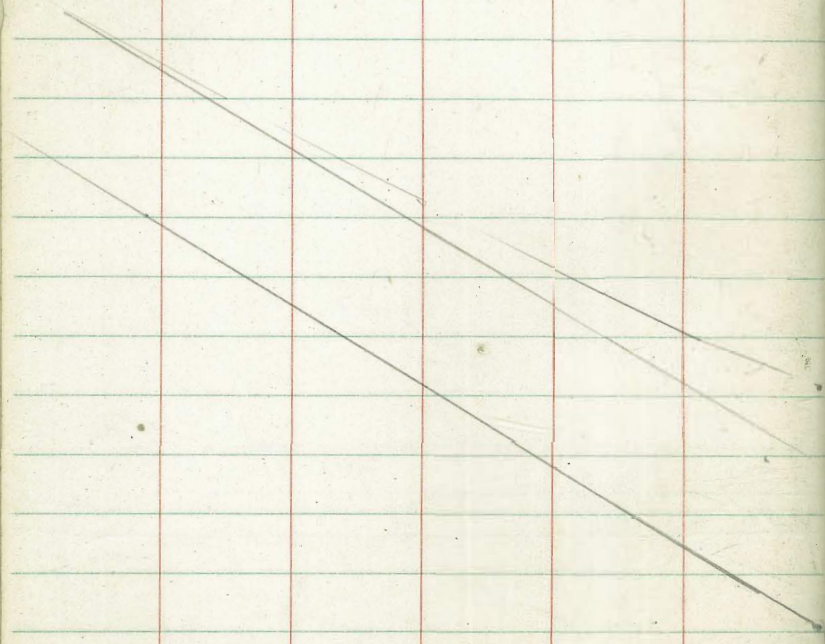
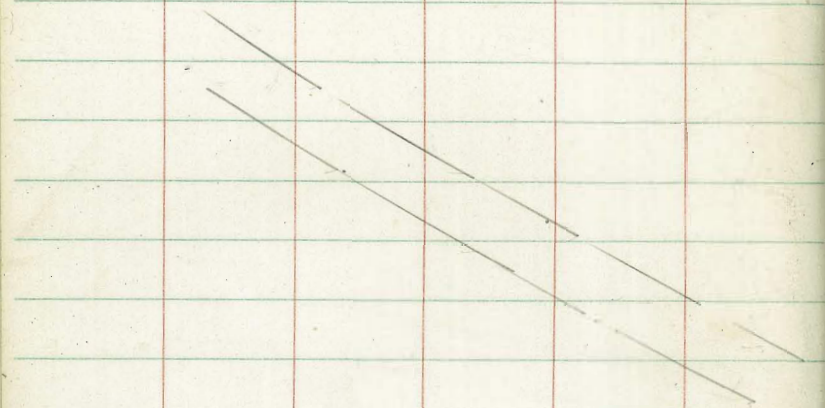
21

PAVING

NO. 60013



Return S.M. Cor Belt St
Grades P-29



R.P.
Histed Cross in Cone Porting.
5.00'

30' Radius

5th Ave And Harbor Drive
Paving Grades etc.

Lcb

£

R. Co 23

0+38.8

391-Red-Rail
2.06

2.05

0+20.6

391-Red-Rail
2.06

0+17.2

392 Red
2.05-S. Rail

0+09

387

2.10

2.06

2.05

0+00

387

2.10

390 Red
388
001+ 2.07

392

2.05-RR

0-08

390 Red
383
001+ 2.07

390 Red

392

2.05-N. Rail

0-13

0-26

392

388

001+

2.05

392-Red

597 P. 33

597

5TH Ave And Harbor Drive

1+13.9 = Gutter Break

1+12.39

1+08.09 = Gutter Break

1+02.02

0+95.18 = Bk = Beg Curb on West

0+86.8

0+84.8

0+67.6

0+62.8 Rail to Line

W

0+57.3 Rail to Line

W

0+54

0+40.7

597π

146

Grades

#

of

24

392 Red Rail

2.05

1.70
Gutter
inlet

2.05

1.70
Gutter inlet

392

2.01

-0.09

2.05

392

2.05

392 Red Rail

3.24

-0.02

2.05 M. Rail

2.05

390 Red Rail

2.07 E. Rail

2.05

392

3.97

-0.05

2.05

387 Red Rail

2.08

2.06

2.05

2.08

597π

5th Ave And Harbor Dr.

Paving.

1+52.01 = SLY edge Catch Basin

1+50 Bk in Gutter on East

1+49.17 = SLY edge Catch Basin

1+48.57 Part D on Pt.

1+45 Bk in Gutter on East

1+44.17 = W edge Catch Basin

1+42.01 = North edge Catch Basin

1+41.17 = BC. 80' cb Radius on East

1+40 Rail E Line

This curve in 3 Equal Parts

1+33.44 = BC. 50' Radius on W. cb. line

1+30

1+29.6 = Beg. cb. on East

1+10.6 on E. cb. line

1+20

1+10.8 Rail E. line

1+18.89 = BC. 14' cb. Radius Return

597 K

Hebble

1/4 cb line 25

13' x 13'

2.56

2.54 Gut 249 256 262

2.53 = 6' SLY edge inlet Catch Basin

2.61 = Gut

2.42 = NLY edge 1.67 Gut Inlet Catch Basin 2.35 = 4'

2.33

2.05 = Rail E Line 2.70 2.70 2.70 2.38

2.05

2.34 = Gut.

2.08 2.08 2.11 2.11

2.05 = 2.05

13' x 13'

2.05

2.06 2.14

3.92 Red 2.05

2.06

2.08 = Gut

2.75 = Top cb

3.22

1.22

1.00

5TH Ave
& Harbor Drive

Lt
cb

Lt
Gut

L

Rt
Gut

Rt
cb

26

1+90

304	370	320	2.00		
370	cb	Gut.	2.85	397	330
			-0.85	cb	Gut

1+8128

3.28=cb

1+80

312	3.45	3.15	3.15		
304	cb	Gut	E		

1+78.82-POC beg. cb on Rt P-29

2.17		
2.92		
-0.75	3.80	3.19
	cb	Gut.

1+76.63

-2.5		
3.8	3.17	

1+72.52

-1.1		
1.7	3.08	

1+70

291	3.52=cb	302		
287	cb	Gut		

1+6A

3.32=cb	2.89	
	Gut	

1+63.70 Part 2 ^{on} Rt

2.87 Gut.

1+63.76

2.87

1+63.7

1+60

2.66	2.81	2.81
	Gut	

1+55 - Brk. in gutter

2.66 1.98

5.97

2+52.40=BC. on Rt.

2+48.97

2+45.06

2+32.19

2+20.06 Bk/EC. 80'cb R on East cb Lize

2+11.98 EC. on Rt. cb

2+10.06

2+10

2+00.06

2+00.59

1+90.06 Bk

5.97

207
202
-002

390 323
cb Gut

399 333
cb

397 330
cb Gut

~~44~~
66

389 322
cb Gut

193
278
-085

404 337
cb Gut

382 315
cb Gut

369 302
cb Gut

East
Paving

311
367 317
cb Gut

200
282
-084

397 330
cb Gut

348 281
cb

~~348 281~~
cb
1
Gut

597

5TH Ave - Harbor Drive

14
6

8

Pl. Cb.

28

3+39.06 = End Work

-43
65

4.05 338
cb. Out.

3+15

4.08 341
cb. Out.

2+92.17 = End Work on West

351 320
East. Out.
cb.

2+90 = Bk

4.11 344
cb. Out.

2+75 Bk

-39
57

4.11 344
cb. Out.

2+72.29

321

Grades Return
SW Cor 5th & Belt St Sketch P-21

cb. gutter 29

INDEXED
WIK
DEC 6 1948

Cont
P. 26
= 1+78.82
0+92.97 } PCS

2.17
322
-075 380 313

" "
0+81.80 = ctr Return

2.34
229
-068 363 296

" "
0+70.63 = B.C. 10' cb R $\Delta 128^\circ$

2.43
321
-056 352 285

0+43.98 = E.C.

2.38
306
-068 359 292

0+37.70 = B.C. 10' cb R $\Delta 36^\circ$

2.36
303
-067 361 294

0+18.85

2.30
289
-059 367 300

0+00 Reg. cb. on Belt St.

2.25
219
+006 372 305

5.97
*

5TH AVE & BELT ST.
Grades - Northwest Co. Returns

AF
cb AF
Gut 30

0+30.18 = E.C. 14' cb R

2.80
3.53
-0.78 3.17 2.50

0+22.63 ③

2.85
3.67
-0.76 3.12

0+15.09 = ctr. Return

2.90
3.72
-0.82 3.07 2.40

0+07.54 ①

3.06
3.98
-0.92 2.91

= 0+00 Δ = 123°30'

1+18.89 = E.C. 14' cb R

3.22
4.27
-1.00 2.75 2.08

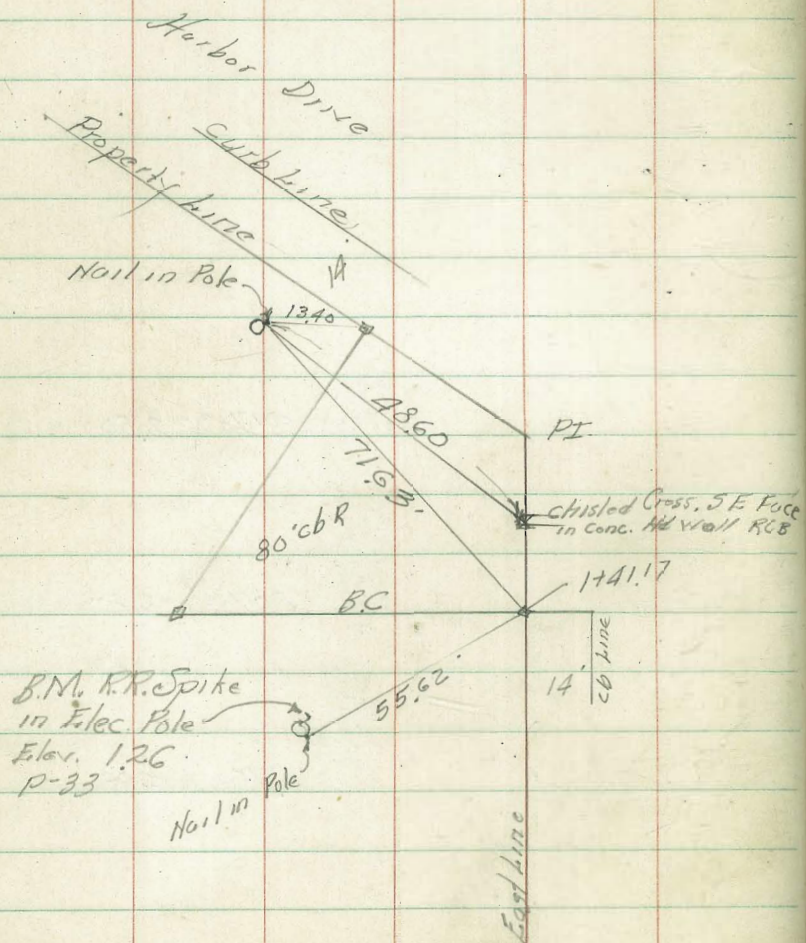
→ P. 25

5.97
P. 25

Walker
Headtrucks
Becker
Johnsons
10-25-47

5th - Harbor Drive
Reference Ties

31



Grades Curb Inlet East cb.
5th & Harbor

32

INDEXED
WK
DEC 6 1948

46
0+48

23
0+24

0+00
= Flow line Ely end 18" Conc. Pipe

1+52.01 = S edge cb Inlet

1+42.01 = NLY edge cb Inlet

T.P. 3.97 5.97 6.08 2.00 BM
3.08 8.08 5.00 SW.B.P.

-1.21 = Existing I
-1.84 = Flow line

C2.5B -1.11
40.41 -1.32 = " "

C1.5B
40.41 -1.00 = Flow line

F.1.94
3.00 2.56 = Top cb

F.1.26
3.0 2.35 = Top cb

5TH & K-ST. 5.97

Culvert & Cb inlet Grades
5th & Harbor

33

INDEXED

WK

DEC 6 1948

T.P.

4.71

1.26

SDG & Elec
" H
Sketch -

P. 31

Florkline
-4.81 = Existing Storm Drain

0+16 = Exist Storm Drain Cleanout

C489
40'W - 3.00 = Floor 18" Pipe

0+00 = 18" Conc Pipe = West Inside edge Box

C415
40'W - 2.50 " " "

1+16.96 = S end Cb Inlet.

K0.93
30'W 3.70 = Top Cb

1+05.96 = N end Cb Inlet

-0.63
30'W 2.37 = Top Cb

597 K from P-32

597

5th And Harbor
Finish Curb Grades
North East Return

34

2+75		
2+50	Control Δ	3.98
	EC	
2+30	Control Δ	3.90
	EC	
2+10.06	56°30'	3.82
2+00	49°17.88'	3.69
	8th	
1+90	42°08.14'	3.48
1+80	31°33.14'	3.26
1+70	20°39.04'	3.02
1+60	13°29.34'	2.78
1+50	6°16.64'	2.54
1+41.17	BC 8° Curb R	2.33
1+29.60	Reg. Curb	2.05

Void

5th + Harbor
Curb Grades - East Side

35

		El. Topcb		El. Gutter
3+39 ⁰³ Existing Cb	1.78	4.05	4.05	3.38
3+15	1.75	4.08	4.08	3.41
2+90 Bk	1.72	4.11	4.11	3.44
2+75 = Bk	1.72	4.11	4.11	3.44
2+50	1.82	4.01	4.01	3.34
Bk Control =				
2+20 ⁰⁶ = E.C. 56°30'	1.99	3.89	3.89	3.22
Bk				
2+10 49°17.88'	2.01	3.82	3.82	3.15
*-Bk				
2+00 42°08.14'	2.14	3.69	3.69	3.02
Bk				
1+90 34°58.44'	2.35	3.48	3.48	2.81
1+80 27°48.74'	2.58	3.25	3.25	2.58
1+70 20°39.04'	2.81	3.02	3.02	2.35
1+60 13°29.34'	3.05	2.78	2.78	2.11
1+50 6°16.64'	3.29	2.54	2.54	left out
1+41.17 "K."	3.50	2.33	2.33	
1+29.6 = Reg. Cb	3.72	Rail = 2.04	2.05	
	4.57	5.83	1.26	B.M.

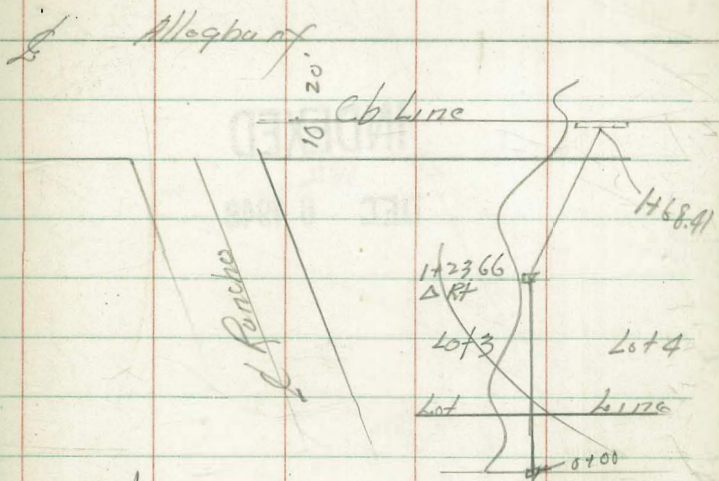
Walker
Hendricks
Becker
10-28-47

Grades - Proposed Culvert
East of Rancho & So. Allegheny

for
Void
Next Grades
Sec P-50

1+684	Flow Line inside edge outlet Box	6.80	
1+2366	Δ RT 49°47'	4.81	
0+80		6.16	
0+40		8.27	
0+00		10.70	209.99
			309.99

3.49 22069
32069 21720
31720



offsets
~~4 ft.~~
~~4 ft.~~
4 ft.
"
"
"

5 MI. West end Cb Inlet 2+1481 PR 1753
63

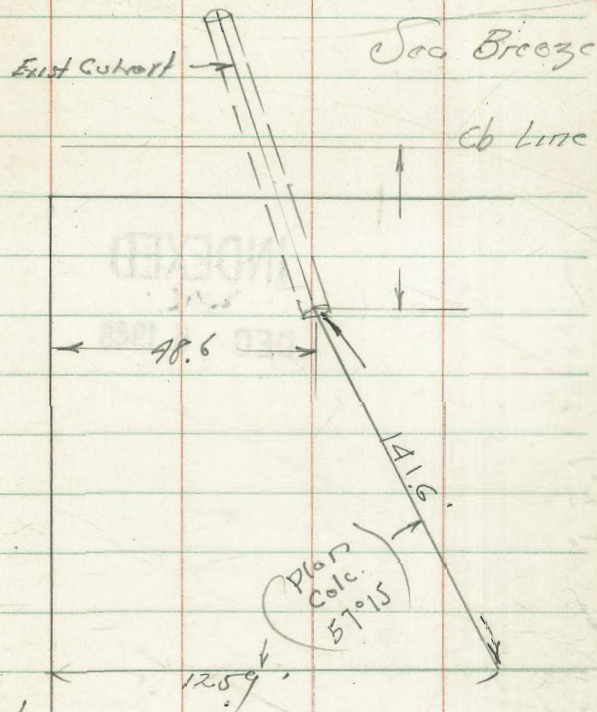
Walker
Hendricks
Fecher
10-28
10-28-47

Grades - Culvert Extension
Sea Breeze & Louder

Checked 4-7-48

Plan 3387-B

INDEXED
WK
DEC 6 1948



Elev.
Flow Line

Cuts
offsets

1+41.6	1158	223.90	223.90		
1+05	9.76	224.84	222.83	2.01	4' Rt.
0+70	12.87	221.73	221.82	-0.09	'
0+35	13.67	220.93	220.81	0.12	'
0+00	13.31	221.29	219.80	1.49	'
TP	3.56	234.60	11.63	231.04	
	0.72	242.67		241.25	

B.M. S.W.B. Cumberland & Sea Breeze

Grades for Extension
of Cleanout Box Culvert 1122
5th + Harbor

INDEXED
WIK
DEC 6 1948

Elev. Pav.
2 Box

399 3.16 316

589 7.15 136

BM RR Sph. in Pole Sketch P-31

Grades Sidewalk
S.W. 5th & Belt St.

40

INDEXED

WK
DEC 6 1948

Stakes Set on Plane of Walk
" 3' from Edge Walk

Elev.
Grade
of Stake

0+52 = End Conc Walk	3.65	3.50	3.79	-0.29
0+82	3.32	3.83	3.80	+0.03
0+12 = 0+00	3.43	3.72	3.82	-0.10
E.C. 15' Walk R	3.50	3.65	3.75	-0.10
BC. 15' Walk Radius = 15 from cb	3.69	3.46	3.52	-0.06

7.15
π P. 39

Walker
Hendricks
Becker
11-18-47

Grades - Asphalt Walk
5th + Belt St.

Sketch P-40

1+51.7			206
1+40	5.40	2.23	223 198
1+36	5.33	2.27	227 149
1+10	5.04	2.59	259 5.42 2.21 2.21
0+85 Bk	4.73	2.90	2.90
0+50	4.31	3.32	3.32
0+25	4.08	3.55	3.55
0+00	7.63	3.84	3.79
1+51.7	3		1.06
1+40			1.40 1.27
1+36			1.50 1.34
1+10			2.06 1.81
0+85 Bk	5.07	2.56	2.56 2.26
+50	4.68	2.95	2.95 2.59
0+25	4.74	2.79	3.37 3.34
0+00 - Beg. Asphalt Walk	4.29	3.84	3.34
0+00 - End Conc. Walk			3.79

1 4.13 7.63 3.50

B.M. on Stake 0+55 P-40

Walker
Handmets
Becker
Johnson
11-20-47

Grades - Sewer in Rosecrans St.
Between Evergreen ^{And} Cadiz St

Drawing No 7024-L

Fl.
Floor Line

Cuts offsets

3+364		742	4.97	-2.00	6.97	16' 4"
	POT.			-2.76	7.01	"
3+00	M.H. No 2	8.14	4.25	-2.86	7.11	"
+81.4		8.48	3.91	-3.06	6.97	"
+464		9.02	3.37	-3.45	6.82	"
2+11.4		9.34	3.05	-3.83	6.88	"
1+76.4		9.81	2.58	-4.22	6.80	"
T.P.	10.05 12.39	6.31	2.34			
1+41.4		6.47	2.18	-4.61	6.79	"
1+06.4		6.81	1.84	-4.99	6.83	"
0+71.4		6.97	1.68	-5.38	7.06	"
0+36.4		7.07	1.58	-5.96	7.34	"
0+00		7.18	1.47	-6.16	7.63	"
0-42		6.51	2.44	-6.62	8.76	"
T.P.						
0-42	6.06 8.65	4.77	2.59	-6.62		
0-84	Existing MH	4.00	3.36	-7.08	10.44	"

4.77 7.36

2.59

S.M. Rim MH = 0+00 FB 1715 -71
0-84

Grades - Sewer Const.
 Rosecrans Street Cont. from P-42

Station	Const.		Flow Line	Cuts	Offsets
+764	9.35	15.91	9.35	6.56	
+414	10.12	15.14	8.62	6.52	
8+064	10.89	14.37	7.88	6.49	
+714	11.63	13.63	7.15	6.48	
+364	12.31	12.95	6.41	6.54	
T.P.	13.09	25.26	0.17	12.22	
FP					
7+014	0.17	12.22	5.68	6.54	
6+664	0.89	11.50	4.94	6.56	
6+314	1.57	10.82	4.21	6.61	
5+955 = MH#3	2.26	10.13	3.45	6.68	
+814	2.57	9.82	3.14	6.68	
+464	3.16	9.03	2.41	6.62	
5+114	4.04	8.35	1.67	6.68	
4+764	4.67	7.72	0.94	6.78	
+414	5.39	7.00	0.20	6.80	
4+064	6.02	6.37	-0.53	6.90	
3+714	6.75	5.64	-1.27	6.91	

12.39
 K

Rosecrans Sewer
Cont. from p. 43

44

			Est. Flow		Cuts offset.
10+77		1.74	23.52	17.19	6.33 16' 2"
+35		4.33	20.93	15.51	5.42
10+00		6.19	19.07	14.11	4.96
+65		7.56	17.70	12.71	4.99
9+30		8.41	16.85	11.31	5.54
8+21	90° to Forward Turn	8.97	16.29	9.75	6.54
	MH 4	9.02		9.65	6.64
8+91	A R 100° 90° to Back Turn	9.02	16.24	9.75	6.49
				9.65	6.59
chk 9+60.43			16.25		
		25.26	9.02	16.24	
				.001	

FB 1755-72

Walker
Hendricks
Backer
Johnson
11-21-47

5th & Harbor
Curb Grades - Safety Island

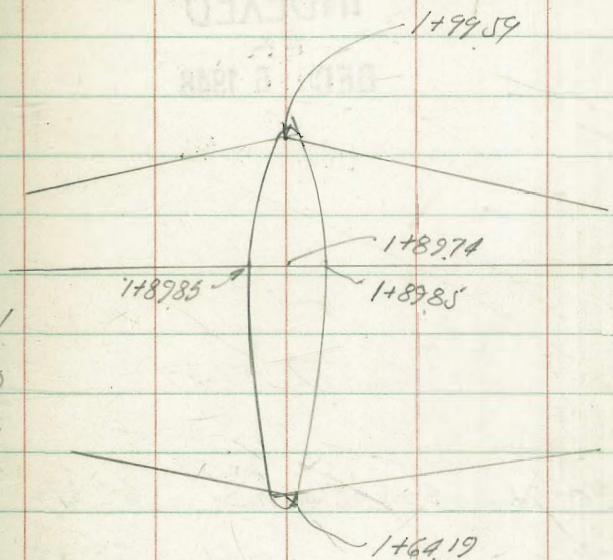
45

INDEXED

DEC ^{WK} 6 1948

1+99.97	499	3.16	3.67	-0.51
1+99.97 R	497	3.18	3.68	-0.50
1+89.85 R	496	3.19	3.70	-0.51
1+83.43 R	504	3.11	3.67	-0.56
1+83.43 L				
1+77.02 R	510	3.05	3.62	-0.57
1+77.02 L				
1+70.6 R	522	2.93	3.53	0.60
1+70.6 L				
1+64.19 L	531	2.84	3.39	0.55

6.89 8.15 1.26



Walker
Hendricks
Becker
Solomon
11-21-47

Grades - 6" Water Mains

1st from Division
to Marine View

Approx 6731-L

INDEXED

WK

DEC 6 1948

Cont'd P. 47

2+70	1st. line in Marine View	4.59	62.37	58.70	3.67	✓
2+50		4.61	62.35	59.04	3.31	✓
2+00		5.55	61.41	58.27	3.14	✓
1+50		6.33	60.63	57.51	3.12	✓
1+00		6.97	59.99	56.75	3.24	✓
0+50		7.72	59.24	55.99	3.25	✓
0+00	W. Division	8.43	58.53	55.24	3.29	✓

9.55 66.96

57.41

B.M. NW. BR 1st + Division FB 1707

68

Walker
Hindricks
Becher
Johnson
11-21-47

Grades - 6" Water Main

117 Marine View Ave

Drawing 6731-L

47

B.M.		9.48	57.42	57.41		NWBP LIST & DIVISION
T.P.	10.83	66.90	0.16	56.07		
2+72.70		12.04	44.19	40.53	3.66	✓
2+65.11		11.62	44.61	40.99	3.62	✓
2+23.04		8.66	47.57	44.54	3.04	✓
1+80.98		5.04	51.19	48.10	3.09	✓
1+62.70		4.03	52.20	49.63	2.57	✓
1+44.42		2.88	53.35	51.16	2.19	✓
T.P.	1.13	56.23	11.86	55.10		
1+02.21		9.78	57.18	54.23	2.95	✓
0+60.84		6.48	60.48	57.30	3.18	✓
0+20		4.59	62.37	58.70	3.67	✓
0+00 = E. line	11st	4.30	62.66	59.40	3.26	✓
	9.58	66.96		57.41		NWBP LIST & DIVISION

↑
All Carried From P-46

Nov. 26, 1947 Levels to Determine settlement
 of Fill on University Ave. Between
 Alabama & Florida St.
 Hendricks
 Johnson
 Becker

48

INDEXED

W.K.

AUG 23 1949

For Second Set Levels = P-49


CK Starting BM 6.722 265.961 265.960

No Hub 1.665 271.018

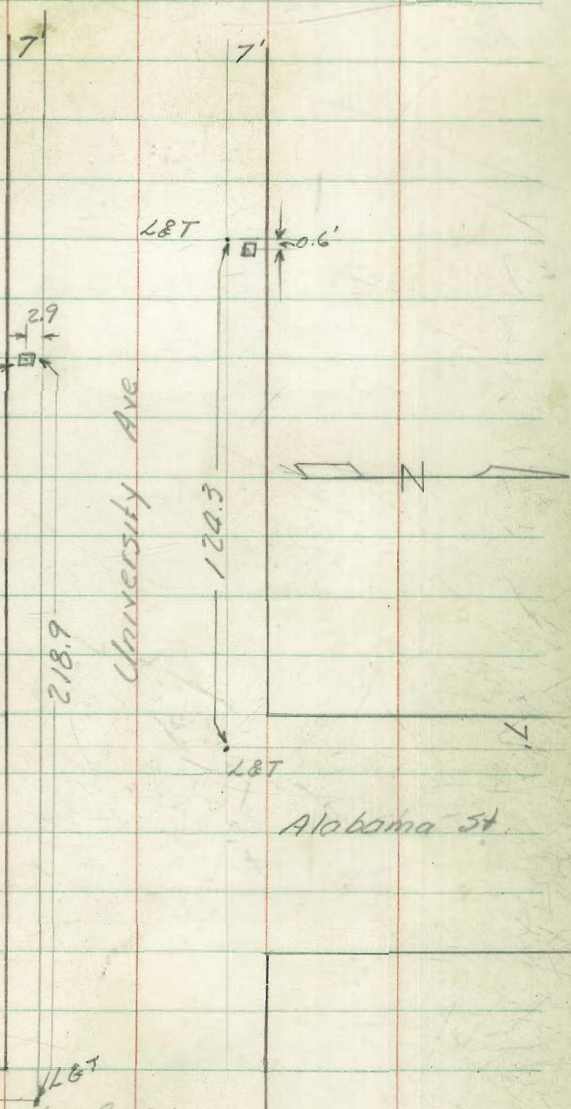
No L&T 1.488 271.195

So. Hub 3.247 269.436

B.M. 6.723 272.683 265.960

Set Hub
 with nail. 
 Elev. taken on
 nail 1/8" above
 Hub.

N.W.P. University & Alabama
 Alabama St.



12-18-47 Levels to Determine Fill
Hendricks Settlement on University Ave.
Becker Between Alabama & Florida St
Johnson

49

For sketch see p 48

2nd set.

For 3rd set see P-17

CE B.M. 6663 265.960

No. Hub 1602 271.022

No. L&T. 1434 271.189

30. Hub 3.189 269.434

B.M. 6663 272.623 265.960

NW
HEBP Alabama & University

Paradise Hills
Culvert Extension - Grades

in Block 6 W0 80 072

Walker
Hendricks
Becker
Williams
1-7-48

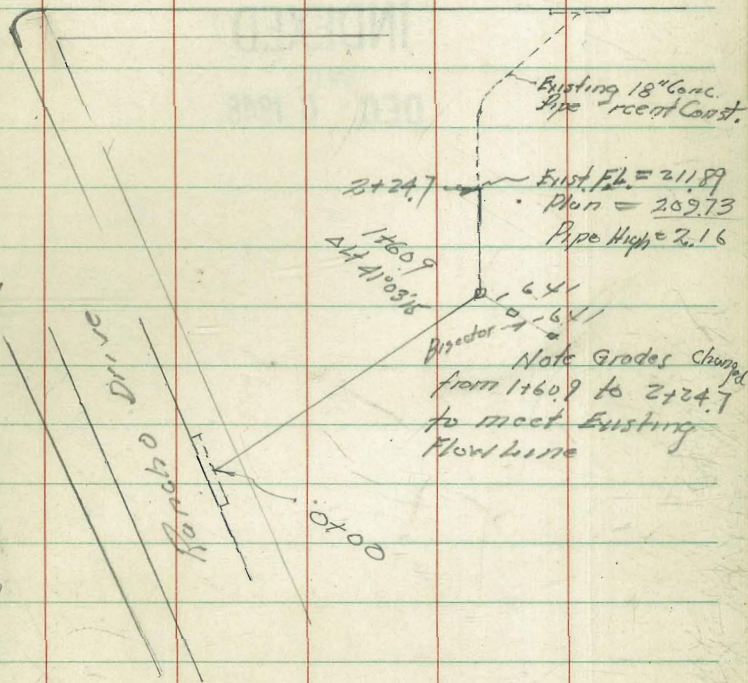
Plan 3389-B
(offset stakes C.R.T.)

Alleghany St.

INDEXED

WK
DEC 6 1948

chk starting B.M.	2.37	217.20	Flow Line Grades	Cuts
2+24.7 Chk. Exist Flow	7.68	211.89	211.89	
1+92.8	6.31	213.26	209.22	4.04
T.P. 878	219.57	126	210.79	
Break in Grade 1760.9-214410315	126	210.79	206.55	4.24
1+20	2.91	209.14	204.50	4.64
0+80	4.19	207.86	202.50	5.36
0+40	5.86	206.19	200.50	5.69
0+00	10.59	201.46	198.50	42.96
	15.74	196.18 - Plan 2	196.31	
T.P.	5.34	212.05	11.39	206.71
0.90	218.10		217.20	



B.M. Top cb. West end 10' cb Inlet South Side
Alleghany & East of Ranch

Grades for Culvert Extension

Walker Across Torrance St

Hendricks

Becker West of Reynard Way

Williams

4-9-48

Plan 7183-L

INDEXED

WIK
DEC 6 1948

0+36

6.08 168.87 164.23

0+00

163.09

10.43 174.25

164.52

Cwt offsets

4.64 6 ft

B.M. Top Hd Wall

North end Exist. Culvert
FB 1777-62

Walker
Becker
Williams

GRADERS - EXTENSION 54" Culvert
Block 6 - Pacific Beach Vista Tract

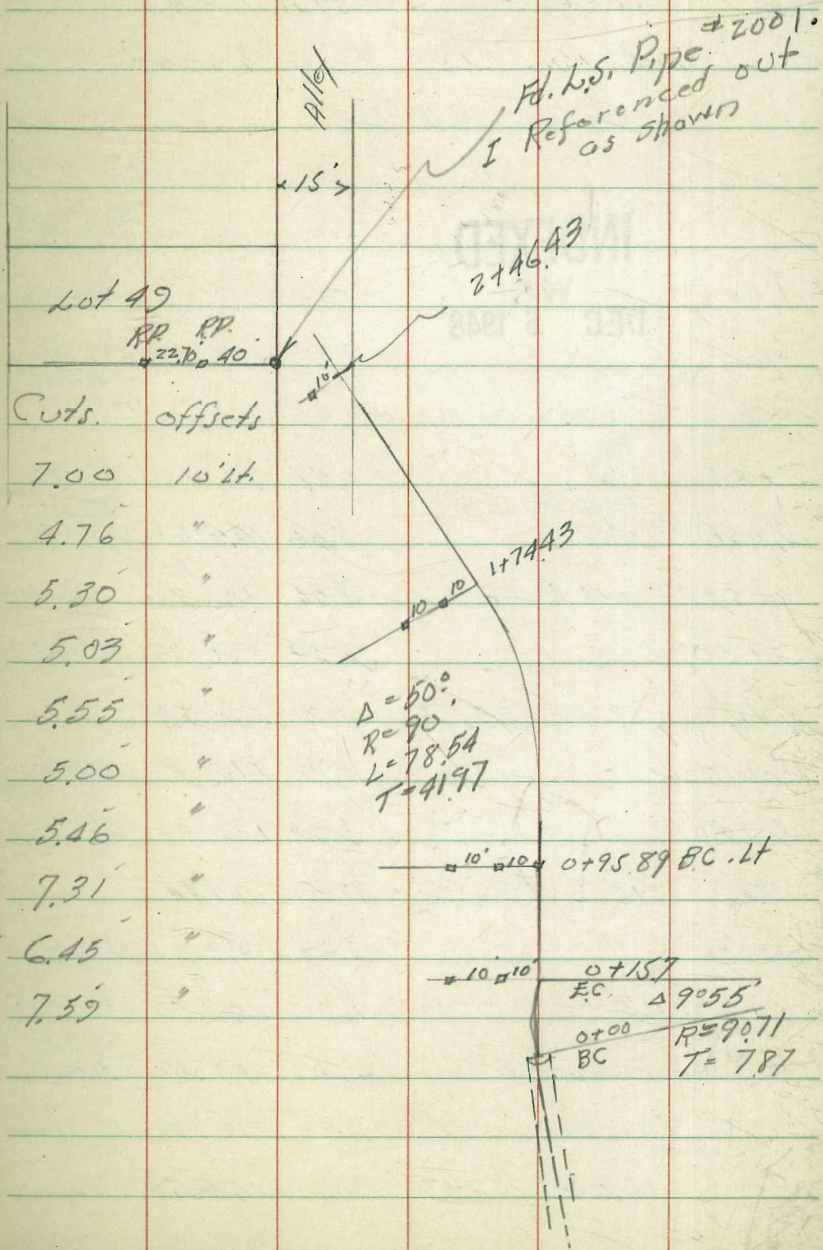
1-12-48 Filed Map #916 Plan 3455-B

INDEXED

WK
DEC 6 1948

		Elev. Flow line	
2+46.43 = End of Work	+0.87	115.85	108.85
2+10	3.59	111.39	106.63
1+74.43 = E.C.	5.24	109.74	104.47
1+58.73	6.44	108.54	103.51
1+43.02	6.88	108.10	102.55
1+27.31	8.39	106.59	101.59
1+11.60	8.89	106.09	100.63
0+95.89 = B.C. LT	8.00	106.98	99.67
0+56	11.30	103.68	97.23
0+15.7 = E.C.	12.63	102.35	94.76
0+00 on Flow	21.15	93.83	93.82
	7.51	114.98	107.47

52



Grades - Sewer Const.

Walker To Serve CRESTA REAL
 Hendricks
 Williams And P.L. 173 from Armada Ter.
 4 to Golden Park Ave.

Plan 7162-L

INDEXED

WK
 DEC 6 1948

Elev.
 Floor L.I.U.C.

2+45		1.45	203.57	198.70	4.87
2+15		7.06	197.96	192.86	5.10
TR	12.90	205.02	1.55	192.12	
1+85		1.55	192.12	187.02	5.10
	$\Delta Lt 10^{\circ}21'30''$			181.38	4.23
1+56.02	MH#2	8.06	185.61	179.88	5.73
			185.30	178.5	
1+56.02	chk & Hub	8.36	185.31		
1+30		12.34	181.33	174.55	6.78
TR	13.14	193.67	0.03	180.53	
1+10		4.19	176.37	170.45	5.92
0+80		9.23	171.33	164.30	7.03
TR	13.12	180.56	0.15	167.44	
0+50		3.68	163.91	158.15	5.76
0+20	Bk	11.02	156.57	152.00	4.57
				150.48	5.01
0+00	Proposed MH#1	12.10	155.49	150.80	4.69
0+00	Flare Exist. Sewer	17.41	150.18	150.18	
		12.00	167.59	155.59	

Cut offset

4.87

5.10

5.10

4.23

5.73

6.78

5.92

7.03

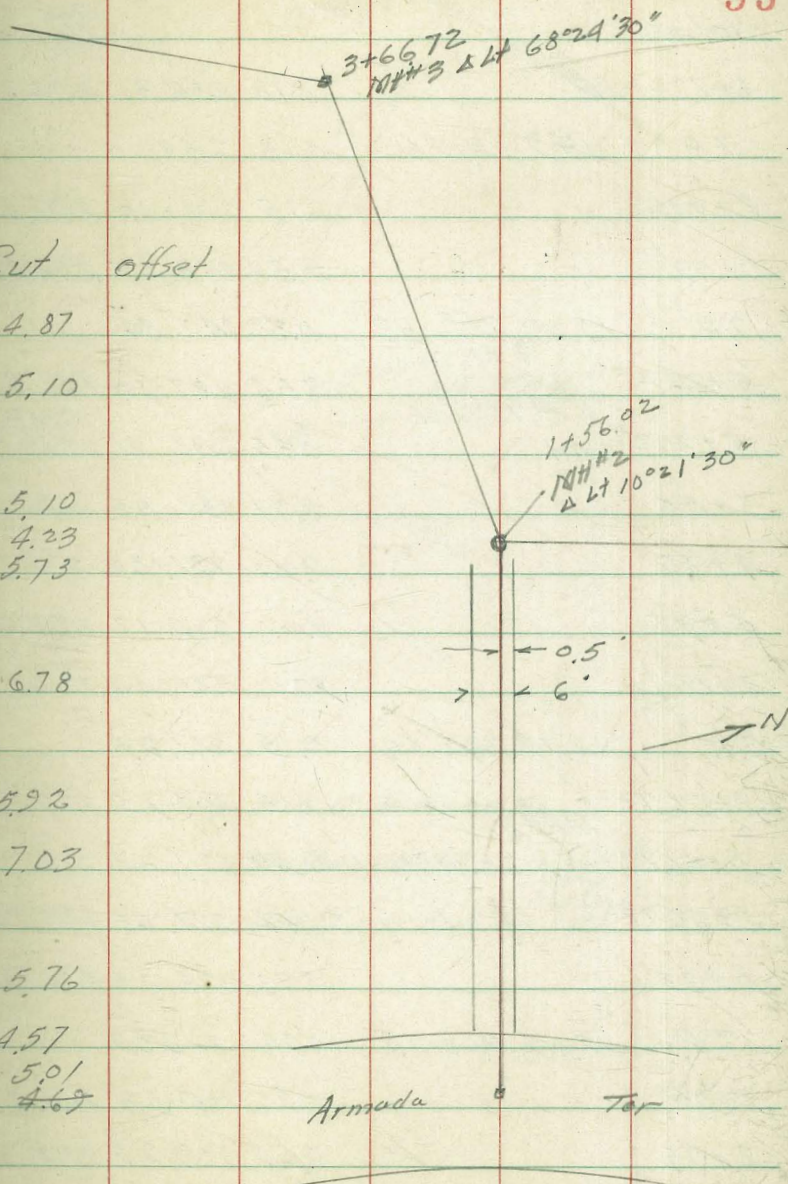
5.76

4.57

5.01

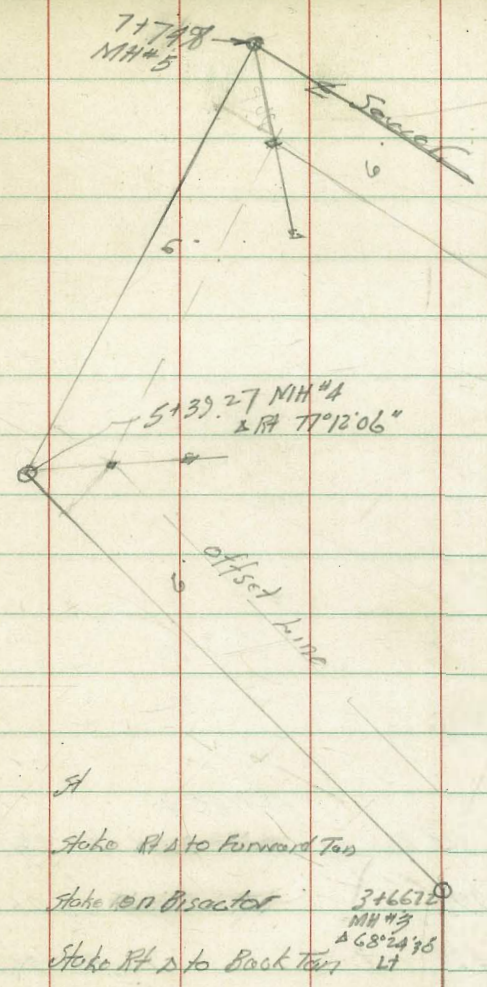
4.69

B.M. Top cb. 0+1303



Station			Elev.	Flow Line	
6+79.27-BK		8.18	256.51	252.35	4.16
T.P.	11.99	264.69	0.13	253.20	
6+44.27		2.15	251.18	245.35	5.83
6+09.27		9.58	249.75	238.35	5.40
T.P.	12.99	253.33	0.32	240.34	
5+74.27		3.56	237.10	231.35	5.75
	$\Delta R 77^{\circ}12'06"$			224.35	7.86
5+39.27-MH		8.45	232.21	224.10	8.11
5+05		8.71	231.95	223.75	8.20
4+70		9.06	231.60	223.40	8.20
4+35		8.49	232.17	223.05	9.12
4+00		9.22	231.44	222.70	8.74
T.P.	12.73	240.66	0.15	227.93	
3+66.72		0.15	227.93	222.37	5.56
	MH#3				
3+66.72-Lt	$68^{\circ}24'30"$	0.41	227.67	222.37	5.30
3+66.72		0.44	227.64	222.37	5.27
3+35		3.73	224.35	216.21	8.14
T.P.	12.49	228.08	0.96	215.59	
3+05		0.96	215.59	210.38	5.21
2+75		6.64	209.91	204.54	5.37
T.P.	12.98	216.55	1.45	203.57	

20502



Sta. Elev. Flow Line Cuts offsets

FB 1185-6A

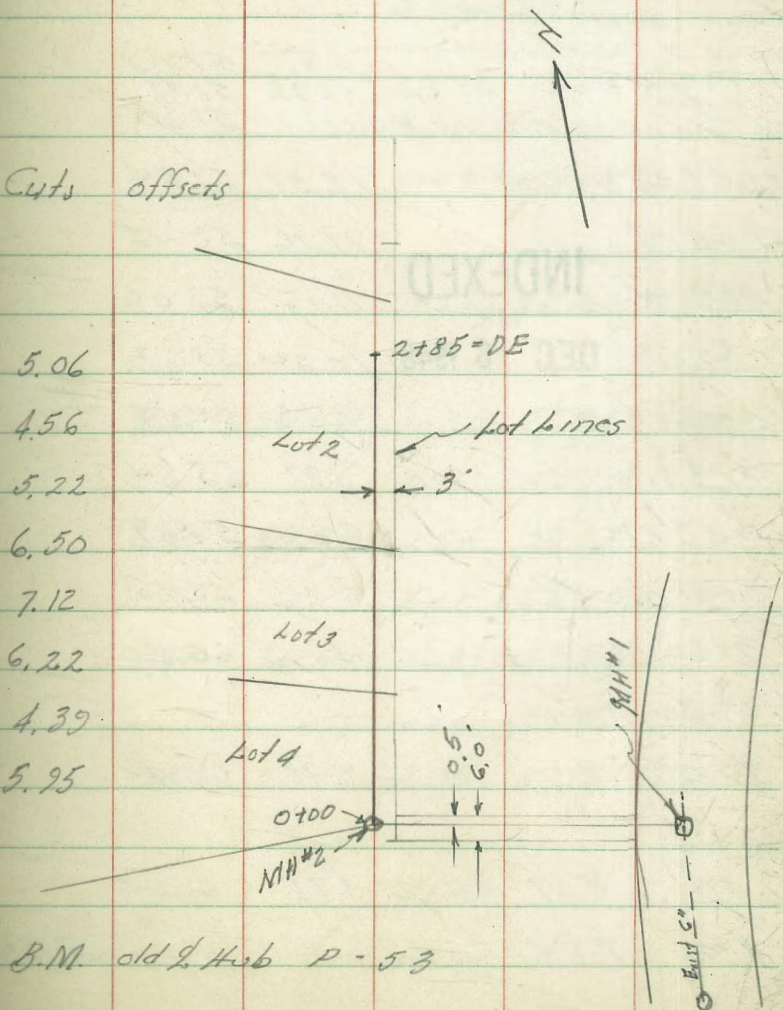
chk old Hub 6+18.71	6.57	267.99		
8+69.98	5.65	268.91	264.79	4.12
8+34.98	6.33	268.23	264.26	3.97
8+04.98 △ RH 21°11'40"	6.42	268.14	263.81	4.33
7+74.98 MH#5	6.58	267.98	263.36	4.62
7+39.27	10.20	264.36	259.25	5.11
7P 10.34 274.56	0.47	264.22		
7+09.27	4.61	260.08	255.80	4.28
	264.69			

Walter
Hendricks
Williams
4-16-28

Jerry Corst. Grades
in CRESTA REAL

Plan 7162-2

			El.			
			Flow	Line	Cuts	offsets
Chk Hub	1+99.48	FB 1785.34	6.03	⁰⁰² 191.65 191.67		
2+85-D.E.			2.73	194.97	189.91	5.06
2+42.5			4.49	193.21	188.65	4.56
2+07.5			4.88	192.82	187.60	5.22
1+72.5			4.65	193.05	186.55	6.50
1+37.5			5.08	192.62	185.50	7.12
1+02.5			7.03	190.67	184.45	6.22
0+67.5			9.91	187.79	183.40	4.39
0+32.5			9.40	188.30	182.35	5.95
0+00	MH#2 15602P. 53				181.38	
			12.39	197.70	185.31	



1-19-48 Paving Grades Marine View
 Hendricks 41st St to 40th St
 Becker
 Johnson

Sta + H.I. - Elev Lt B.M.

Station

- Elev R - Elev RL

1+81.86
 W Line Alley
 End Ch. So Line Marine View 0.87 51.10
 TP. 0.08 51.97 12.32 51.89
 E. Line Alley
 End Ch. So Line Marine View 12.71 51.50

0.66 51.31

1+69.38 PCC Lt. 12.37 51.84

12.13 52.08

1+63.14 11.76 52.45

1+56.90 11.15 53.06

11.37 52.84

INDEXED

WK

1+50.60 DEC 6 1948 10.54 53.67

1+44.22 B.C. 9.93 54.28

9.87 54.34 10.60 53.61

1+23.21 8.37 55.84

9.07 55.14

1+02.21 6.82 57.39

6.84 57.37 7.54 56.67

0+81.10 5.26 58.95

6.01 58.20

0+60 B.C. 3.71 60.50

3.80 60.41 4.48 59.73

0+30

3.40 60.81

0+00 1.77 62.44

1.63 62.58 2.33 61.88

TP. 2.67 64.21 3.71 61.54

B.M. 7.84 65.25 57.41

N.W.B.P. 41st & Division

Cont'd. from P. 57

58

Sta.	H.I.	-	Elev. Lt.	-	Elev. R.	-	Elev. Rt.
CG	2+88.99	2' offset	8.71 43.26	P-60			43.24
3+13.21	Lt.		9.51				42.46
3+07.39	Rt.				10.18		41.79
2+99.46	Rt.				9.67		42.30
2+94.79	Lt.		9.30				42.67
2+88.99	BC Rt.				9.05		42.92
2+78.47					8.39		43.58
2+77.33	BC Lt.		8.69				43.28
2+69.12					7.66		44.31
2+59.82			7.72				44.25
2+57.43					6.65		45.32
2+36.40					4.91		47.06
2+27.05					4.08		47.79
2+24.90			4.83				47.14
2+15.37					3.17		48.80
1+94.34	EC				1.42		50.55
1+89.99	EC 5' CB R.		1.94				50.03
1+84.99	EC				0.69		51.28

51.97

T

CURB GRADES - MARINE VIEW

South from 41st to 40th
Curb line
Stations

Walker
Hendricks
Becker
Johnson
1-6-48

1+89.99 = EC. 5'cb Radius	1.48	51.29	50.78	+0.51
2 5'cb Return	1.85	50.92	51.00	-0.08
BC. 5'CB Radius on Whine Alley	1.76	51.01	51.11	-0.10
W.L. Alley	1.19	51.58	51.14	+0.44
S.L. Marine View	+0.25			
5' Whine Alley		53.02	52.07	+0.95
End cb = Shute Marine View				
EC. 2' Alley R	0.75	52.02	52.40	-0.38
2' Alley R				
1+69.38 = P.C.S.	0.75	52.02	52.59	-0.57
T.P.				
1+63.14 0.05	12.83	52.72	53.20	-0.48
1+56.90	12.34	53.21	53.81	-0.60
1+50.66	11.50	54.05	54.42	-0.37
BC. Lt				
1+44.42 Bk	11.12	54.43	55.03	-0.60
1+02.21	7.51	58.04	58.14	-0.10
= 0+60 Bk				
SW				
③ = EC. on Marine View	4.53	61.02	61.25	-0.23
②	4.37	61.18	61.52	-0.34
①	4.07	61.48	61.58	-0.10
BC Ret on 41st SW	4.16	61.39	61.47	-0.08

INDEXED
WK
DEC 6 1948

11.87 53.68 54.03 -0.35
8.57 56.98 57.09 -0.11

65.55

0+00 E. Line 41st 63.19

8.14 65.55 57.41

PM. N.Y. B.R. DIVISION + 41st

Curb Grades - Marine View

South
Curb Line
Stations

				Exist 'b.
2+9946 on Rt	9.26	42.81	42.81 42.88	0.00 -0.07
2+88.99 on Rt	9.53	43.24	43.31 43.36	-0.07 -0.12
2+78.47 " "	9.17	43.60	43.97 44.00	-0.37 -0.40
3+13.21	9.77	43.00	43.00 43.05	0.00 -0.05
3+04.00	9.63	43.14	43.06 43.10	+0.08 +0.04
2+94.79	9.57	43.20	43.28 43.31	-0.08 -0.11
2+86.06	9.15	43.62	43.58 43.60	+0.04 +0.02
2+77.33 BC. 633'6R	7.95	44.82	43.95	+0.87
2+59.82	7.71	45.06	45.00	+0.06
2+24.90	4.99	47.78	47.88	-0.10

52.77

Hendricks
Becker
Johnson
1-19-48

Paving Grades 41st St.
Division to Marine View

Sta. + H.I. - Elev. Lt. B.M.

- Elev. Rt. - Elev. Pt.

INDEXED
WK
DEC 6 1948

TP	3.71	61.54	61.47
2+5004 BC.	4.25	61.00	
2+10	4.82	60.43	
1+75	5.32	59.93	
1+40	5.82	59.43	
1+05	6.32	58.93	
0+70	6.82	58.43	
0+35	7.32	57.93	
0+20			
0+00	7.82	57.43	

B.M. 7.84 65.25 57.41

61

S.W. Ref. BC. 41st & Marine View

62.06 2.93 62.32

61.45 3.55 61.70

60.93 4.09 61.16

60.40 4.62 60.63

59.88 5.15 60.10

59.35 5.68 59.57

58.83 6.21 59.04

58.60

58.31 6.74 58.51

N.W. Ref. 41st & Division

Const. Curb Grades 41st St.

Division St. to Marine View

Sta	+ H.I	- Rod Lt.	Elev. Cb Lt.	Elev. Cb Stake Lt.	Cutor Fill on Lt.	- Rod Rt.	Elev. Stake Rt.	Elev. Cb Grade Rt.	Cutor or Fill Rt.
TP.		1.17							
2+50.04 BC Return		3.98	61.47	61.45	FO ⁰²	2.24	63.09	63.07	Exist. Cb.
2+10		4.39	60.92	60.96	CO ⁰⁴	3.02	62.31	62.45	FO ⁰⁴
1+75		4.91	60.44	60.42	FO ⁰²	3.43	61.90	61.91	FO ⁰¹
1+40		5.44	59.96	59.89	FO ⁰⁷	3.86	61.47	61.37	CO ¹⁰
1+05		5.86	59.48	59.47	FO ⁰¹	4.57	60.76	60.83	FO ⁰⁷
0+70		6.48	58.99	58.85	FO ¹⁴	5.34	59.99	60.28	FO ²⁹
0+35		6.92	58.51	58.41	FO ¹⁰	5.69	59.64	59.74	FO ¹⁰
0+00 Exist. Cb.		7.31	58.03	58.02	Exist. Cb.	6.13	59.20	59.20	Exist. Cb.
	7.92	65.33	57.41						
					N.W.B.P. 41st & DIVISION		1207		
							68		

Const. Grades for Curbs Marine View
41st St to 40th St.

Sta		H.I.	- Rod Lt.	Elev State on Lt.	Elev. Gb. Grade Lt.
1470.96			11.6	52.9	51.97
1469.38					
1460	W.M.				
1456.90					
1444.42	B.C. Brk.		9.6	54.9	55.03
1434					
1423.32					
1402.21			5.8	58.3	58.24
0181.11	Brk.				
0170	W.M.				
0160	Brk.		3.9	61.45	61.25
0141	W.M.				
0140					
0123	W.M.				
0120					
0100					63.19
TP	0.29	64.45	117	64.16	
	792	6533		57.41	

Cut or Fill Lt.	- Rod Rt.	Elev State On Rt.	Elev. Gb. Grade Rt.	Cut or Fill Rt.
CO ²				
	12.30	52.15	52.50	FO ³⁵
	11.83	52.62	53.08	FO ⁴⁶
	11.60	52.85	53.27	FO ⁴²
FO ¹	10.50	53.95	54.03	FO ⁰⁸
	7.63	54.82	54.81	CO ⁰¹
	9.15	55.20	55.56	FO ²⁶
CO ¹	6.92	57.53	57.09	CO ⁴⁴
	5.46	58.99	58.62	CO ³⁷
	4.95	59.50	59.45	CO ⁰⁵
CO ³	4.59	59.86	60.15	FO ²⁹
			60.90	CO ³⁶
	3.19	61.26	61.58	FO ³²
			60.94	CO ²⁸
	3.23	61.22	61.60	FO ³⁸
			61.60	CO ⁵⁵
	2.20	62.15	61.98	CO ¹⁷
			61.72	CO ⁴⁴
	2.22	62.12	62.05	CO ¹
	1.10	63.35	62.50	CO ⁸⁵

Sta.	+	H.T.	- Rod Lt	Elev. Stake on Lt.	Elev. Grade	Color Fill Lt.	- Rod Rt.	Elev. Stake on Rt.	Grade Rt.	Cor F Rt.
				57.41						
B.M.			7.55	57.43						
TP	13.03	64.98	0.14	51.95						
2+78.47							8.45	43.64	44.00	FO ³⁶
2+71 W.M.							7.83	44.26	44.62	FO ³⁶
2+57.43							7.04	45.05	45.75	FO ⁷⁰
2+55.09			5.46	46.6	45.00	C16				
2+36.40							5.11	46.98	47.49	FO ⁵¹
2+18 W.M.							3.66	48.43	49.01	FO ⁵⁸
2+15.19							3.43	48.66	49.24	FO ⁵⁸
2+12.02			2.37	49.7	48.38	C13				
1+94.34 EC.							2.10	49.99	50.97	FO ⁵⁸
1+81.86							1.12	50.97	51.74	FO ⁷³
TP	0.14	52.09	12.50	51.95						

6445

Walker
 Handmade
 Becker
 Johnson
 12-15-47

Grades for Conist. 24" Conc. Culvert

East of 30th from K-St to J-St.

Plan 6707-L

Station	INDEXED		Elev.	Flowline	Cuts.	offsets	
3+248	DEC 6 1948	W/K	6.96	73.37	69.00	4.37	6'4"
3+00			5.54	74.79	68.87	5.92	
T.P.	364	80.33	2.52	76.69			
2+70			4.34	74.87	68.72	6.15	
2+40			5.17	74.04	68.57	5.47	
2+02			5.38	73.83	68.38	5.45	
T.P.	571	79.21	3.84	73.50			
1+60			3.84	73.50	68.17	5.33	
1+20			4.04	73.30	67.97	5.33	
+80			4.09	73.25	67.77	5.48	
+40			4.66	72.68	67.57	5.11	
0+00			5.92	71.42	67.37	4.05	
0-31.7			6.20	70.54	67.35	3.19	
0-31.17			6.74	70.60	67.20	3.40	
0-39.17			7.48	69.86	67.06	2.80	
	6.03	77.34		71.31			

N Side K-St
 B.M. N edge side Walk EB. 1285-79

24" Drains
Cont from P-65

66

			Fl.			
			Horiz Line	Cuts	offset	
Sta B.M.S.W.B.P. Jr 30th	330	77.03				
3+80.17	589	74.44	70.06	4.38	6'4"	
3+52.4	615	74.18	69.55	4.63		
	80.33					

Walker
Hendricks
Boeker
Johnson
1947

Grades - Curb & Walk
NW Side Fenelon St.
from Rosecrans to Scott St.
Elev.
Curb

INDEXED
WK
DEC 6 1948

⑥	6.43	0.39	0.39
⑤	6.45	0.37	0.37
④	6.46	0.36	0.36
③	6.45	0.37	0.37
②	6.41	0.41	0.41
①	6.37	0.45	0.45
2+48=BC. 43' Radius.	6.32	0.50	0.50
+40	6.25	0.57	0.57
2+10	5.99	0.83	0.83
1+80	5.74	1.08	1.08
+50	5.48	1.34	1.34
1+20	5.23	1.59	1.59
+90	4.97	1.85	1.85
+60	4.72	2.10	2.10
+30	4.46	2.36	2.36
0+00=EG. 43'cb Radius	4.21	2.61	2.61

407 6.82

2.75

67

Fd. 4 Crosses
on Rim Sewer MH

offsets

7' Lt.

"

"

"

"

"

"

"

"

"

"

"

"

"

"

0+00

35'

Fd. Id
+ Disk

BM
NW. S.P. Rosecrans & Garrison

Rosecrans

Fanelon Curb Grades
Cont. from p. 67

El. curb

offsets

8 - E.C. on SCOTT ST 6.36 0.46 0.46

7 ft.

⑦ 6.40 0.42 0.42

"

6.82

$\frac{2}{3}$

1-20-48
Hendricks
Becker
Johnson
NO 60136

Extension of Sewer Laterals
No. of St Between 41st & Denby

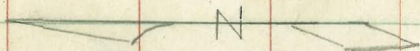
1/5/48 69

Sta F.L. El. - Cuts.

INDEXED
JAN 23 1948

1169	New DE	9.86	3.62	6.24
1139		11.66	3.74	7.92
1109	DE	13.46		
0+00	MH#2	20.17		

1468	DE	14.52	1.94	12.58
1438		15.25	2.43	12.82
1408	DE	15.99		
MH#1	0+00	18.63		



Denby St

EX MH #2
109'
Sewer Easement DE 60' Extension

Toyne St.

EX MH #1
108'
Sewer Easement DE 60' EXT

41st St.

1-22-48 Finish Paving Grades 41st St
Hendricks Division to Marine View
Becker
Johnson

70

Sta. + H.I. - Elev. & Elev
Subgrade

TP. 3.75 61.54

SW Ref BC. 41st & Marine View

2+50.00 50 Line Marine 3.56 62.06 61.73

2+10 4.17 61.45 61.12

1+75 4.69 60.93 60.60

1+40 5.22 60.40 60.07

1+05 5.74 59.88 59.55

0+70 6.27 59.35 59.02

0+35 6.79 58.83 58.50

0+20 B.K. 7.02 58.60 58.27

0+00 Existing paving 6.98 58.31

BM. 788 65.29 57.41

NW BP 41st & Division

Cont'd. from P. 71

Sta + H.I. - L Elev. L

2+90.16

2+89.17 B.C. L

2+86.68 B.C. L 7.92 43.28

2+79.69 B.C. R

51.20

72

- L Elev. & Subgrade - Rt. Elev. Rt.

42.30

8.38 43.15 42.82

8.28 42.92

Walker
Hendricks
Becker
Williams.
3-4-48

Curb Grades East Side Plaza
17 Balboa Park - Near Fine Arts Bld.

EL. Curb

1+37

440 265.77 265.77

1+25'

1+00

0+75

0+50

0+25

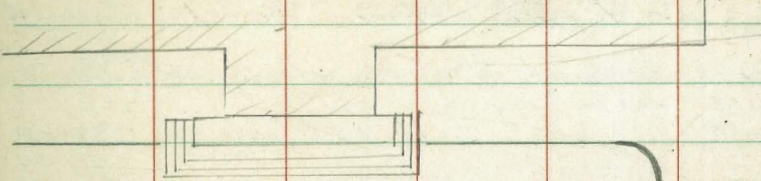
0+00

636 270.17

263.81

FINE ARTS BLD.

73



offset
1' Rt

1+37

INDEXED

WK

DEC 7 1948

Control Point
No 12
S.M. = 263.81
E.S. 1820
5

0+00

Laurel

Street

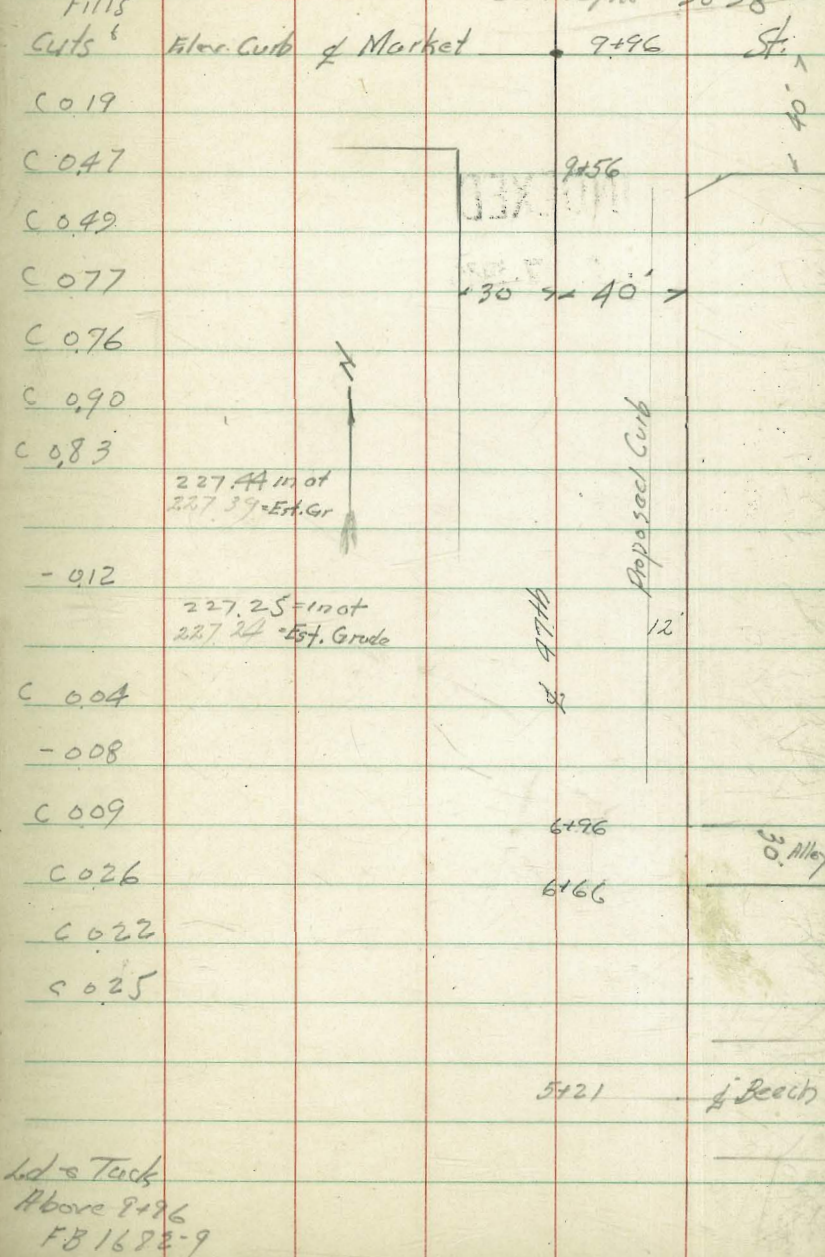
Walker
Hendricks
Baker
Withorns

47th St. Gutter Grades 3-5-48
East Side Between Beech & Market St.

Note: Elevations shown for Gutter Grades
are 0.67' below Curb Grade shown
on Profile # 3038 74

Station	Description	Elev. Gutter Line		
9+96	2 Market St.			
9+63	Int. East Paving	3.61		228.11
9+56		3.50	228.22	228.03
				227.88
9+46		3.37	228.35	228.25
9+36		3.50	228.22	227.73
9+03		3.52	228.20	227.43
8+78		3.79	227.93	227.17
8+53		3.91	227.81	226.91
8+23		4.12	227.60	226.77
8+11	chk End East 10' curbs	4.28	227.44	
7+93		5.21	226.51	226.63
7+76	chk Beg. East 10' chs	4.47	227.25	
7+63		5.18	226.54	226.50
7+43		5.43	226.29	226.37
7+23		5.46	226.26	226.17
7+03		5.56	226.16	225.90
6+83		5.95	225.77	225.55
6+63		6.34	225.38	225.13
6+00	chk 8700 on S. Pav.	4.53	227.19	
5+21	2 Market St.			
		367	231.72	228.05 - B.M.

INDEXED
WK
DEC 7 1948



Wulker
Hendricks
Johnson
11-28-47

Curb Grades
UNIV. & 1st Ave

INDEXED

WK

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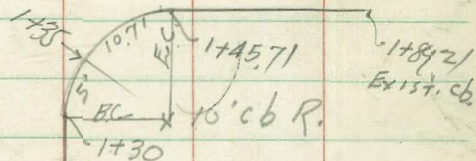
1+95.71	4.51	279.62	
1+89.81	4.40	279.73	
1+70.71	4.33	279.85	79.85 79.80
1+45.71 = 5' Pine UNIV. = E.C. 10' cb R	4.38	279.75	279.75
1+30 ³⁵ = 8' k. W.L. 1st Ave	4.54	279.59	279.59
1+25 ³⁰ = 8' c. 10' cb R	4.64	279.49	279.49
1+20 ²⁵	4.77	279.36	279.36
1+05	5.31	278.82	278.82
0+80	5.98	278.15	278.15
0+55	6.65	277.48	277.48
0+30	7.32	276.81	276.81
0+03 = E.C. 3' Radius	8.05	276.08	276.08
0+00 = 4' E. White Alley			276.00

5.63 289.13

278.50

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1st Ave



UNIV. Ave

3' Alley R.
0+00

Alley

B.M. N.W. B.R. UNIV. & First Ave

GRADES - Culvert Extension
North West Wing Nat. History Museum

Mulder
Hendricks
Sabel
Williams
4-21-48

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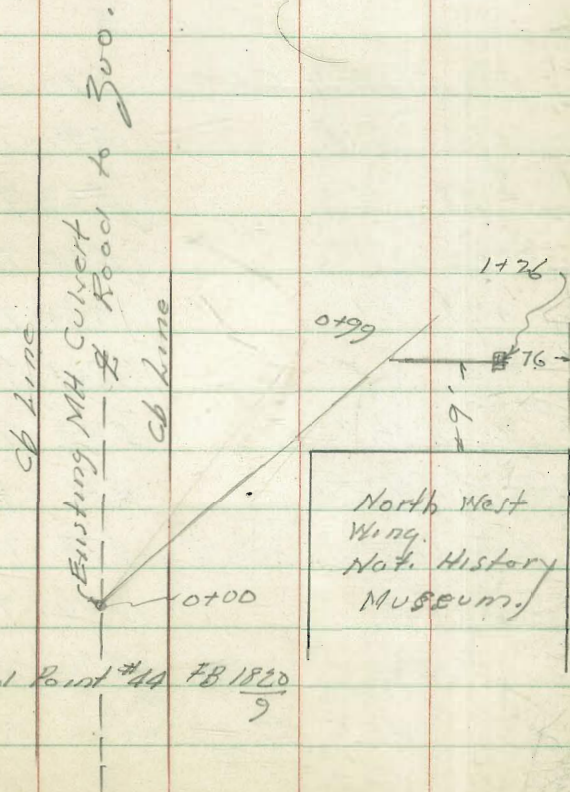
WK

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			El. Flow Line
1+26 - Existing Catch Basin	1040	275.66	275.50
			274.92
0+99 - A Pt.	862	277.44	274.83
			274.18
0+66	478	281.28	274.02
			273.44
0+33	644	279.62	273.21
			272.70
0+00 Main line North's Survey Flow Line	1349	272.57	272.40
0+00 Rim	718	278.88	
	371	286.06	282.35

Cuts

2.52
2.61
7.10
7.86
6.18
6.47



Walker
Hendricks
Joosel
11-25-47

Valley Gutter Elevations
West Side - A St. at 10th

INDEXED

WK
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0+30	Gut.	315	75.08	
		376	74.47	
		416	74.07	
0+25	Gut.	482	73.41	
= 0+00	Gut.	573	72.50	
E.C. on	cb	527	72.96	
			72.94	
5.29	78.23			
			Elev. Proposed	
			Present - Grades	
			- Gutter	
		5'		
+80	Sl. A St Gut	590	71.99	71.99
+66	Gut.	579	72.10	72.22
+53	'	562	72.27	72.43
+40	'	554	72.35	72.65 = Brk
+27	'	550	72.39	72.72
+14	'	544	72.45	72.79
0+00				
= 11.2	A St "	543	72.46	72.87
= 25	Gut.	521	72.68	73.00
"	cb.	473	73.16	
-50	Gut.	500	72.89	73.14
"	cb.	450	73.39	
4.25	77.89		72.94	

-100			73.39	73.39
0-75		4.71	73.18	73.27
TP 535	78.29	4.95	72.94	
	77.89			
	72.94			

N.Y. Curb Return Grades
10th & B-Street.

Lengthen Radius from 10' to 20'

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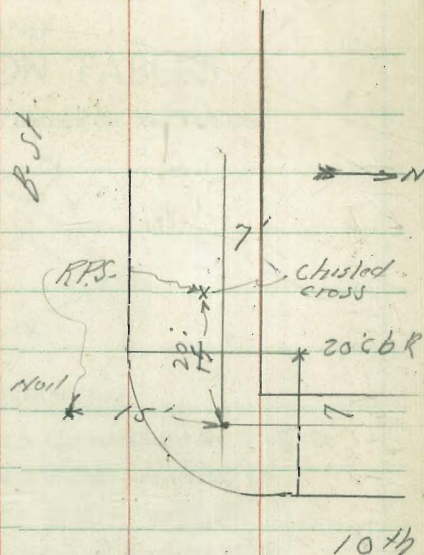
WIK

DEC. 7 1948

E.C. ① on B-St.	583	71.67	71.62	+0.05
③	568	71.92	71.73	+0.19
②	558	72.02	71.84	+0.18
①	549	72.11	71.95	+0.16
B.C. on 10th	593	71.67	72.06	-0.39

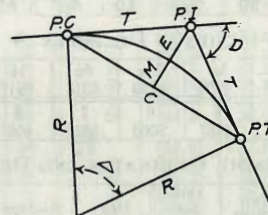
E.C. +30' N	645	71.15		
E.C. 20' Rad on	588	71.62		
N.L. B. on 10th	554	72.06		
53' N.W. B.	550	72.10		
5.16	7760	72.44		

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

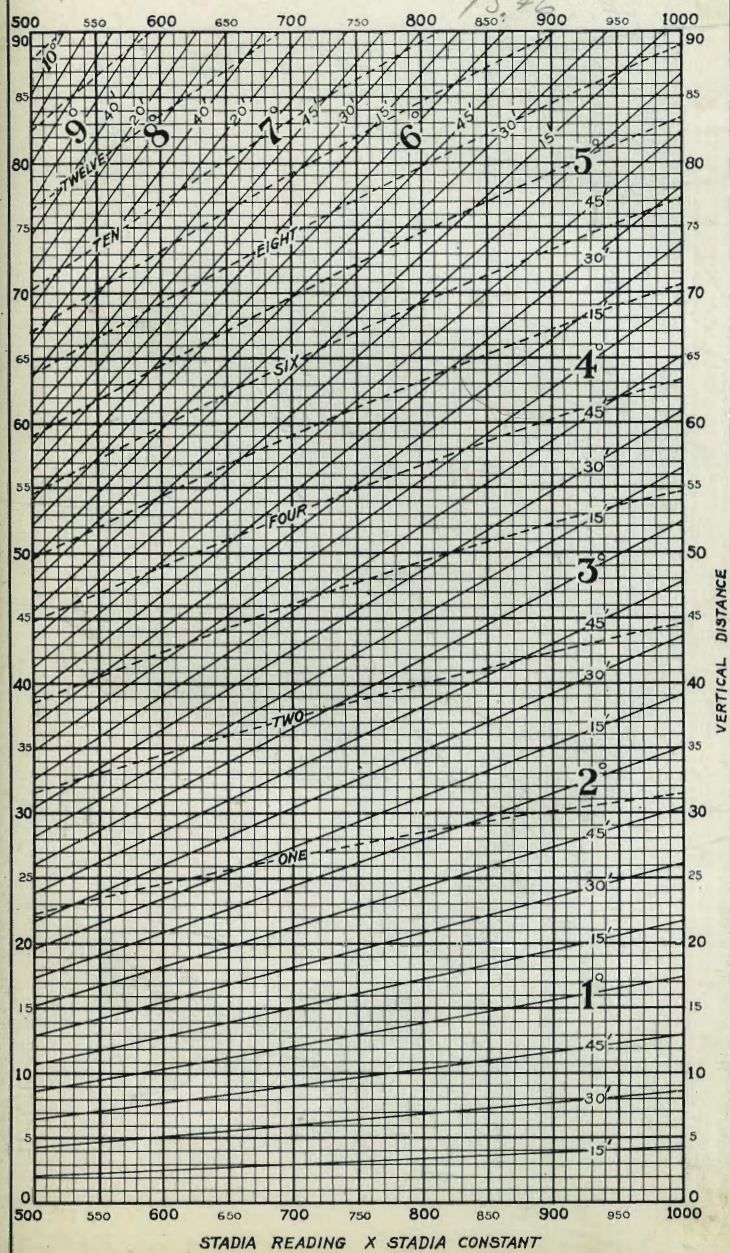
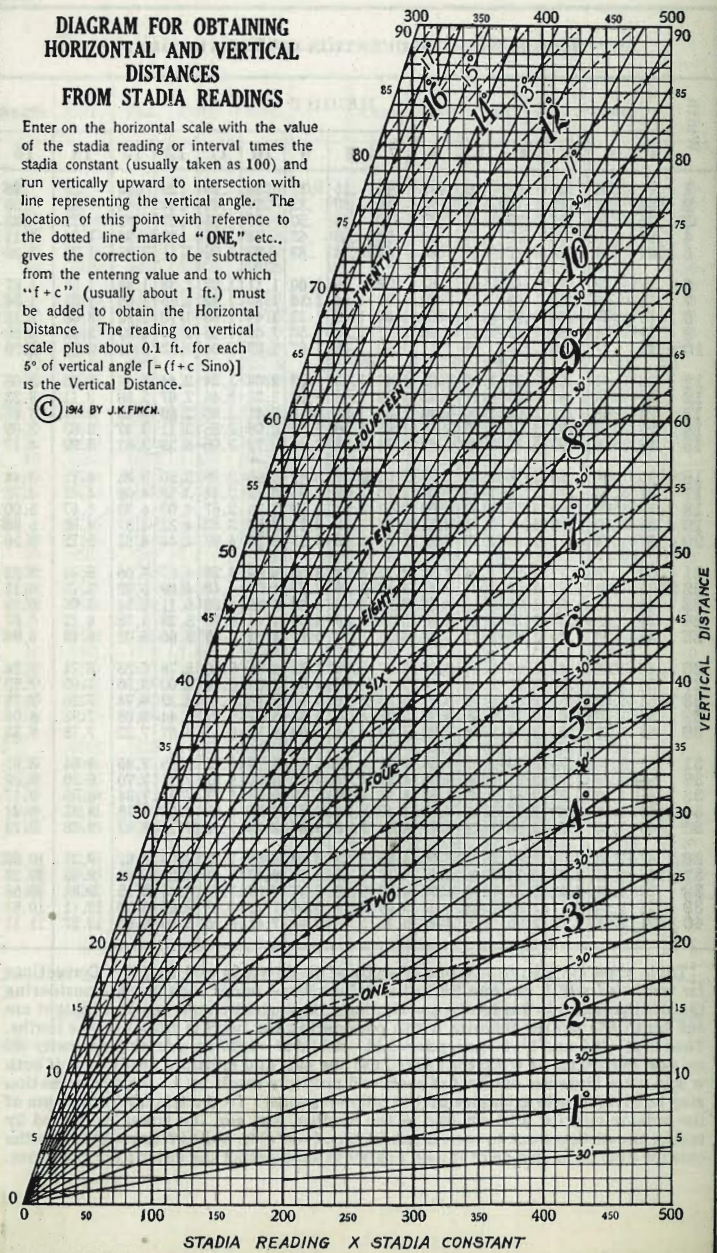
Deflections:—Deflection angle= $\frac{1}{2} D$ for 100 ft., $\frac{1}{4} D$ for 50 ft., etc. For c ft.—(in minutes) $.3 \times C \times D^\circ$ or—defl. for 1 ft. from Table III $\times C$. For Sta. 158 of above curve= $.3 \times 54.5 \times 8\frac{1}{3}=136.2'$ or $2^\circ 16.2'$, or= $2.50 \times 54.5=136.2'$ 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 $D=5^\circ 30'$.

**DIAGRAM FOR OBTAINING
HORIZONTAL AND VERTICAL
DISTANCES
FROM STADIA READINGS**

Enter on the horizontal scale with the value of the stadia reading or interval times the stadia constant (usually taken as 100) and run vertically upward to intersection with line representing the vertical angle. The location of this point with reference to the dotted line marked "ONE," etc., gives the correction to be subtracted from the entering value and to which "f+c" (usually about 1 ft.) must be added to obtain the Horizontal Distance. The reading on vertical scale plus about 0.1 ft. for each 5° of vertical angle [$-(f+c \text{ Sino})$] is the Vertical Distance.

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170.0
 145.5
 600) 24.500 4.083
 24.000
 5000
 4800 4.49900
 2000

145.5
 129.5
 16
 05333
 300
 15.99900

469.52
 149
 471.01x

576
 441.14
 576
 38
 447.00
 576
 441.24



3145 ✓
 709
 3745
 5133
 9078

995
 52
 470
 1230
 1680
 59
 1740

265966
 6663
 272623

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) × 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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