G ~ 215

HETZ

LEVEL BOOK

No. 772

TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100 00	0 44	100.00	0.87	99.99	1.31	89
1	99.98	1 75	99 98	2 18	99 97	2.62	99 95	3.05	88
2	99.94	3.49	99 92	3.93	99 91	4 36	99.88	4.80	87
3	99.86	5.23	99 84	5 67	99 81	6.10	99.79	6.54	86
4	99 76	6.98	99 73	7.41	99.69	7.85	99.66	8.28	85
5	99 62	8.72	99.58	9.15	99 54	9.58	99.50	10 02	84
6	99.45	10.45	99.41	10 89	99.36	11.32	99.31	11.75	83
7	99 25	12.19	99 20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16 50	98 56	16.93	80
10	98 48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98 16	19.08	98 08	19 51	97.99	19 94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21 64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24 62	96.81	25 04	96 70	25.46	75
15	96.59	25 88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27 98	95.88	28 40	95 76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30 07	95.24	30.49	72
18	95.11	30 90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35 43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38 67	67
23	92.05	39.07	91.88	39 47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89 69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87 67	48.10	61
29	87.46	48.48	87.25	48 86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52 99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60 53	79.34	60.88	79.07	61 22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

Published by the A. LIETZ Co., San Francisco, Cal.

MADE IN
U. S. A.

MICROFILMED
APR 24 1965
MICROFILMED
APRIL 1965

LIETZ STANDARD ENGINEERS' TRANSIT
With U Shaped Standards

No. 5E with 6¼″ limb. No. 11E with 5″ limb.

Furnished with either Internal or External Focusing Telescope.

CITY ENGINEER'S OFFICE

G-215

TABLE OF STADIA REDUCTIONS

For a Constant of 100.

ROD VERTICAL.

Min.	0°		1°		2°		3°	
	Hor. Dist.	Diff. Elev.	Hor. Dist.	Diff. Elev.	Hor. Dist.	Diff Elev.	Hor Dist.	Diff. Elev.
0'	100.00	.00	99.97	1.74	99.88	3.49	99.73	5.23
2	100.00	.06	99.97	1.80	99.87	3.55	99.72	5.28
4	100.00	.12	99.97	1.86	99.87	3.60	99.71	5.34
6	100.00	.17	99.96	1.92	99.87	3.66	99.71	5.40
8	100.00	.23	99.96	1.98	99.86	3.72	99.70	5.46
10	100.00	.29	99.96	2.04	99.86	3.78	99.69	5.52
12	100.00	35	99.96	2.09	99.85	3.84	99.69	5.57
14	100.00	.41	99.95	2.15	99.85	3.90	99.68	5.63
16	100.00	.47	99.95	2.21	99.84	3.95	99.68	5.69
18	100.00	.52	99.95	2.27	99.84	4.01	99.67	5.75
20	100.00	.58	99.95	2.33	99.83	4.07	99.66	5.80
22	100.00	.64	99.94	2.38	99.83	4.13	99.66	5.86
24	100.00	.70	99.94	2.44	99.82	4.18	99.65	5.92
26	99.99	.76	99.94	2.50	99.82	4.24	99.64	5.98
28	99.99	.81	99.93	2.56	99.81	4.30	99.63	6.04
30	99.99	.87	99.93	2.62	99.81	4.36	99.63	6.09
32	99.99	.93	99.93	2.67	99.80	4.42	99.62	6.15
34	99.99	.99	99.93	2.73	99.80	4.48	99.62	6.21
36	99.99	1.05	99.92	2.79	99.79	4.53	99.61	6.27
38	99.99	1.11	99.92	2.85	99.79	4.59	99.60	6.33
40	99.99	1.16	99.92	2.91	99.78	4.65	99.59	6.38
42	99.99	1.22	99.91	2.97	99.78	4.71	99.59	6.44
44	99.98	1.28	99.91	3.02	99.77	4.76	99.58	6.50
46	99.98	1.34	99.90	3.08	99.77	4.82	99.57	6.56
48	99.98	1.40	99.90	3.14	99.76	4.88	99.56	6.61
50	99.98	1.45	99.90	3.20	99.76	4.94	99.56	6.67
52	99.98	1.51	99.89	3.26	99.75	4.99	99.55	6.73
54	99.98	1.57	99.89	3.31	99.74	5.05	99.54	6.78
56	99.97	1.63	99.89	3.37	99.74	5.11	99.53	6.84
58	99.97	1.69	99.88	3.43	99.73	5.17	99.52	6.90
60	99.97	1.74	99.88	3.49	99.73	5.23	99.51	6.96
c= .75...	.75	.01	.75	.02	.75	.03	.75	.05
c=1.15..	1.15	.01	1.15	.03	1.15	.05	1.15	.07
c=1.90...	1.90	.02	1.90	.05	1.90	.08	1.90	.12

Min.	4°		5°		6°		7°	
	Hor. Dist.	Diff. Elev.	Hor. Dist.	Diff. Elev.	Hor. Dist	Diff. Elev.	Hor Dist.	Diff. Elev.
0'	99.51	6.96	99.24	8.68	98.91	10.40	98.51	12.10
2	99.51	7.02	99.23	8.74	98.90	10.45	98.50	12.15
4	99.50	7.07	99.22	8.80	98.88	10.51	98.48	12.21
6	99.49	7.13	99.21	8.85	98.87	10.57	98.47	12.26
8	99.48	7.19	99.20	8.91	98.86	10.62	98.46	12.32
10	99.47	7.25	99.19	8.97	98.85	10.68	98.44	12.38
12	99.46	7.30	99.18	9.03	98.83	10.74	98.43	12.43
14	99.46	7.36	99.17	9.08	98.82	10.79	98.41	12.49
16	99.45	7.42	99.16	9.14	98.81	10.85	98.40	12.55
18	99.44	7.48	99.15	9.20	98.80	10.91	98.39	12.60
20	99.43	7.53	99.14	9.25	98.78	10.96	98.37	12.66
22	99.42	7.59	99.13	9.31	98.77	11.02	98.36	12.72
24	99.41	7.65	99.11	9.37	98.76	11.08	98.34	12.77
26	99.40	7.71	99.10	9.43	98.74	11.13	98.33	12.83
28	99.39	7.76	99.09	9.48	98.73	11.19	98.31	12.88
30	99.38	7.82	99.08	9.54	98.72	11.25	98.29	12.94
32	99.38	7.88	99.07	9.60	98.71	11.30	98.28	13.00
34	99.37	7.94	99.06	9.65	98.69	11.36	98.27	13.05
36	99.36	7.99	99.05	9.71	98.68	11.42	98.25	13.11
38	99.35	8.05	99.04	9.77	98.67	11.47	98.24	13.17
40	99.34	8.11	99.03	9.83	98.65	11.53	98.22	13.22
42	99.33	8.17	99.01	9.88	98.64	11.59	98.20	13.28
44	99.32	8.22	99.00	9.94	98.63	11.64	98.19	13.33
46	99.31	8.28	98.99	10.00	98.61	11.70	98.17	13.39
48	99.30	8.34	98.98	10.05	98.60	11.76	98.16	13.45
50	99.29	8.40	98.97	10.11	98.58	11.81	98.14	13.50
52	99.28	8.45	98.96	10.17	98.57	11.87	98.13	13.56
54	99.27	8.51	98.94	10.22	98.56	11.93	98.11	13.61
56	99.26	8.57	98.93	10.28	98.54	11.98	98.10	13.67
58	99.25	8.63	98.92	10.34	98.53	12.04	98.08	13.73
60	99.24	8.68	98.91	10.40	98.51	12.10	98.06	13.78
c= .75...	.75	.06	.75	.07	.75	.08	.74	.10
c=1.15...	1.15	.09	1.14	.11	1.14	.13	1.14	.15
c=1.90...	1.89	.15	1.89	.18	1.89	.21	1.88	.25

Published by the A. LIETZ Co., San Francisco, Cal.

Walker
Hurdin ⊼
Boggs
9-27-44

GRADES for 6" Water Main
in Alley Blk. 4 - Teralta
Between Wabash & 34th
from N.L. Polk to 375' North

FB 1503/72

B.M. W/Top cb. Alloy on N.L. Polk Between Wabash & 34th → 359.45
8.22 +
367.67 ⊼

Grades are for Bottom Ditch 39" below
Established Grade of Paving

Station		⊼ 367.67			Grade = Bottom Ditch	Cuts	offsets
N.L. Polk = 0+00							
+48.5 = Brk			6.66	361.01	358.72	+ 2.3	5' W = ℄ Alloy (in Hole)
+88.5			4.62	363.05	360.08	+ 3.0	✓
1+35.17			3.81	363.86	360.85	+ 3.0	✓
+81.84			2.46	365.21	361.63	+ 3.6	✓
2+28.5 = Brk.			1.97	365.70	362.42	+ 3.3	✓
+68.5 = T.P. Brk	4.31	370.74	1.24	366.43	363.12	+ 3.3	✓
3+21.76			3.18	367.56	364.10	+ 3.5	✓
+75			2.48	368.26	365.08	+ 3.2	✓

INDEXED
WK
NOV 1 1948

Walker
Hardin
Beggs 9-27-44

Grades - 6" Water Main
in Alley Blk. 39 - Teralta
Between 34th And Felton
from Orange to El Cajon Ave

B.M. N.W. Orange + Polk 374.47
F.B. 580/70 Gone
0+00
N.E. Top Cb → 373.32
7.25
380.57

Stations		π			Elev. Bottom Ditch	
N.L. Orange Ave = 0+00		380.57				
+40 = Brk.			5.0	375.57	372.08	+3.5
+80			4.50	376.07	372.74	+3.3
1+20			3.7	376.87	373.12	+3.8
+60			3.21	377.36	373.35	+4.0
2+00			3.03	377.54	373.47	+4.1
+50			3.09	377.48	373.60	+3.9
T.P. 3+00	5.02	382.73	2.86	377.71	373.75	+4.0
+50			4.89	377.84	373.90	+3.9
4+00			4.87	377.86	374.05	+3.8
+50			5.10	377.63	374.20	+3.4
5+00			4.87	377.86	374.35	+3.5
+50			4.91	377.82	374.50	+3.3
+80			4.81	377.92	374.60	+3.3
6+07 = S.L. El Cajon					374.67	
chk. E Top Cb. S.L. El Cajon			4.81	377.92		
" W " "		F.B. 580/72		378.02		
				0.10		

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Hardin
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GRADES - 6" WATER MAIN
Alley Blk 40 - Teralta
Bet 33rd & Felton
from Orange to El Cajon

FB 1497/29

Top E.cb. Alley NL Orange → 369.72
8.61 +
378.33 ★

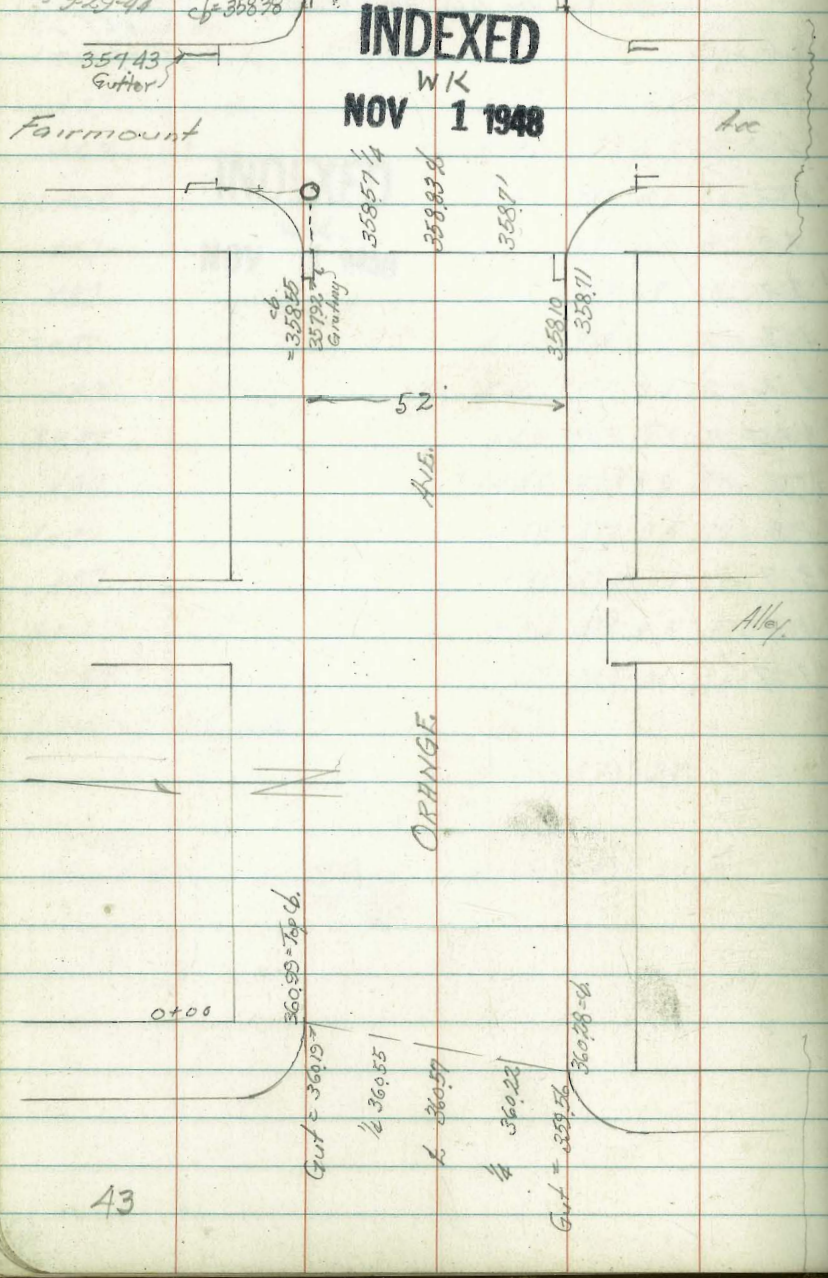
INDEXED
WK.
NOV 1 1948

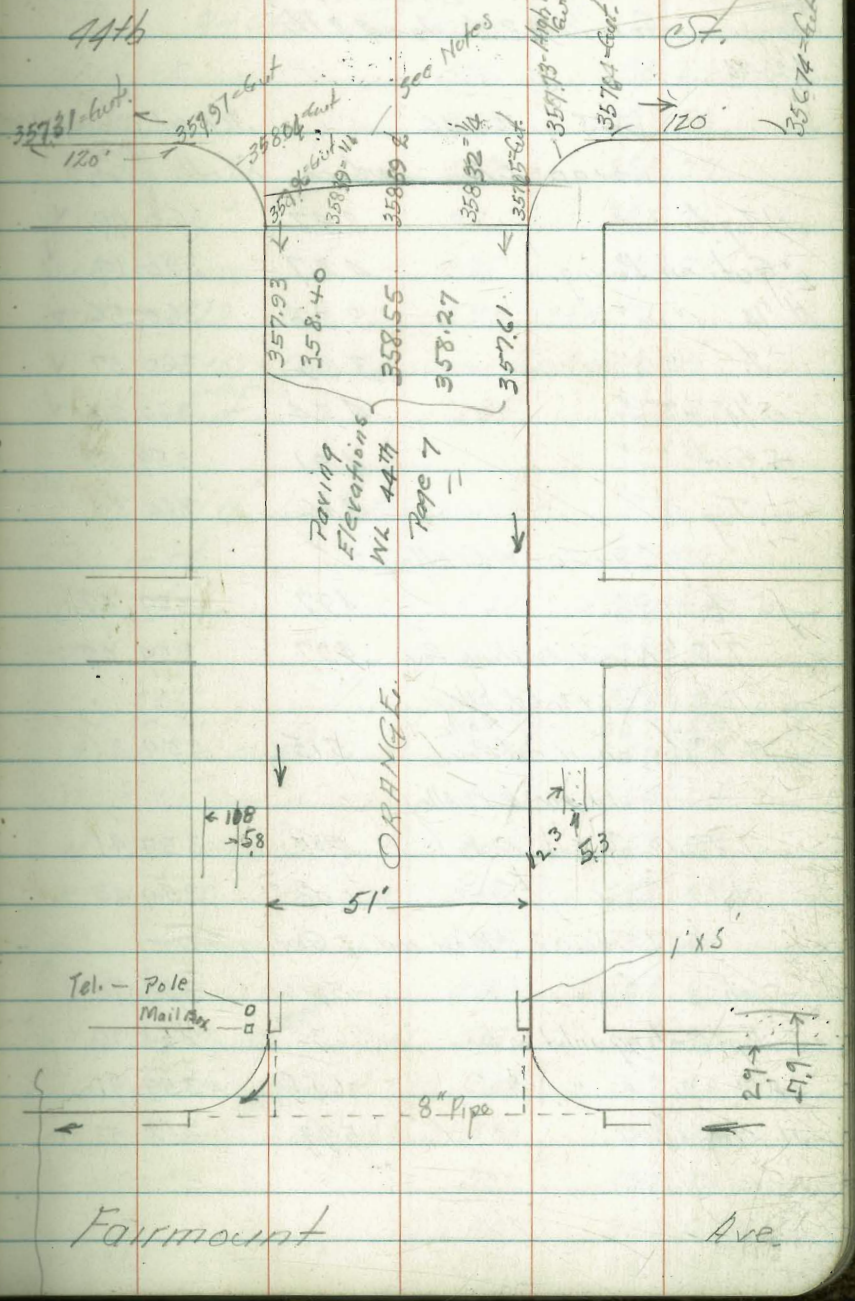
NL Orange Ave						
=0+00		378.33			Elev. Bottom Ditch	Cuts
+17			7.67	370.66	366.35	+4.3
+62			6.76	371.57	367.36	+4.2
1+07			5.92	372.41	368.37	+4.04
+47			5.26	373.07	369.07	+4.0
+87			4.65	373.68	369.40	+4.3
2+37			4.12	374.21	369.55	4.7
+87			4.46	373.87	369.70	4.2
3+37			4.63	373.70	369.85	+3.85
+87			4.44	373.89	370.00	+3.9
4+37			4.38	373.95	370.15	+3.8
+87			4.35	373.98	370.30	+3.7
5+27			3.94	374.39	370.60	+3.8
+87			3.27	375.06	371.35	+3.7
6+07 = S.L. El Cajon Blvd.						
			3.10	375.23		
6+07 Chk. W.cb. Alley S.L. El Cajon FB 1497/26			3.33	375.00		

Walker
Hardin
Boggs
9-29-44

ORANGE AVE. PAVING
from 43rd to 44th Sts.

INDEXED
WK
NOV 1 1948





Walker
Hardin
Beggs.
9-25-44

Levels on ORANGE Ave. to Determine Drainage for Paving from 43rd to 44th

3.45	364.46		361.01	N.W.B.P. Orange & 43rd
0+00 = E Line 43rd on North Diag. Sec.				
N Top cb.		3.47	360.99	✓
" Gut. on Paving.		4.27	360.19	✓
N 1/4 " "		3.90	360.56	✓
℄ " "		3.89	360.57	✓
S 1/4 " "		4.24	360.22	✓
S. Gut " "		4.91	359.55	
S. Top cb.		4.16	360.30	
1+20 = W.L. Alley				
S cb.		4.97	359.49	
7' S = N end Existing Pav.		4.97	359.49	
1+30 = ℄ Alley				
7' S cb on N end Pav. Conc.		5.15	359.31	
1+40 = E.L. Alley				
7 South of S cb on Pav.		5.05	359.41	
cb.		5.03	359.43	
2+60.3 = West end of Grating inlet				
S cb		5.76	358.70	
S top Grating inlet on toe		6.36	358.10	
N " " " " "		6.55	357.91	
N Top cb		5.93	358.53	

364.46

2+64.7 = W.L. Fairmount.

N cb. = Paving.		5.92	358.54	
N 1/4 on "		5.92	358.54	
℄ " "		5.67	358.79	
S 1/4 " "		5.75	358.71	
S cb = Paving.		5.75	358.71	
T.P.	5.19	363.90	5.75	358.71
2+59 = Conc. Slab under Grating Inlets				
S cb. on Gut. Concrete		6.33	357.57	
W cb. Line Fairmount				
-100' on cb.		5.91	357.99	
" " Gut		6.41	357.49	
-50' " "		6.33	357.57	
" " cb.		5.66	358.24	
-25 on Gut		6.32	357.58	
-5' on Gut. outlet.		6.51	357.39	?
" " Toe Grating		5.86	358.04	
N on Hd wall		5.48	358.42	
N cb + on Rim Cleanout		5.41	358.49	
" " Flow "		6.49	357.41	
SL. on Hd. Wall		5.23	358.67	
+3.3 on Toe Grating inlet		5.67	358.23	
" " Flow Paving at "		6.14	357.76	
SL +10' on Gut Paving.		5.87	358.03	
+50 " " "		5.91	357.99	
+100' " " "		5.87	358.03	
+150 " " "		5.82	358.08	

363.90 — 357.19 — Fair 357.67

E ℄ Fairmount

-150' on Gut.	5.77	358.13
" " cb.	5.11	358.79
-100' " "	5.15	358.75
" " Gut.	5.96	357.94
-50' " cb.	5.17	358.73
" " Gut.	6.03	357.87
15' South of SL. Orange on cb.	5.11	358.79
" " Gut	5.95	357.95
SL. Orange on Flow 8" pipe	6.23	357.67 Pipe Corrug.
" Hd. Wall = cb = Paving	5.20	358.70
NL. on " " "	5.57	358.33
" " Flow outlet "	6.49	357.41
" " " " 8" pipe	6.61	357.29
N +15' on Gut.	6.42	357.48
+50' " "	6.62	357.28
+100' " "	6.89	357.01
" " cb.	6.07	357.83
0+00 = E. Line Fairmount		
N cb. = Paving	5.52	358.38
" 1/4 "	5.48	358.42
℄ "	5.25	358.65
S 1/4 "	5.34	358.56
S cb. = "	5.30	358.60
0+3'		
S cb.	5.30	358.60

363.90 — 7

+0.5 on Hd. Wall	5.41	358.49 = Flow Conc.
" " Flow 8" Pipe Inlet	6.71	357.19
8' E of EL on Conc. Flow	6.67	357.23
N cb -0.5 on Hd wall	5.76	358.14
" on Flow 8" pipe	6.87	357.03
5' E " Conc. Inlet	6.88	357.02
T.P. 548 363.78	5.60	358.30
W.L. 44th St.		
S cb.	5.70	358.08
" Gut. on Paving	6.17	357.61 ✓
S 1/4 " "	5.51	358.27 ✓
℄ " "	5.23	358.55 ✓
N 1/2 " "	5.38	358.40 ✓
N Gut " "	5.85	357.93 ✓
" cb.	5.33	358.45
℄ Ref. NW on Gut.	5.78	358.00
℄ " SW " "	6.13	357.65
W cb. 44th		
-100 on cb.	6.10	357.68
" " Gut. Paving	6.40	357.38
-50' " "	6.18	357.60
" " cb.	5.73	358.05
NL. on cb.	5.24	358.54
" " Gut. Pav.	5.84	357.94
℄ on "	5.08	358.70

W cb. 44th Cont. from P 7

36378

Sh. on cb	576	358	02
" " Gut.	619	357	59
SL +50' on Gut.	661	357	17
" " " cb	605	357	73
+100' " Gut.	693	356	85
" " cb.	643	357	35

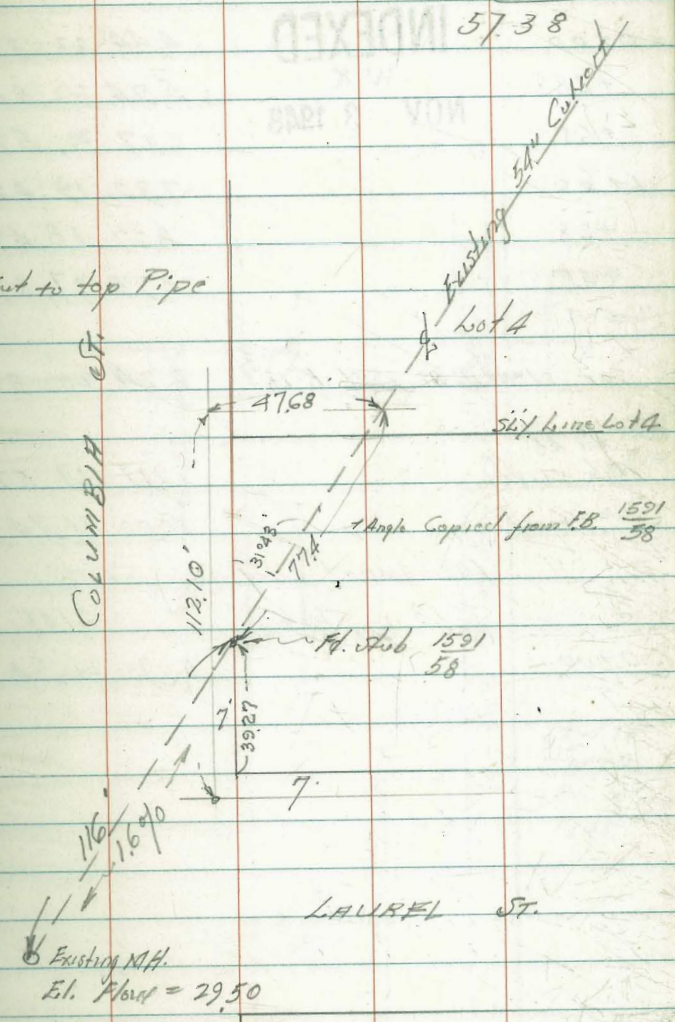
GRADE And Location Existing
54" Concrete Culvert
Block 80 - Middletown opening 1621-B

INDEXED
WK
NOV 1 1948

Station		Elev. Stake	Elev. Flow 54"
℄ Exist. MH = 0+00			29.50
1.6%			
	68.04		
1+93.4 = ℄ Proposed opening into 54" pipe		Flow =	32.60
	9.18	58.86	4.75
		Top Pipe =	37.35 =
	57.38		
0+00 Rim MH	7.22	50.16	
	20.3		
	27.55	29.83	29.83

21.51 = Cut to top Pipe

B.M. S.E. B.P. LAUREL And INDIA = 54.70
13.34 +
68.04 ⊼
13.19 -
54.85
2.53 +
57.38



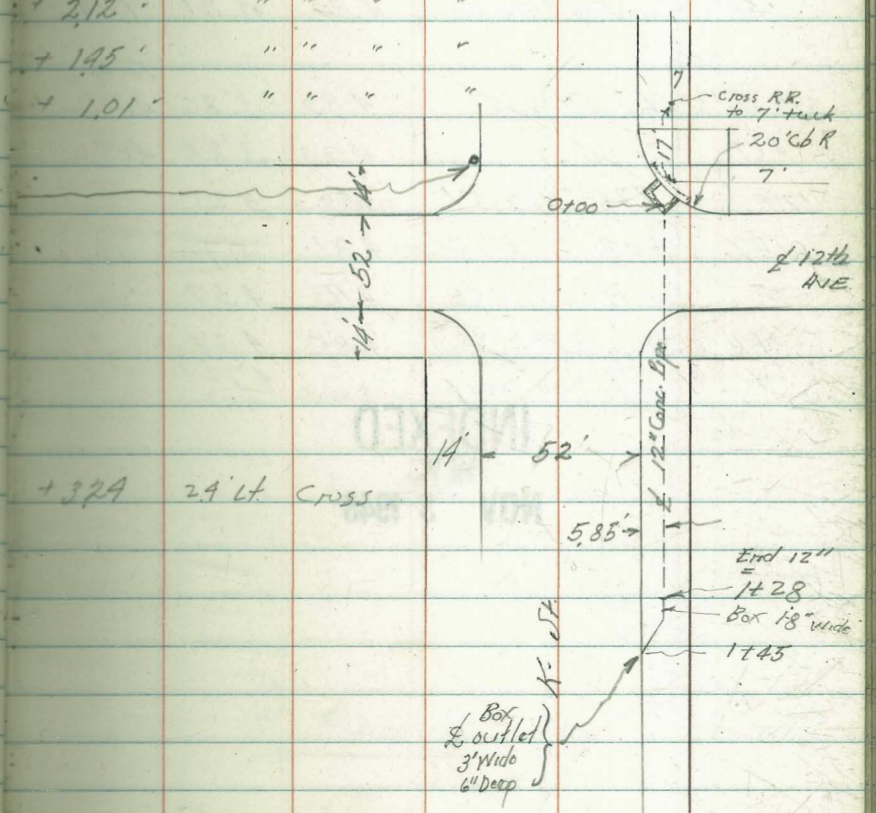
Walker
Hardin
Boggs
10-24-44

Grades for Culvert. K-St
in Walk And St. N-Side K-St
from W.cb. Return East.

Drawing # 6402-L

	5.29	26.74		21.45	N.W.B.P. K-12th	
Stations.						
= 0+00			4.44	22.30'	18.30	+ 4.00' chisled cross on Bld. (Not Lined)
+28.8			5.94	20.80'	18.01	+ 2.79' Cross in Walk 24' Lt
+65			6.17	20.57'	17.65	+ 2.92' " " " "
1+00			7.32	19.42'	17.30	+ 2.12' " " " "
+28			8.27	18.47'	17.02	+ 1.45' " " " "
+45			8.93	17.81'	16.80	+ 1.01' " " " "
Set New B.M. SW-K-12th			6.24	20.50		
1+45						
cbk curb			9.17	17.57		
" Gut			10.00	16.74		
Additional cuts for 0+00						
	5.18	26.63		21.45		
0+00			5.09	21.54	18.30	+ 3.24 24' Lt Cross

INDEXED
WK
NOV 3 1948

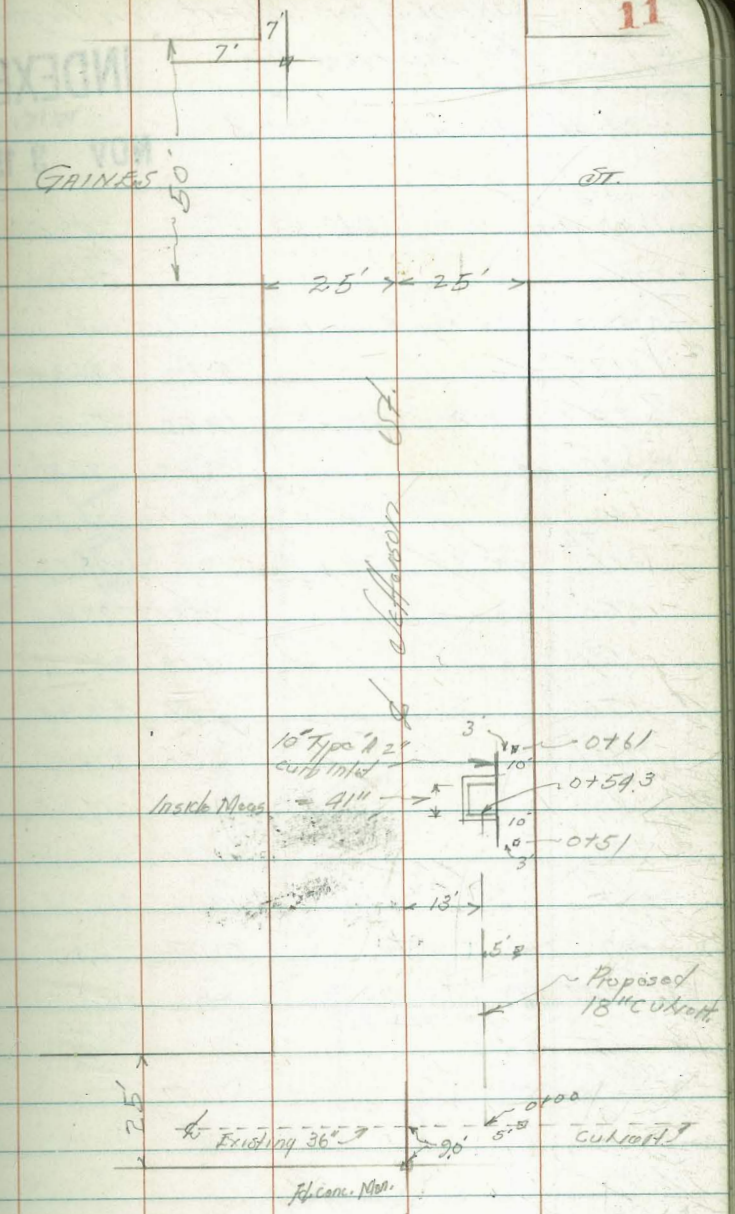


Walker
Hardin
Beggs
11-24-44

GRADES For Culvert
on Jefferson St. And Rosecrans
Drawing # 2884-B

	4.71	9.43		4.72	S.E.B.P. Taylor Juan	
T.P.	4.27	9.97	3.73	5.70		
T.P.	5.50	8.75	6.72	3.25	℄ Mon. Jefferson Rosecrans	Cuts
℄ Existing 36" Pipe = 0+00			5.27	3.48	El. Flow -6.50	+ 9.98
+28			4.86	3.89	-3.93	+ 7.82
+54.3 = Inside Edge Inlet Box			4.84	3.91	-1.50	+ 5.41
					El. Top ℄	
0+51 = Sly End Inlet			4.89	3.86	4.21	- 0.35
+61			4.90	3.85	4.13	- 0.28
T.P.	7.26	10.51	5.50	3.25		
T.P.	3.03	8.73	4.81	5.70		
T.P.	5.01	9.58	4.16	4.57		
Chk Starting 8 M.			4.85	4.73		
				4.72		
				0.01		

INDEXED
W.K.
NOV 3 1948



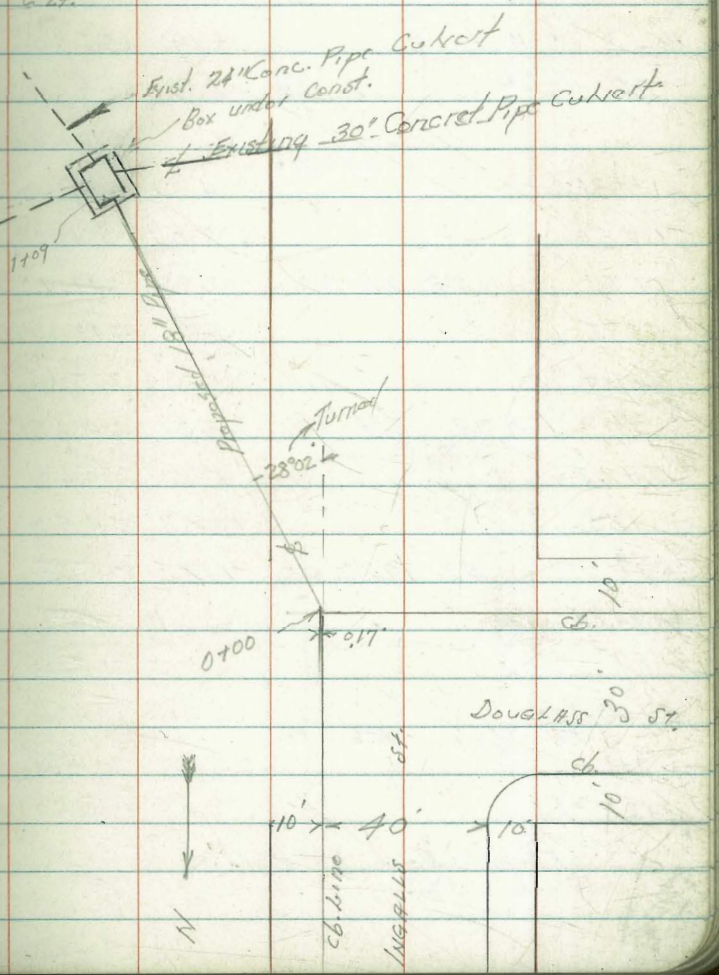
Walker
Hazard
Hardin
Beggs

GRADES for Culvert on Ingalls St.
And Douglass St.

INDEXED
W.K.
NOV 3 1948

11-28-44 Drawing #6391-L

Station				Elev. Stakes	Elev. Flow Line	Cuts	offsets
S.E. Top Cb. Ingalls + Douglass	0.39	249.83		249.44	B.M. Elev. Cb 0+00 FB 1326-70		
0+00 = Inside Edge Existing Inlet					244.82'	= Next Existing Flow	
+17.5			5.49	244.34	235.56'	8.78	6' Lt.
T.P.	1.18	238.41	12.60	237.23			
0+35 = Brk.			6.02	232.39	226.30	6.09	
+40			9.61	228.80	223.65	5.15	
T.P. +45	0.71	226.29	12.83	225.58	221.88	3.70	
+50			2.85	223.44	220.22	3.22	
+55			4.18	222.11	219.00	+3.11	
+70			7.35	218.94	216.00	+2.94	
+75			8.20	218.09	214.86	3.23	
+80			9.24	217.05	213.42	3.63	
+85			10.90	215.39	211.71	3.68	
T.P. +90	2.35	216.08	12.56	213.73	209.70	4.03	
1+09			10.03	206.05	201.50	4.55	
Chk. Stake Hub.			0.80	215.28			
	FB 1326-70			215.25			
				0.03			
			58				

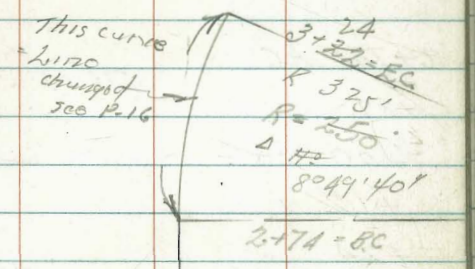


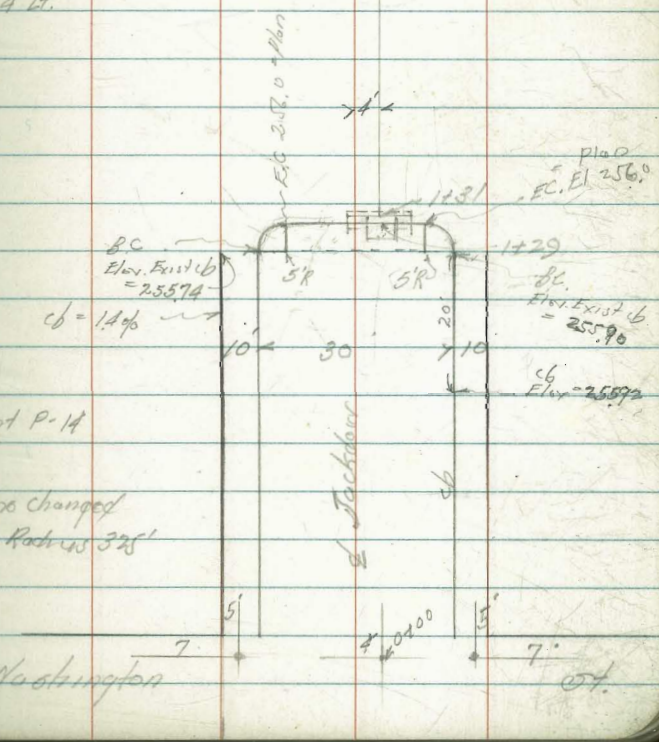
Walker
Hazard
Hardin
Beggs 11-28-44

GRADES for CULVERT and CURB
on JACKDAW South of Washington St
Drawing # 6381-L

INDEXED
WK
NOV 3 1948

Station	0.76	261.78		261.02	N.W. B.F. Ingalls + Washington Top cb		
T.P.	2.51	259.89 ⊼	4.40	257.38			
E.C. cb on East		Stake	4.15	255.74	256.00	-0.26	on Radius Stake
BC " " "			4.11	255.78		Meet Exist cb	
BC. " " West			3.99	255.90			
E.C. "		Cross on Stake	4.56	255.33	256.00	-0.67	
	Culvert	259.89 ⊼		Elev. Stake	Elev Flow Line		
1+31			4.79	255.10	249.87	+5.23 Cuts	4' Lt. offsets
+50			8.87	251.02	245.12	5.90	4' Lt.
T.P.	0.23	247.33	12.79	247.10			
1+75			3.38	243.95	238.87	5.08	
2+00			12.20	235.13	232.62	2.51	
T.P.	0.27	234.73	12.87	234.46			
2+25			4.45	230.28	226.37	3.91	
+50			10.23	224.50	220.13	4.37	
T.P.	0.42	222.00	13.15	221.58			
2+74 = B.C. Rt.			3.01	218.99	214.13	4.86	
+87			6.85	215.15	210.87	4.28	Cont P-14
3+00 = Brk.			11.36	210.64	207.62	3.02	Line changed to Radius 325'
T.P.	6.26	216.05					
+11			12.21	209.79	206.52	3.27	
3+22 = E.C.			9.48	206.57	205.42	+1.15	
Flow Exist 30" Pipe			10.99	205.06 = Flow 30"			





Culvert Cont. from P-13

Station.							
2+74 = BC		216.05 P-13			214.13		
+87			1.17	214.88	210.87	4.01	Rodded see P-16
3+00 Brk			5.42	210.63	207.62	3.01	
+12			6.29	209.76	206.40	3.36	
+24			9.79	206.26	205.20	1.06	
TP	4.37	215.32	5.10	210.95			
chk stake	1+09 P-12		9.27	206.05 ✓			

Walker
Howard
Harden
12-16-44

Grades - Portion Alley Blk 102
Central Park
Bet. K - L - 30th & 31st
Prelim. Levels F.B. 1667-37

Station	5.05	82.31		77.26 Stake Elev.	EL. SL. Alley		
4+50			5.06	77.25	77.09	C 0.16	on Hub SL. FB 1667-40
+75			5.05	77.26	77.23	C 0.03	Stake Grade only "
5+00			4.80	77.51	77.32	C 0.19	on Hub SL FB 1667-41

INDEXED
WK
NOV 3 1948

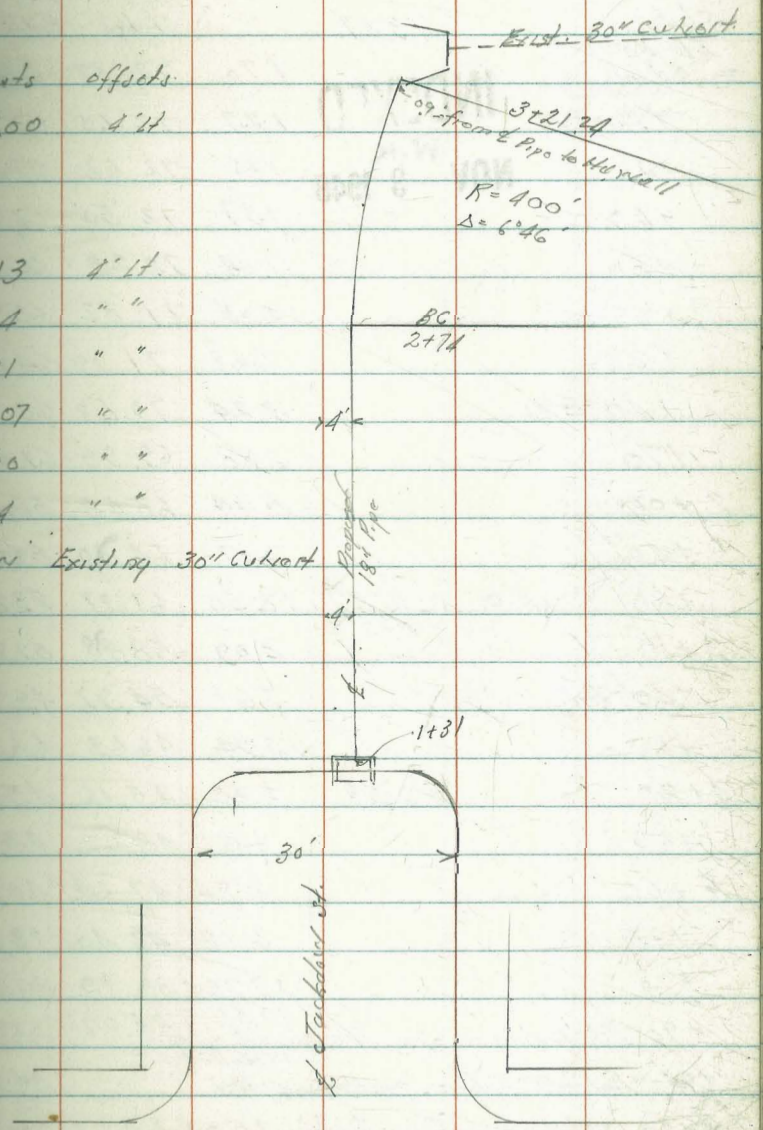
Walker
Hogard
Hardin
12-20-44

Restate Portion of Culvert
on Jackson St.
South of Washington

INDEXED
WK
NOV 3 1948

	7.63	237.91		230.28	BM = Elev State 2+75 P-13		
Station				El. Stakes	Elev. Flow	Cuts	offsets
2+00			0.29	237.62	232.62	5.00	4' lt
+25	ok not disturbed						
T.P.	0.53	226.11	12.33	225.58			
2+50			2.85	223.26	220.13	+3.13	4' lt.
2+74 = B.C. Rt.			7.34	218.77	214.13	4.64	" "
T.P. 2+87	1.92	215.70	12.33	213.78	210.87	2.91	" "
3+00 = Blk.			5.01	210.69	207.62	3.07	" "
+10.62			5.44	210.26	206.46	3.80	" "
+21.24 = End = E.C.			7.95	207.75	205.31	2.44	" "
			10.69	205.01	205.01	= Flow	Existing 30" Culvert

Note: Reason for lowering Grade at End of 18" from 205.42 P-13 to 205.31 this page was per Request State Resident Engr.



Walker
Hazard
Hardin

Construction Grades - 8" Water Main on Boston Ave from 38th to 39th St.

Bagg 1-8-45

Station				Elev. Stakes	Elev. Bottom Ditch	Cut + Fills	offsets
EL 38th St. = 0+00		73.87	1.70	72.17	68.20	+ 3.97	
+20 = P.V.C.			1.27	72.60	68.10	+ 4.50	
+40			1.25	72.62	67.80	+ 4.82	
+60			1.37	72.50	67.41	+ 5.09	
+80			1.64	72.23	66.75	+ 5.48	
1+00			2.05	71.82	65.90	+ 5.92	
+20			2.68	71.19	64.80	+ 6.39	
+40 = E.V.C.			3.24	70.63	63.53	+ 7.10	
+70			3.88	69.99	61.46	+ 8.53	
2+00			5.44	68.43	59.40	+ 9.03	
+40			9.07	64.80	56.62	+ 8.18	
+80 T.P.	1.20	62.57	12.50	61.37	53.85	+ 7.52	
3+10			4.09	58.98	51.78	+ 6.70	
+40 = Brk.			7.61	54.96	49.70	+ 5.26	
+80			15.94	46.63	47.37	- 0.74	
4+20		49.58	4.42	45.16	45.04	+ 0.12	
+60			1.36	48.22	42.70	+ 5.52	
5+00			2.34	47.24	40.37	+ 6.87	
+35			6.18	43.40	38.33	+ 5.07	
+70			15.79	33.79	36.29	- 2.50	
+90 = Brk = End line opp (Fire Hydt. to be installed)			15.51	34.07	35.10	- 1.03	
~~+94 = End P.C. future 20' Radius Rot~~					~~34.86~~ El. cb		
5+90 = Stake for Fire Hydt.			15.31	34.27	39.00	- 4.73 = Top cb.	

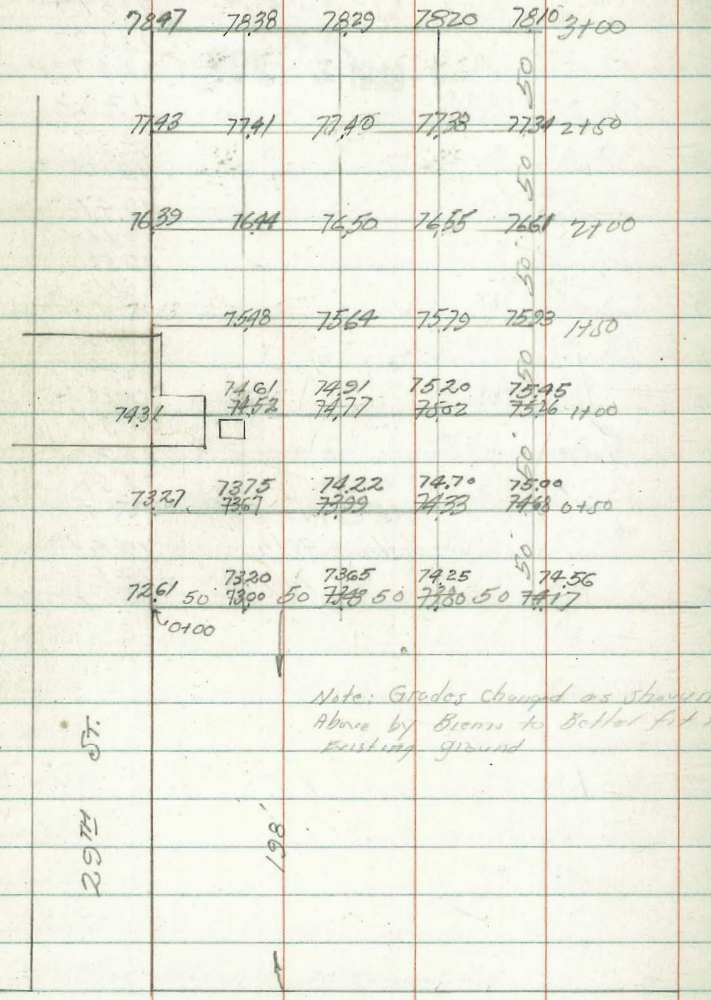
INDEXED
W.K.
NOV 3 1948

S.E.B.P. National + 38th = 76.58
3.24 +
79.82 ±
7.26 -
72.56 T.P.
1.31 +
73.87 ±
12.50 -
61.37 T.P.
1.20 -
62.57
13.10
49.47
0.11 +
49.58
0.11 -
49.47 = T.P.
12.75 +
62.22 ±
0.85 -
61.37
13.22 +
74.59
2.08
Chk cb Rot SE Boston + 38th = 72.51
Profile → 72.50
0.01

Walker
Hugard
Hardin
2-27-45

Rough Grades
LA BINDA - PARK RECREATIONAL
HALL, on 29th St.
Between Marcey and Ocean View Blvd

INDEXED
WK
NOV 3 1948



Note: Grades changed as shown Above by Brems to better fit the Existing ground

68.45 = N.V. BP. Logan + 29th
9.28 +
77.73 π
4.04
73.69 TP on stub (0+00 100'E)
7.48 +
81.17 π
6.31
74.86 chk Pav. 2+38 FB 1668

8.17 π
6.31 -
74.86 chk Pav. 3+00 FB 1668-40
74.85
0.01 Error

18

	50'E	100'E	150'E	200'E
0+00	7300 7320 / 8.17 797 / 7.86 786 / 40 000 / +0.31	7343 7365 / 7.74 752 / 7.48 748 / +0.26	7398 7425 / 7.77 692 / 6.85 685 / +0.92	7447 7466 / 7.40 6.41 / 6.43 6.43 / +0.97 / +0.2
0+50N	7367 7375 / 7.50 7.42 / 7.41 7.41 / +0.09 0.0	7399 7422 / 7.18 6.95 / 6.93 6.83 / +0.25 +0.12	7433 7470 / 6.54 6.47 / 6.49 6.49 / +0.05 0.0	7468 7500 / 6.19 6.17 / 6.14 6.14 / +0.05 0.03
1+00N	7452 7461 / 6.56 6.57 / 5.87 5.41 / +1.24 +1.16	7477 7491 / 6.40 6.26 / 4.95 4.75 / +1.45 +1.51	7502 7520 / 6.15 5.97 / 4.98 4.98 / +1.16 +1.49	7526 7545 / 5.91 5.72 / 4.63 4.63 / +1.28 +1.09
1+50N	7548 / 5.69 / 4.21 / +1.48	7564 / 5.53 / 4.12 / +1.41	7579 / 5.38 / 3.39 / +1.99	7593 / 5.24 / 3.17 / +2.07
2+00	7639 / 478 / 468 / +0.10	7644 / 473 / 3.04 / +1.69	7650 / 4.67 / 2.93 / +1.74	7655 / 4.62 / 2.36 / +2.26
				7661 / 4.56 / 2.46 / +2.10
2+50N	7743 / 374 / 3.66 / +0.08	7741 / 3.76 / 2.37 / +1.39	7740 / 3.77 / 1.91 / +1.86	7738 / 3.79 / 1.44 / +2.35
				7734 / 3.83 / 1.38 / +2.45
3+00N	7847 / 2.70 / 2.52 / +0.18	7838 / 2.79 / 1.40 / +1.39	7829 / 2.88 / 0.94 / +1.94	7820 / 2.97 / 0.76 / +2.21
				7810 / 3.07 / 0.66 / +2.41

7.69 = Above TP
4.34
80.37 π
6.31
69.77 = chk Conc. Slab over Water Meter. 29th & Marcey

Stake for Water Dept. NE 29th + Marcey

70.30 = End Rot. on 29th = 10'N of N.L.
7.73
9.73
2.00 on Side Forms.

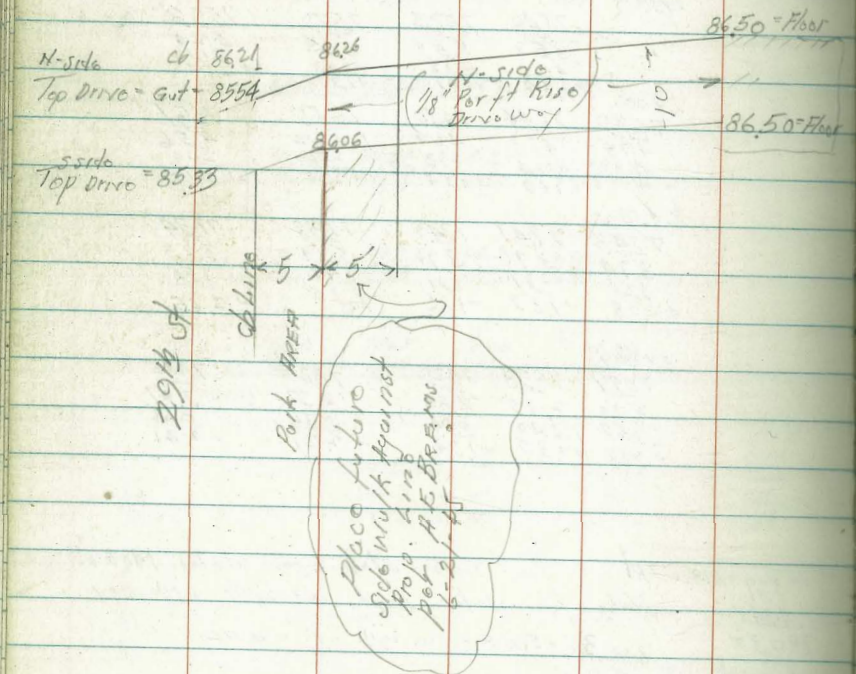
Walker Hugoe
6-21-45

GRADES FOR GARAGE AND DRIVE
~ LA BINDA PARK ~

	8.81	77.26		68.45	N.W. B.P. 29th & Logan
T.P.	7.86	84.72	0.40	76.86	
T.P.	8.19	90.38	2.53	82.19	

N Side 85.54 / 4.84 — 86.26 / 4.12 — NW 86.50 / 3.88 — NE Floor Garage 86.50 / 3.88

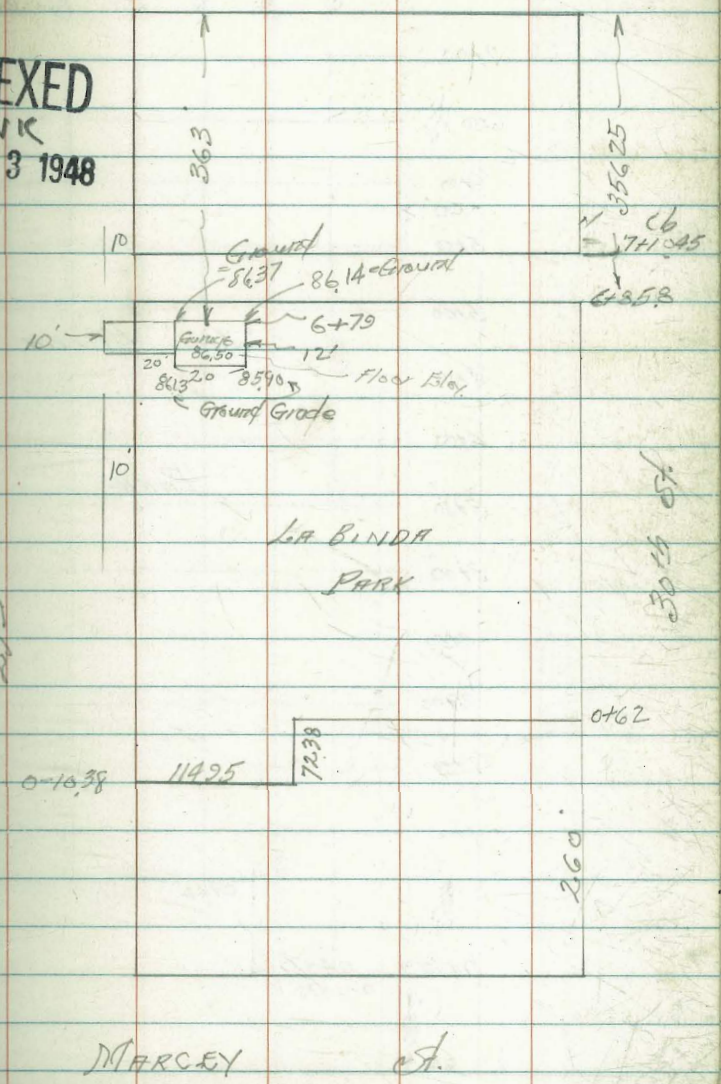
S Side 85.33 / 5.05 — 86.06 / 4.32 — SW 86.50 / 3.88 — SE Floor Garage 86.50 / 3.88



97.45 - B.M. NE BP Ocean View & 29th
0.48 +
97.93 π
11.42 -
86.51 chk stake
86.50 cor Garage
0.01 = Error

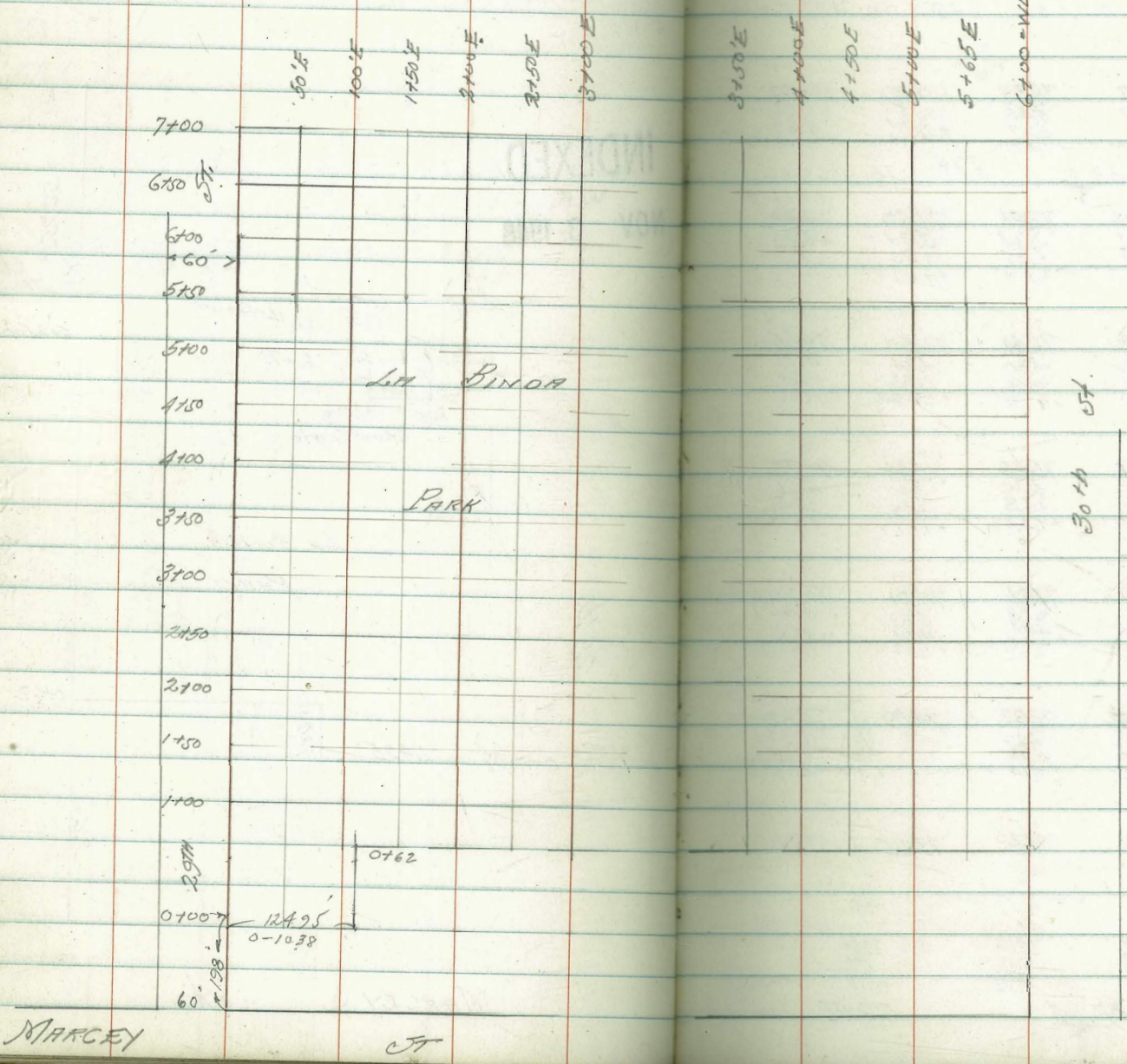
OCEAN VIEW BLVD.

INDEXED
WK
NOV 3 1948



GRADES - LA BINDA PARK

Cont. P-21



La Binda Park Grades Cont.

North Stations	East 00	E 50	E 100	E 150	E 200	E 250	E 300	E 350	E 400
T.P.	8.45	88.88	3.43	80.43 = TP 1+50E 3+00N					
Cont on P-22									
3+00	78.47 5.39 5.19 +0.20	78.38 5.48 4.07 +1.41	78.29 5.57 3.61 +1.96	78.20 5.66 3.43 +2.23	78.12 5.74 3.37 +2.37	78.02 π 80.74 2.72 1.06 +1.66	77.88 2.86 1.95 +0.91	77.62 3.12 2.66 +0.46	77.36 3.38 3.70 -0.32
T.P.	6.90	83.86	3.78	76.96 = TP					
2+50	77.43 3.31 3.23 +0.08	77.41 3.33 1.95 +1.38	77.40 3.34 1.53 +1.81	83.86 = π 77.38 6.48 4.10 +2.38	77.36 3.38 1.00 +2.38	77.33 3.44 1.52 +1.92	77.25 3.49 2.31 +1.18	77.03 3.71 2.98 +0.73	76.82 3.92 4.63 -0.71
2+00	76.39	76.44 4.30 2.62 +1.68	76.50 4.24 2.52 +1.72	76.55 4.19 1.93 +2.26	76.61 4.13 2.05 2.08	76.65 4.09 1.96 +2.13	76.63 4.11 2.63 +1.48	76.47 4.27 3.15 +1.12	76.30 4.44 3.35 +1.09
1+50	75.35	75.48 5.26 3.78 +1.48	75.64 5.10 3.69 +1.41	75.79 4.95 2.95 +2.00	75.93 4.81 2.75 +2.06	76.09 4.65 2.76 +1.89	76.13 4.61 3.09 +1.52	76.04 4.70 3.64 +1.06	75.95 4.79 3.51 +1.28
1+00	74.31	74.61 6.13 5.27 +0.86	74.91 5.83 4.31 +1.52	75.20 5.54 4.04 +1.50	75.45 5.29 4.20 +1.09	75.55 5.19 4.23 +0.96	75.62 5.12 4.50 +0.62	75.61 5.13 4.89 +0.24	75.60 5.14 4.72 +0.42
0+62	73.52 7.22 7.10 +0.12	73.92 6.82 6.08 +0.74	74.39 1+5'E 74.50 6.24 4.90 +1.34	74.82 5.92 4.84 +1.08	75.11 5.63 5.07 +0.56	75.25 5.49 4.98 +0.51	75.32 5.42 5.36 +0.06	75.36 5.38 4.95 +0.43	75.40 5.34 4.25 +1.09
0+00	72.61	73.20	73.65	74.25	74.56	74.82	74.85	74.99	75.01
0-10.38	72.44 8.30 8.39 -0.09	73.06 7.68 7.72 -0.04	1+5'E 73.48 7.06 6.93 +0.13	74.15 N.W.B.P.	80.32 π	0-10.38 1+25'E 73.61 6.71 6.38 +0.33	0+62 1+25 E 74.60 5.70 4.35 +1.35		
	12.29	80.74	68.45	29th Hop					

LA BINDA PARK Cont. from P-21

T.P. North Stations	East 0	E 50	E 1+00	E 1+50
	4.48	30.60	12.76	76.12
7+00	86.76	86.13	85.47	84.81
Chk Garage Floor Stake P-19		2.38	86.50 ok	
6+85 = End Continued	86.44	85.83	85.20	84.56
	Left	3.05	3.68	4.32
	out	2.92	2.58	2.79
		+1.13	+1.10	+1.53
+50	85.70	85.16	84.57	83.98
	5.18	3.72	4.31	4.90
	2.38	3.38	3.25	3.40
	+1.20	+0.34	+1.06	+1.50
6+00	84.68	84.19	83.68	83.16
	4.20	4.69	5.20	5.72
	3.89	4.01	4.25	4.56
	+0.31	+0.68	+0.95	+1.16
5+50	83.66	83.22	82.78	82.33
	5.22	5.66	6.10	6.55
	4.81	5.27	5.23	5.40
	+0.41	+0.39	+0.87	+0.95
5+00	82.63	82.25	81.88	81.50
	6.25	6.63	7.00	7.38
	6.02	7.07	6.59	6.47
	+0.23	-0.44	+0.41	+0.91
4+50	81.58	81.28	80.99	80.68
	7.30	7.60	7.89	8.20
	7.08	8.09	7.67	7.34
	+0.22	-0.49	+0.22	+0.86
4+00	80.55	80.31	80.09	79.85
	8.33	8.57	8.79	9.03
	8.36	8.02	7.67	7.80
	-0.03	+0.55	+1.12	+1.23
3+50	79.51	79.35	79.19	79.03
	9.37	9.53	9.69	9.85
	9.20	9.53	8.23	8.62
	+0.17	88.88 = TP-21	+1.16	+1.23

East 2+00	East 2+50	E 3+00	E 3+50	E 4+00
84.15	83.50	82.87	82.31	81.74
83.92	83.29	82.68	82.14	81.56
4.96	5.59	6.20	6.74	7.32
3.73	4.79	6.88	7.66	8.56
+1.23	+0.80	-0.68	-0.92	-1.24
83.40	82.81	82.25	81.72	81.19
5.48	6.07	6.63	7.16	7.69
4.23	5.64	7.64	8.60	9.16
+1.25	+0.43	-1.01	-1.44	-1.47
82.64	82.18	81.62	81.14	80.64
6.24	6.70	7.26	7.74	8.24
5.40	6.43	7.98	9.03	9.80
+0.84	+0.27	-0.72	-1.29	-1.56
81.89	81.44	81.00	80.55	80.10
6.99	7.44	7.88	8.33	8.78
5.95	7.06		9.79	10.29
+1.04	+0.38		-1.46	-1.51
81.14	80.76	80.38	79.97	79.55
7.74	8.12	8.50	8.91	9.33
6.83	7.48	8.44	10.13	10.78
+0.91	+0.64	+0.06	-1.22	-1.45
80.38	80.07	79.75	79.38	79.01
8.50	8.81	9.13	9.50	9.87
7.68	8.40	9.26	10.65	12.04
+0.82	+0.41	-0.13	-1.15	-2.17
79.63	79.39	79.13	78.80	78.47
9.25	9.49	9.75	10.08	10.41
8.45	9.03	9.83	10.77	11.81
+0.80	+0.46	-0.08	-0.69	-1.40
78.87	78.70	78.50	78.21	77.92
10.01	10.18	10.38	10.67	10.96
8.59	9.56	10.46	10.75	12.36
+1.42	+0.62	-0.08	-0.08	-1.60

LABINDA Park Cont. WL. 30th

N Stations	East 4+50	E 500	E 565	E 600'
Bottom Cont. Rt Page				
4+00	78.14 2.46 4.48 -2.02	77.80 2.80 6.12 -3.32	77.36 3.24 7.83 -4.59	77.13
3+50	77.62 2.98 4.72 -1.74	77.32 3.28 5.42 -2.14	76.94 3.66 7.43 -3.77	76.73
3+00	77.11 3.49 4.49 -1.00	76.85 3.75 5.38 -1.63	76.53 4.07 6.61 -2.54	76.34
2+50	76.60 4.00 4.64 -0.64	76.38 4.22 5.31 -1.09	76.10 4.50 5.93 -1.43	75.95
2+00	76.14 4.46 4.12 +0.34	75.98 4.62 5.06 -0.44	75.76 4.84 4.96 -0.12	75.65
1+50	75.86 4.74 3.87 +0.87	75.78 4.82 4.10 +0.72	75.66 4.94 4.78 +0.16	75.60 5.00 7.05
1+00	75.59 5.01 4.12 +0.89	75.59 5.01 3.58 +1.43	75.57 5.03 4.37 +0.66	75.55
0+62	75.43 5.17 4.51 +0.66	75.45 5.15 4.70 +0.45	75.49 5.11 4.68 +0.43	75.52 5.08
0+00	75.08	75.20	75.38	75.46

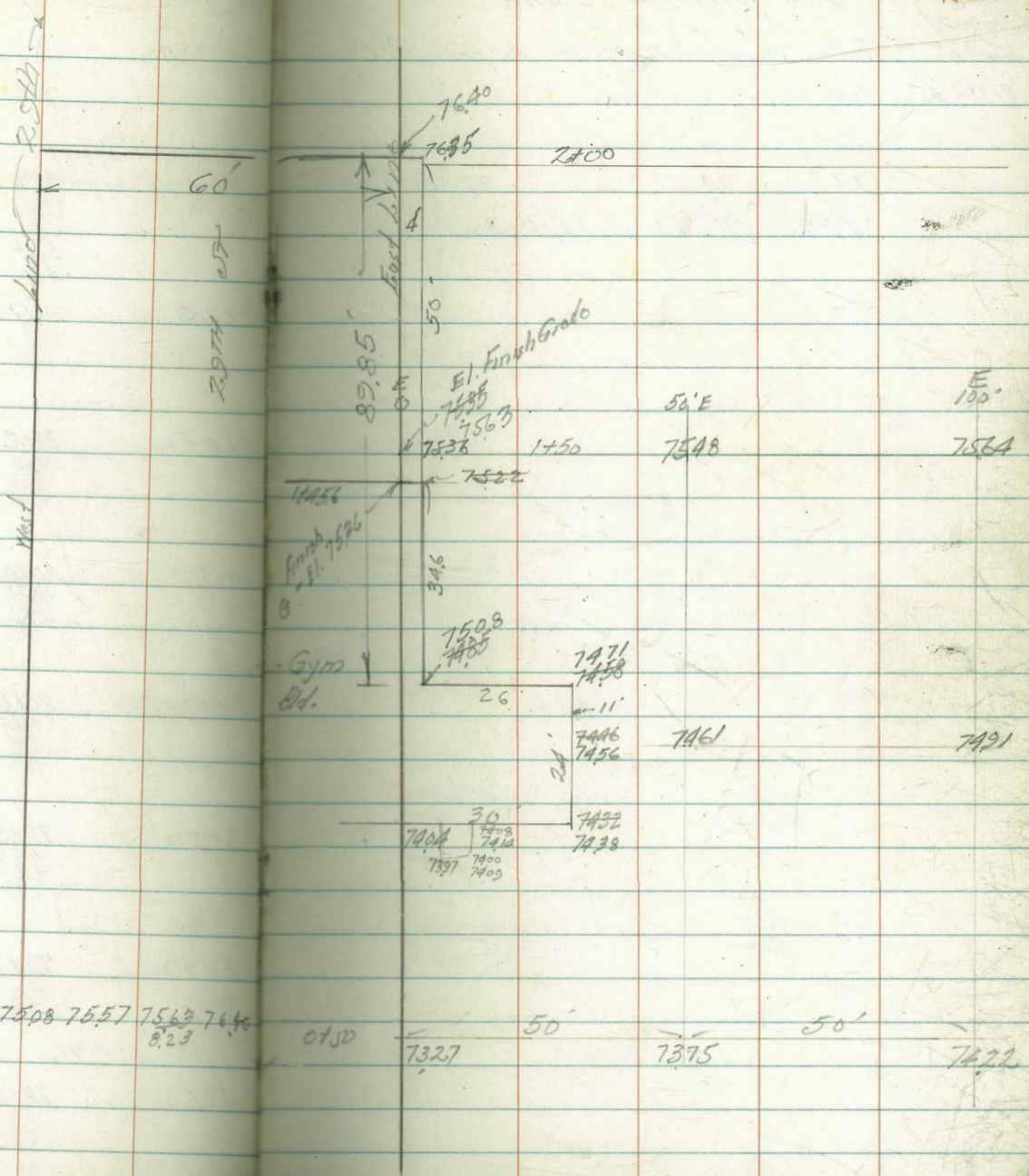
80.60 ≈ 5.22

N Station	East 4+50	E 500	E 565	E 600'
				0.02: 74.25 = FB 1668-47
chls Walk 6+00 WL 30th		7.34	74.27	
7+00	81.17	80.61	79.87	79.48
6+85	81.02 0.59 2.35 -1.76	80.47 1.14 2.92 -1.78	79.74 1.87 2.84 -0.97	
6+50	80.66 0.95 2.35 -1.40	80.14 1.47 2.42 -0.95	79.45 2.16 3.74 -1.58	79.09
6+00	80.16 1.45 3.04 -1.59	79.68 1.93 3.40 -1.47	79.04 2.57 4.88 -2.31	78.70
5+50	79.65 1.96 4.42 -2.46	79.21 2.40 4.34 -1.94	78.63 2.98 5.61 -2.63	78.31
5+00	79.15 2.46 4.97 -2.51	78.73 2.88 5.93 -3.05	78.20 3.41 6.76 -3.35	77.91
T.P.	6.76	81.61	5.75	74.85
4+50	78.64 1.94 4.90 -2.96	78.26 2.34 6.54 -4.20	77.78 2.82 7.72 -4.90	77.52

80.60

La Binda Park Cont.

Water on North side of Gym Bld in 29th St. to Drain around West side of Gym Bld.



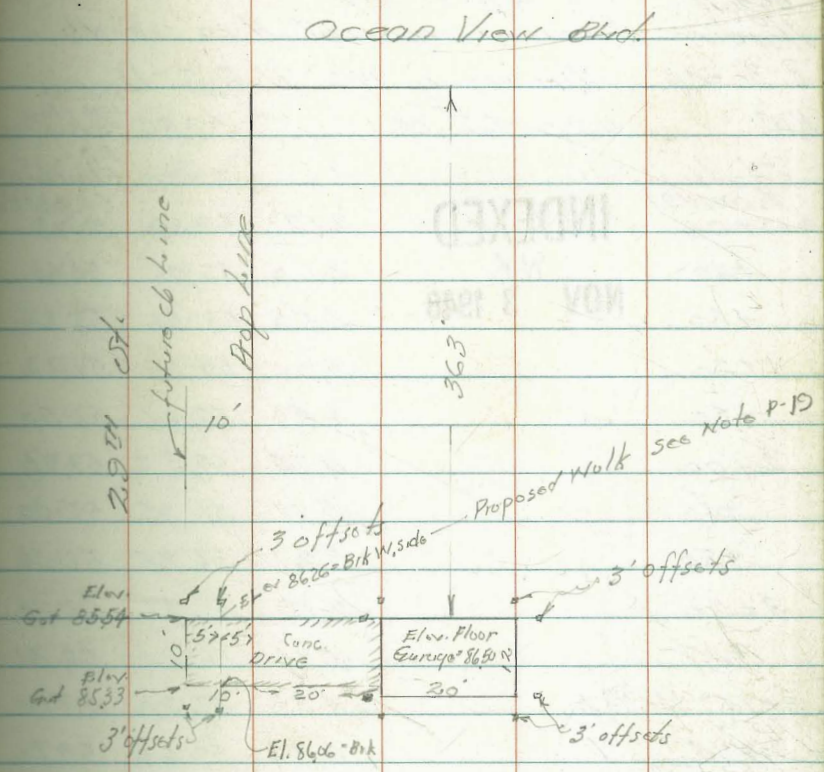
76.35	76.40														
7.51	7.46														
6.51	6.46														
+1.00	1.00														
		83.86													
	74.58	74.85	75.36												
	6.16	9.01	8.50												
	5.16	8.01	7.50												
	+1.00	+1.00	1.00												
80.74 P-21															
	73.97	74.00	74.08	74.32											
	6.77	6.74	6.66	6.42											
	5.77	5.74	5.66	5.42											
	1.0	1.0	1.00	1.00											
73.97	74.09	74.14	74.38	74.56	74.71	75.08	75.57	75.63	76.40						
								8.23							

Walker
Hazard
Hardin
8-11-45

LA BINDA PARK

Re-stake Garage As per P-19
And this sketch

117	98.62		97.45	N.E.B.P. Ocean View & 29th
4.89	91.41	12.10	86.52	



91.41 = X

N	85.54	86.26	86.50
	5.87	5.15	4.91
S	85.33	86.06	86.50
	6.08	5.35	4.91

Walker
Hazard
Hardin
8-30-45

SEWER CONSTRUCTION
ON 45TH ST.
from Imperial Ave South
Drawing No 1165-D

Station					
B.M.	2.20	62.06		59.86	Rim MH 45th & Imp FB 1664-55
Station & MH No 1				El. Flow line	Cuts / offsets
= 0+00			2.17	59.89	51.00 = Eng. 50.38 / 8.89 / 9.51 / 4' Rt
+40			3.00	59.06	50.66 / 8.40 / "
+80			3.50	58.56	50.94 / 7.62 / "
1+20			3.91	58.15	51.22 / 6.93 / "
+60			4.40	57.66	51.50 / 6.16 / "
2+00			4.74	57.32	51.78 / 5.54 / "
+40			5.11	56.95	52.06 / 4.89 / "
+80			5.21	56.85	52.34 / 4.51 / "
3+20			5.19	56.87	52.62 / 4.25 / "
+47			5.11	56.95	52.81 / 4.14 / "
3+74 = MH No 5			4.86	57.20	53.00 / 4.20 / "
4+14			4.46	57.60	53.70 / 3.90 / "
+54 T.P.	12.85	70.80	4.11	57.95	54.40 / 3.55 / "
+94			12.00	58.80	55.10 / 3.70 / "
5+34			10.84	59.96	55.80 / 4.16 / "
+74			9.10	61.70	56.50 / 5.20 / "
6+14			7.66	63.14	57.20 / 5.94 / "
+54			6.39	64.41	57.90 / 6.51 / "
+94 = MH No 5-A			5.53	65.27	58.60 / 6.67 / "
7+34			4.24	66.56	59.80 / 6.76 / "
+74			3.20	67.60	61.00 / 6.60 / "
8+14			2.37	68.43	62.20 / 6.23 / "

INDEXED
WK
NOV 3 1948

Cont. P-27

45TH St. Sewer Cont. from P-26

		π 70.80			El. Flow Line	Cuts	offsets
8+54			1.68	69.12	63.40	5.72	
+84			1.08	69.72	64.30	5.42	
9+14 = D End			0.61	70.19	65.20	4.99	4' Rt.
chk 8' Rt pov.	9+00	FB 1664-55	1.27	69.53			
				69.52			
				0.01			

Sewer Construction
~Imperial Ave~
Between 45th And 47th Streets.

Drawing No 1165-D

Stations					Elev. Flow Line	Cuts	offsets.
BM. Rim MH P-26	9.51	69.37		59.86			
0+00			9.41	59.96	50.38 Sout 51.00 Ent	9.58 8.96	4' Lt. = Cross on Pav
+40			9.01	60.36	52.78	7.58	✓
+80			8.10	61.27	54.56	6.71	✓
1+20			6.88	62.49	56.34	6.15	✓
+60			5.51	63.86	58.12	5.74	✓
2+00			3.69	65.68	59.90	5.78	✓
+40			1.83	67.54	61.68	5.86	✓
T.P.	10.87	79.70	0.54	68.83			✓
2+80			10.43	69.27	63.46	5.81	✓
3+13.78 = MH #2	℄ West St		8.83	70.87	65.00	5.87	✓
+50			6.90	72.80	67.09	5.71	✓
+90			4.55	75.15	69.40	5.75	✓
4+30			2.19	77.51	71.71	5.80	✓
T.P.	13.18	92.68	0.20	79.50			✓
+70			12.73	79.95	74.02	5.93	✓
5+10			10.30	82.38	76.33	6.05	✓
+50			7.90	84.78	78.64	6.14	✓
+90	See Cont. P-29		5.62	87.06	80.95	6.11	✓
~~6+30~~			3.26	89.42	~~83.27~~	~~6.15~~	Note: from Sta. 6+00 to 7+09.86 Grades were Lowered to give
chk BM. Ld Plg. ℄ Imp ℄ 46th			1.51	91.17			
chk BM. Ld " WL 46th ℄ Imp.			2.34	90.34	FB 1666 / 60		Clearance for Conc. Water Box.
				90.32 / 0.02			See P-29

INDEXED
WK
NOV 3 1948

Imperial Ave Sewer Const.
Cont. from P. 28

Station					El. Flow Line	Cuts	offsets
	9.88	100.20		90.32	Bm Lt Tp Vol. 4514 Pg. 28		
6+00 = Bk			12.58	87.62	81.53	6.09	4' Lt
+30			10.82	89.38	81.97	7.41	"
+59.86 = Drop MH #3	& 46th St.		9.15	91.05	82.40	8.65 = East	
					83.00	8.05 = South	
+84.86			7.88	92.32	85.02		
					~~85.32~~	7.30	4' Lt.
7+09.86 = Bk			6.79	93.41	87.65	5.76	"
+40			5.53	94.67	88.64	6.03	"
+80			3.99	96.21	89.96	6.25	"
8+20			2.63	97.57	91.28	6.29	"
+60			1.48	98.72	92.60	6.12	"
T.P. #1 9+00	11.72	111.49	0.43	99.77	93.92	5.85	"
+40			10.73	100.76	95.24	5.52	"
+80			9.64	101.85	96.56	5.29	"
10+01.62 MH #4			8.97	102.52	97.28	5.24	"
+40			7.83	103.66	98.54	5.12	"
+80			6.66	104.83	99.86	4.97	"
11+20			5.32	106.17	101.18	4.99	"
+60			4.13	107.36	102.50	4.86	"
12+00			2.83	108.66	103.82	4.84	"
+19.62 = DE.			2.23	109.26	104.47	4.79	"
T.P. #2	7.09	117.44	1.14	110.35			
chk SE BP 47th & Imp			5.38	112.06			
FB. 1664 - 54				112.17			
				0.11 diff.			
T.P.	0.96	105.42	12.98	104.46			

chk out — Cont Rt. Page

chk Starting BM

105.42 A
9.04 -
96.38 TP
2.95 +
99.33
9.10 -
90.23
90.32
0.09 Error

Starting BM = 90.32
9.10 +
99.42 A
2.95 -
96.47 T.P.
9.86 +
106.33 A
1.77 -
104.56 T.P.
8.00 +
112.56 A
3.29 -
109.27
109.26
0.01 Error

chk 12+19.62

112.56 A Above
2.10
110.46
110.35
0.11

chk T.P. #4 =

- Rod on T.P. #4 should be 1.04

Walker, Hazard, Hardin
9-4-45

46TH ST. SEWER CONST.
from Imperial Ave
to 235' South of E. Franklin

Drawing 1165-D

Station						Cuts	Offsets
	9.36	99.68		90.32	BM. on L.J. & Tuck P-29 El. Floral L.W. 82.40=W		
0+00			8.63	91.05	83.00=S	+8.05	4'Rt
+40			8.10	91.58	84.92	6.66	
+50=Brk.			7.96	91.72	85.40	6.32	
+80			7.78	91.90	85.64	6.26	
1+20			7.54	92.14	85.96	6.18	
+60			7.14	92.54	85.28	7.26	
2+00			5.66	94.02	85.60	8.42	
+40			3.65	96.03	86.92	9.11	
+80			2.86	96.82	87.24	9.58	
3+30=MH T.P.			2.51	97.17	87.64	9.53	
3+70	9.57	107.27	1.98	97.70	87.92	9.78	
4+10			8.41	98.86	88.20	10.66	
+50			6.95	100.32	88.48	11.84	
+90			5.35	101.92	88.76	13.16	
5+30			4.34	102.93	89.04	13.89	
+70			4.25	103.02	89.32	13.70	
6+10			4.64	102.63	89.60	13.03	
+54.9=MH & Franklin			6.21	101.06	89.91	11.15	
+90			7.86	99.41	90.15	9.26	
7+30			9.51	97.76	90.43	7.33	
+70			10.67	96.60	90.71	5.89	

Cont. P-31

INDEXED
WK
NOV 3 1948

46th St. Cont. from P. 30

Station	107.27			El. Flow Line	Cuts	offsets
8+10		11.59	95.68	90.99	4.69	4' Rt.
+50		12.32	94.95	91.27	3.68	✓
8+89.90 = D.E. end		13.07	94.20	91.56	2.64	✓
chk BM, on L. Stub Franklin		5.84	101.43			
& Alley bet. 46th & Rynchon			101.45			
FB 1664-58						

Walker
Hazard
Hurdin
9-5-45

WEST ST. SEWER CONST.
from Imp. Ave - South.
Drawing #1165-D

BM. on cut Mark 3+13.78 P.28	9.51	80.38		70.87			
Station					Elev. Flow Line	Cuts	offset
0+00			9.51	70.87	65.00	5.87	
+40			9.10	71.28	66.52	4.76	
+80			7.21	73.17	68.04	5.13	
1+20			4.90	75.48	69.56	5.92	
+60			1.99	78.39	71.08	7.31	
T.P.	12.14	92.18	0.34	80.04			
2+00			10.78	81.40	72.60	8.80	
+40			8.44	83.74	74.12	9.62	
+80			6.51	85.67	75.64	10.03	
3+20			5.16	87.02	77.16	9.86	
+60			4.26	87.92	78.68	9.24	
+94.7 = ℄ MH #6			4.01	88.17	80.00	8.17	
4+30			3.95	88.23	80.25	7.98	
+70			4.42	87.76	80.53	7.23	
5+10			4.88	87.30	80.81	6.49	
+50			5.02	87.16	81.09	6.07	
+90			5.04	87.14	81.37	5.77	
6+30			5.41	86.77	81.65	5.12	
+55.06 = D. End			5.54	86.64	81.82	4.82	
Chk. Hub 0+00 FB 1664			5.27	86.91			
52				86.92			
				0.01			

INDEXED
WK
NOV 3 1948

Walker
Hazard
Hardin
Beg.
10-1-45

SEWER CONST.
FRANKLIN AVE.
from ℄ 46th St. to Alley West of 47th St.

Drawing 1165-D

P-31
BM. on Stub ℄ Franklin & ℄ Alley Bet. 46th & Junction — 101.43 + 5.22 = 106.65 T

Station		106.65	El. Stakes	El. Flow Line	Cuts.	Offsets
℄ 46th = 0+00 = ℄ MH #8		5.59	101.06	89.91	11.15	
+40		5.77	100.88	90.20	10.68	
+80		5.85	100.80	90.48	10.32	
1+20		5.63	101.02	90.76	10.26	
+53.81 ℄ MH #9	9" Drop MH	5.24	101.41	94.26=N 91.00	7.15 10.41	
+90		5.05	101.60	91.32	10.28	
2+30		5.83	100.82	91.68	9.14	
+70		6.92	99.73	92.04	7.69	
3+10		7.98	98.67	92.41	6.26	
+50		6.79	99.86	92.78	7.08	
3+90		5.40	101.25	93.14	8.11	
4+30		4.45	102.20	93.51	8.69	
+55		3.77	102.88	93.74	9.14	
4+83.64 = MH. #11	Drop 4.61	108.78	2.48	104.17	94.00 .1017 97.00=N	7.17

π cht out Cont. P-35

INDEXED
WK
NOV 3 1948

Walker
Hazard
Hardin
Beggs
10-1-45

SEWER CONST. IN ALLEY Blk-1 And in Alley Blk 2 - Homedale Map #1358

bet. Imp. Ave & Ocean View Blvd.
" 46th And Pynchon Sts.

INDEXED
WIC
NOV 4 1948

Drawing 1165-D

Station			Elev. Stakes	Elev. Flow Line	Cuts	Offsets
		π P-33 106.65				
going North				91.00=S.E	10.41 = W.E.S.	
0+00 = ℄ MH No 9		5.24	101.41	94.26=N	7.15=N	
+40		3.93	102.72	94.54	8.18	4' E
+80		2.98	103.67	94.82	8.85	"
1+20		2.97	103.68	95.10	8.58	"
+60		3.12	103.53	95.38	8.15	"
2+00		2.93	103.72	95.66	8.06	"
+40		2.75	103.90	95.94	7.96	"
+80		2.83	103.82	96.22	7.60	"
3+20 = ℄ MH No 10		3.44	103.21	96.50	6.71	"
+60		3.77	102.88	96.78	6.10	"
4+00		4.40	102.25	97.06	5.19	"
+40		5.11	101.54	97.34	4.20	"
+85 = 0 End		5.21	101.44	97.65	3.79	"
	Alley Blk 2 from ℄ Franklin					
going South		106.65 π P-33				
0+00 = ℄ Franklin = ℄ MH #9				91.00		
+40		5.27	101.38	91.28	10.10	4' East.
+80		5.75	100.90	91.56	9.34	"
1+20		6.51	100.14	91.84	8.30	"
+60		7.95	98.70	92.12	6.58	
2+00		8.87	97.78	92.40	5.38	
+35 = 0 End		11.51	95.14	92.65	2.49	

Walker
Hazard
Hardin
Begg.

SEWER CONST. ALLEY Blk 3,4,
Homedale Map 1358
Drawing # 1165-D.

10-1-45 bet. Imp. Ave and Ocean View Blvd.
" Pynchon St. and 47th Sts.

Stations		⊼ P-33 108.78		El. Stakes.	El. Flow Line 94.00=W.S. 97.00	Cuts	offsets
0+00=℄ Drop MH#11							
+40			5.58	103.20	97.32	5.88	4'E
+80			5.57	103.21	97.64	5.57	
1+20			3.65	105.13	97.96	7.17	
+60			3.21	105.57	98.28	7.29	
2+00	0.8%		2.60	106.18	98.60	7.58	
+40			1.32	107.46	98.92	8.54	
+80			0.95	107.83	99.24	8.59	
3+20=℄ Mtl 12 T.P.	4.21	⊼ 112.28	0.71	108.07	99.56	8.51	
+60			3.96	108.32	99.88	8.44	
4+00			3.83	108.45	100.20	8.25	
+40			4.36	107.92	100.52	7.40	
4+85=D. End			4.60	107.68	100.88	6.80	

For Alley Blk 3° See P-36

Chk 11+60 P-29 4.90 107.38
107.36
0.02

Proctor Place-

Construction

S End of Street to New Jersey	G-81-58
Curb Inlet & storm dr	G-259-19
4" W/Main Angle Pt.Meade Ave (on N.J.St.)	G-215-58
X-sec	833/897

Walker / Hazard / Hardin / Begg. / 10-1-45

SEWER CONST. ALLEY BLK 3
Bet. Rynchon St. & 47th
from Franklin Ave - South
Drawing 1165-D

Stations				El. Stakes	El. Flow Line	Cuts	Offsets
℄ Franklin Ave =0+00=℄ MH#11		108.78			97.00=W.N. 94.00=S		
+40			3.87	104.91	94.28	10.63	4'E
+80			4.89	103.89	94.56	9.33	✓
1+20			5.43	103.35	94.84	8.51	✓
+60			6.50	102.28	95.12	7.16	✓
2+00			8.29	100.49	95.40	5.09	✓
+40	0.7%		8.23	100.55	95.68	4.87	✓
+80			7.65	101.13	95.96	5.17	✓
3+20			7.13	101.65	96.24	5.41	✓
+60			7.21	101.57	96.52	5.05	✓
4+00			8.72	100.06	96.80	3.26	✓
+40 =D.End.			7.43	101.35	97.08	4.27	✓

Walker
Hazard
Hardin
9-6-45

69TH ST. - SEWER CONST.
from Brooklyn to Wunderlin
Const. by city Crew

INDEXED
WK
NOV 4 1948

				BM. & Mon. Wunderlin Hg 4 FB.164-22			
	0.78	290.10		289.32			
TP	0.18	277.26	12.97	277.13			
T.P.	2.36						
SE Top Fire Hyd & Brooklyn		269.69	9.93	267.33	Grade (GRH)	Cuts (GRH)	offsets
= 0+00 = ℄ NH on Rim			7.99	261.70	256.00	+5.7	4' Rt
"	"	Flow	14.54	255.15			
T.P.	9.93	277.26	2.36	267.33			
0+40	on stub		11.02	266.24	258.40	+7.84	
+80	"	"	7.22	270.04	260.80	+9.24	
1+20	"	"	4.89	272.37	263.20	+9.17	
1+60	"	"	3.46	273.80	265.60	+8.20	
(1+60) 65' Rt	Flow	Plumbing	8.8	268.5			
2+00	on stub		2.41	274.85	268.00	+6.85	
+40	"	"	1.25	276.01	270.00	+6.01	
(2+40) 90' Rt.			4.5	272.8			
T.P.	11.78	288.91	0.13	277.13			
2+80	on stub		10.99	277.92	272.00	+5.92	
3+20	"	"	9.37	279.54	274.00	+5.54	
(3+20) 90' Rt.			12.8	276.1			
3+60	on stub		7.55	281.36	276.00	+5.36	
4+00	"	"	5.47	283.44	278.00	+5.44	
(4+00) 75' Rt.	back of House	Ground	7.5	281.4			
+40	on stub		3.62	285.29	280.00	+5.29	
+80	T.P. 3.73	291.57	1.07	287.84	282.00	+5.84	
4+97			2.47	289.10	282.86	+6.24	
Chk. starting BM.			2.25	289.32			

Walker
Hurdin
9-14-45

Property Line Grade on N-Side-Alleghany St. Between Reo & Rancho

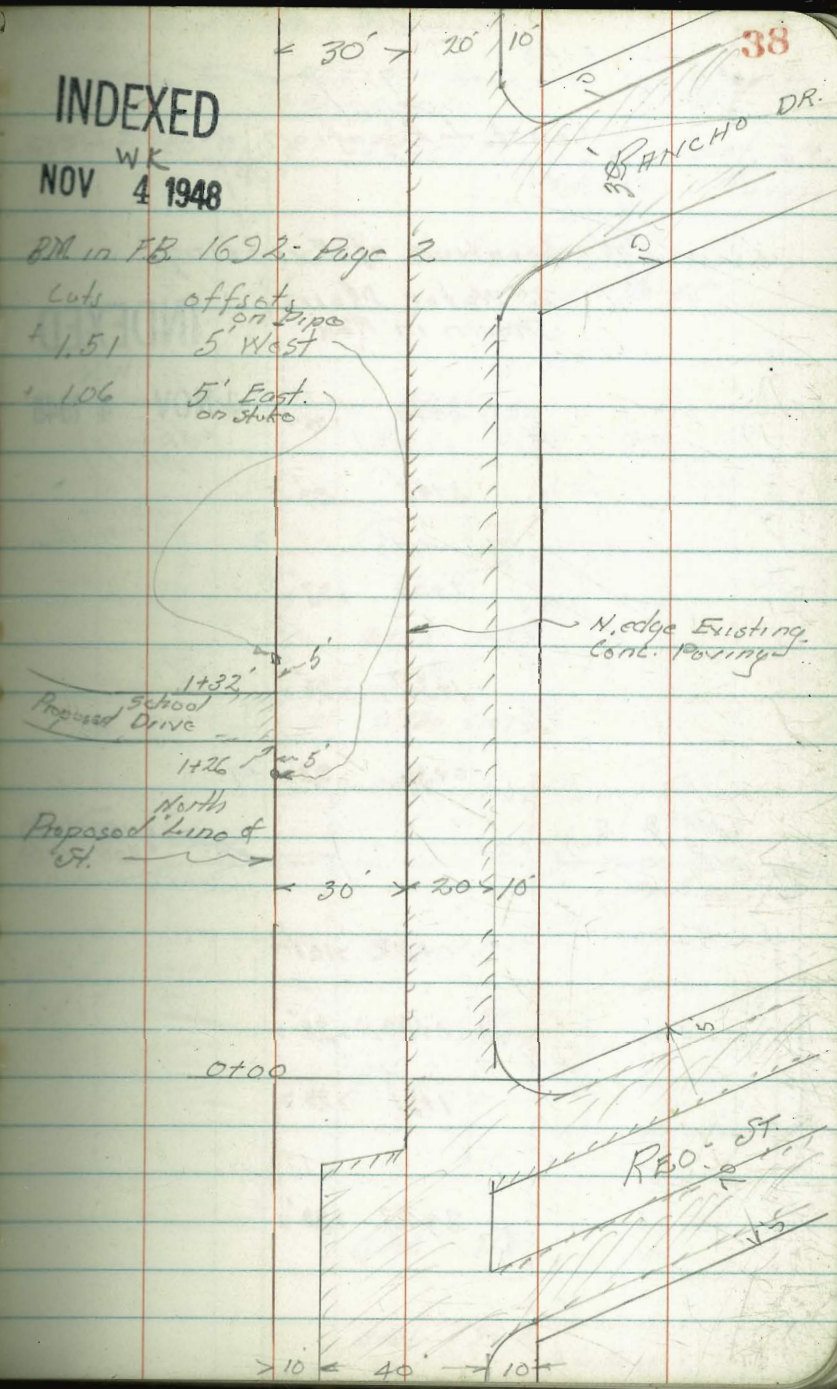
INDEXED
WK
NOV 4 1948

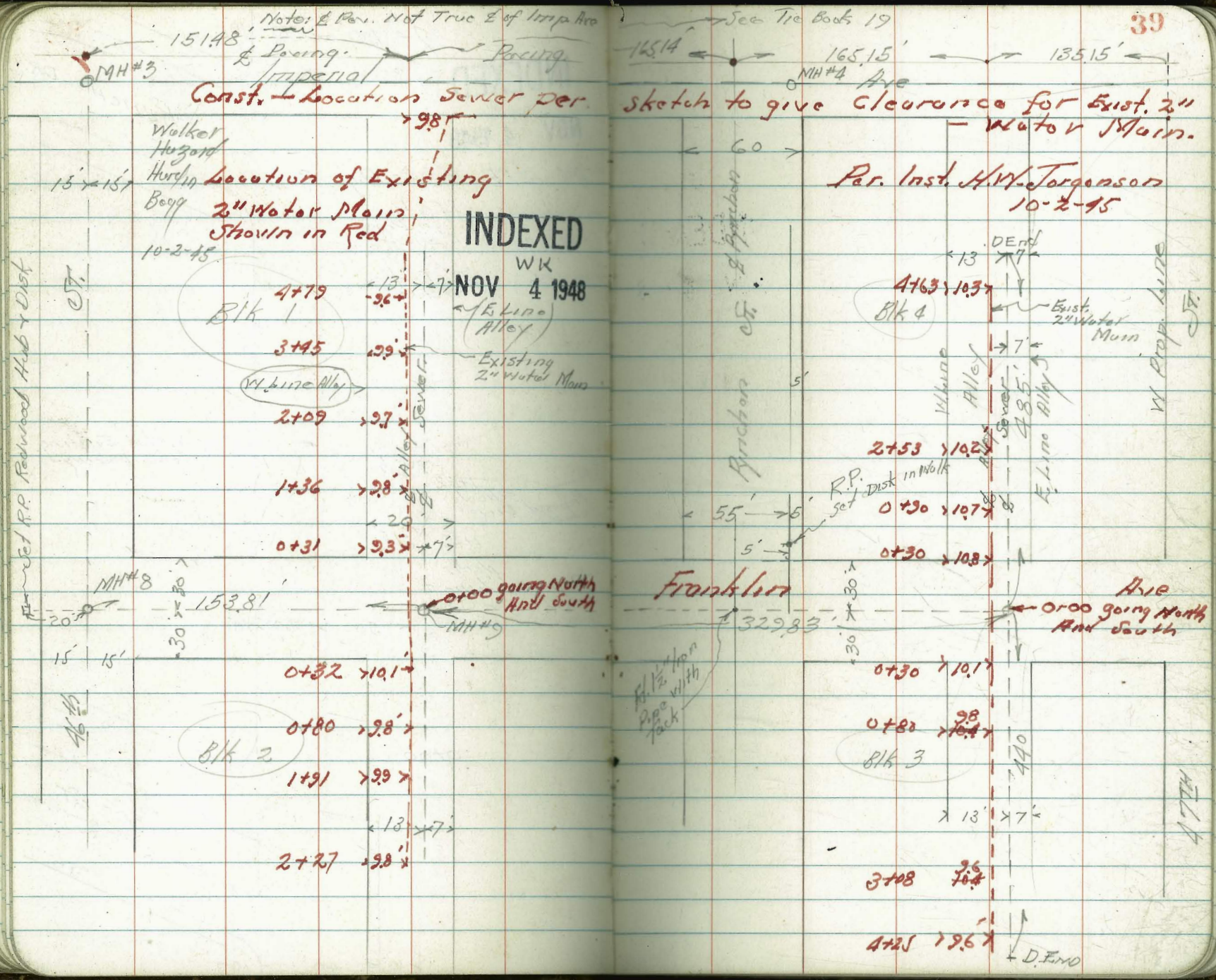
Station	4.31	227.34		223.03	S.E. BP. Rancho Alleghany
0+00 = Rt. ∆ S.E. Cor Reo Drive					El. Prop Line
1+20 = West side Proposed Drive			4.41	222.93	221.42
+32 = East " "			4.18	223.16	222.10

BM in F.B. 1692 - Page 2

Cuts	offsets
+ 1.51	5' West on Pipe
+ 1.06	5' East on Stake

(Note:) — The Engineer for Govt. in charge of School Construction Did not Want Grades in Front of Conc. Steps to School as no provision for Excavating made With his Contractor. "Says he" "The Walk will be Temporary from prop. Line to N. edge Existing Paving. When The street (Alleghany) is paved full width the Walk will have to be removed."




Note: ℄ Pav. Not True ℄ of Imp. Ave
See Tie Book 19
151.48'
℄ Paving
Imperial
Paving
MH#3
165.14'
165.15'
135.15'
MH#4
Ave
Const. — Location Sewer per sketch to give Clearance for Exist. 2" Water Main.
Walker
Hazard
Hurd in
Bogg
Location of Existing 2" Water Main Shown in Red
10-2-45
INDEXED
WK
NOV 4 1948
Per. Inst. H.W. Jorgenson
10-2-45
Blk 1
Blk 2
Blk 3
Blk 4
4+79
3+45
2+09
1+36
0+31
0+32
0+80
1+91
2+27
4+63
2+53
0+90
0+30
0+30
0+80
3+08
4+25
Existing 2" Water Main
Exist. 2" Water Main
W. Line Alley
E. Line Alley
Sewer
Alley
Set R.P. Redwood Hub + Disk
St.
Franklin
Ave
0+00 going North And South
153.81'
329.83'
485'
440
47TH
D. End
R.P. Set Disk in Walk
Pipe with Tack
W. Prop. Line
St.

Walker
Hazard
Harding
Beggs
10-3-45

16" WATER MAIN CONST.
ON 42ND, MONROE,
AND EDGEWARE ROAD
from El Cajon Blvd. to Adams Ave
Drawing # 6405, 6406, 6407-L

	5.33	369.73		364.40	BM B.P. SW 42nd & El Cajon Elev.		
Station					Bottom Trench	Cuts	offsets
0+00			6.05	363.68	359.30	4.38	6'E
+25 = Brk			5.63	364.10	359.30	4.8	"
+35			5.56	364.17	359.13	5.04	"
+65 = Brk			6.11	363.62	358.60	5.0	"
1+10 = Brk			5.71	364.02	358.60	5.4	"
+60 = Brk			5.65	364.08	359.60	4.48	"
2+00			5.66	364.07	359.60	4.47	"
+50			5.65	364.08	359.60	4.48	"
3+00			5.52	364.21	359.60	4.61	"
+50			5.48	364.25	359.60	4.65	"
4+00			5.41	364.32	359.60	4.7	"
+50			5.40	364.33	359.60	4.7	"
5+00			5.33	364.40	359.60	4.8	"
+50			5.23	364.50	359.60	4.9	"
6+00			5.16	364.57	359.60	5.0	"
+50			5.07	364.66	359.60	5.1	"
7+00			5.00	364.73	359.60	5.1	"
+50			4.97	364.76	359.60	5.16	"
7+75 = Brk			5.58	364.15	359.60	4.55	"
8+00 T.P.	7.92	372.50	5.15	364.58	360.30	4.3	"

Cont. P. 42

INDEXED
WK
NOV 4 1948

16" Water Main } - Cont. - From P-41

Station		* P-41 372.50			Elev. Bottom of Trench	Cuts	offsets				
8+50			7.27	365.23	360.90	4.3	6' E				
9+00			6.75	365.75	361.50	4.25	"				
+50			6.07	366.43	362.10	4.3	"				
10+00			5.49	367.01	362.70	4.3	"				
+50			4.89	367.61	363.30	4.3	"				
11+00			4.28	368.22	363.90	4.3	"				
+50 = Brk.			3.68	368.82	364.50	4.3	"				
12+00			3.94	368.56	364.23	4.33	"				
+50			4.25	368.25	363.97	4.28	"				
13+00 = Brk.			4.57	367.93	363.70	4.2	"				
+50			4.88	367.62	363.14	4.48	"				
13+76.1 = Brk Δ 89°30' Lt.			5.26	367.24	362.85	4.4	"	chk BM SW 7' Tack 42nd + Monroe			372.50 ⊼
14+30		372.08	4.33	367.75	362.85	4.9	6' South				4.32
14+85.1 = Δ 89°43' Rt			3.88	368.20	362.85	5.35	6' West				T.P. 368.18
15+50			4.17	367.91	362.85	5.06	6' E on cb.				368.20 = BM
16+00 = Brk			4.68	367.40	362.85	4.55	" "				0.02
+35			5.14	366.94	362.57	4.37	" "				368.20 = BM
17+00			5.75	366.33	362.05	4.28	" "				3.88+
+50			6.01	366.07	361.65	4.42	" "				372.08 ⊼
18+00			6.23	365.85	361.25	4.6	" "				
+50			6.36	365.72	360.85	4.87	" "				
19+00	0.8%		6.77	365.31	360.45	4.86	5.8 "				
+50			7.21	364.87	360.05	4.82	6:0				
T.P. 20+00	3.04	367.42	7.70	364.38	359.65	4.73	5.8 Rt				

Cont. P-43

16" Water Main
Cont. from P. 42

Station					Elev. of Bottom of Trench	Cuts	offsets
		367.42 T P-42					
20+50	0.8%		3.46	363.96	359.25	4.7	6' E on ℄
21+00			3.82	363.60	358.85	4.75	"
+50 = Brk			4.38	363.04	358.45	4.6	" "
22+00			4.27	363.15	358.20	4.95	" "
+50			5.01	362.41	357.95	4.46	6.4 Rt
23+00			5.30	362.12	357.70	4.4	6.2 Rt
+50			5.54	361.88	357.45	4.4	6.2 Rt
24+00	0.5%		5.69	361.73	357.20	4.5	6' Rt
+50			5.98	361.44	356.95	4.5	6.2 Rt
+95			6.18	361.24	356.67	4.57	6' Rt
25+40			6.49	360.93	356.50	4.4	6.0
26+00 = Brk			7.19	360.23	356.20	4.03	6.2 Rt
+50		364.85	4.45	360.40	355.96	4.44	6.2 Rt
27+00			4.72	360.13	355.72	4.4	6.0 Rt
+50	0.8%		4.97	359.93	355.48	4.45	6.0 Rt
28+00			5.19	359.66	355.24	4.42	6.0 Rt
+50 = Brk			5.47	359.38	355.00	4.4	6.0 Rt.
29+00 "			5.77	359.08	354.00	5.1	6.2 Rt
+55			6.03	358.82	354.00	4.8	6' Rt
30+00			6.21	358.64	354.00	4.6	6' Rt.
+39.5 = Brk			6.38	358.47	354.00	4.5	6' E
					355.00		
30+74.5 End of Line 30' North of St. Adams Ave							
Chk. B.M. SE. 6' Tack			6.31	358.54			
Adams & Edgeware Rd				358.57			
				0.03			

367.42 π
6.54 -
360.88 T.P.
3.97 +
364.85 π

Walker
Hazard
Hardin
Beggs
10-8-45

Construction "Line A" Grades 6" Sewer in 300 Grounds - Vicinity Duck Ponds

This portion is a relocation of a portion of 300 Sewer to give Clearance for Proposed 36" Water Main

Drawing # 6452-L

This Portion - Line "A" in Prelim Notes. FB 1678-59

INDEXED
WK
NOV 4 1948

BM on Nail	2.57						
57+62.32 = Water Station		237.27		234.70	El. Flow	Cuts	offset
0+00 = Exist. MH #8 on Rim			1.92	235.35	230.55		
+30	Δ 36°20' Rt.		5.42	231.85	227.11	4.74	4' Rt.
+54.7 = MH #7-A			8.42	228.85	224.27	4.58	
+85			10.95	226.32	220.79	5.53	
TP	1.40	226.02	12.65	224.62			
1+20			3.45	222.57	216.77	5.80	
+60			7.89	218.13	212.18	5.95	
T.P. 2+00	0.90 Δ 14°34' Rt.	214.42	12.50	213.52	207.59	5.93	
+41.83 = MH 6-A			5.41	209.01	202.79	6.22	
2+80			9.45	204.97	198.41	6.56	
TP	1.43	202.90	12.95	201.47	1		
3+20			2.44	200.46	193.82	6.64	
+50			6.13	196.77	190.37	6.40	
3+81.68 = ℄ Exist. MH #6			10.13	192.77	186.73	6.04	
" on Rim			10.87	192.03			
				191.98			
				0.05			
chk 61+23.11 B.C. Water FB 1678-58			9.12	193.78			
				193.83			
				0.05			

for Line "B" See P 45

Walker
Hazard
Hurdin
Begg
10-8-45

300 Sewer Const. of Relocation Portion. Vicinity Duck Ponds.

"Line B" = Prelim Note FB 1678-6

Drawing 6454-L

	1.09	178.01		176.92	B.M. on 2 Nail	0+00 P60 FB1678	
Station					El. Flow	Cuts.	Offsets
0+00			1.11	176.90	171.03	5.87	4' Rt.
+40			2.18	175.83	168.87	6.96	"
+80			4.00	174.01	166.71	7.30	"
1+20			6.64	171.37	164.54	6.83	"
+60			9.22	168.79	162.38	6.41	"
2+04.37			12.92	165.09	159.98	5.11	"
chk ℄ 2+04.37 FB1678-P-60			12.88	165.13			
				165.13			
				0.00			

Const. Notes
: other portion this project
500 P.44

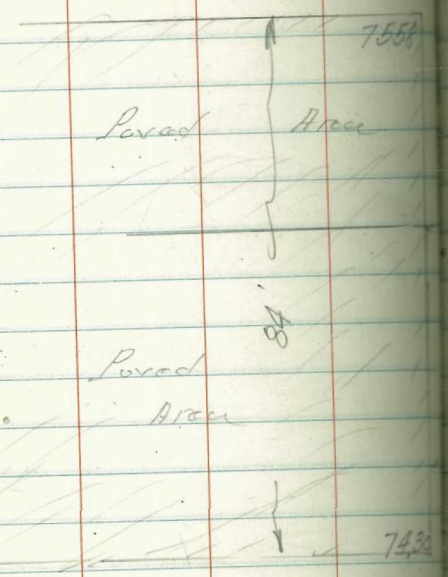
Walker
Hugard
Hardin
Begg
10-22-48

GRADES - for Drainage
MEMORIAL RECREATION
BLD. on 29TH St.
North of Marcey Ave

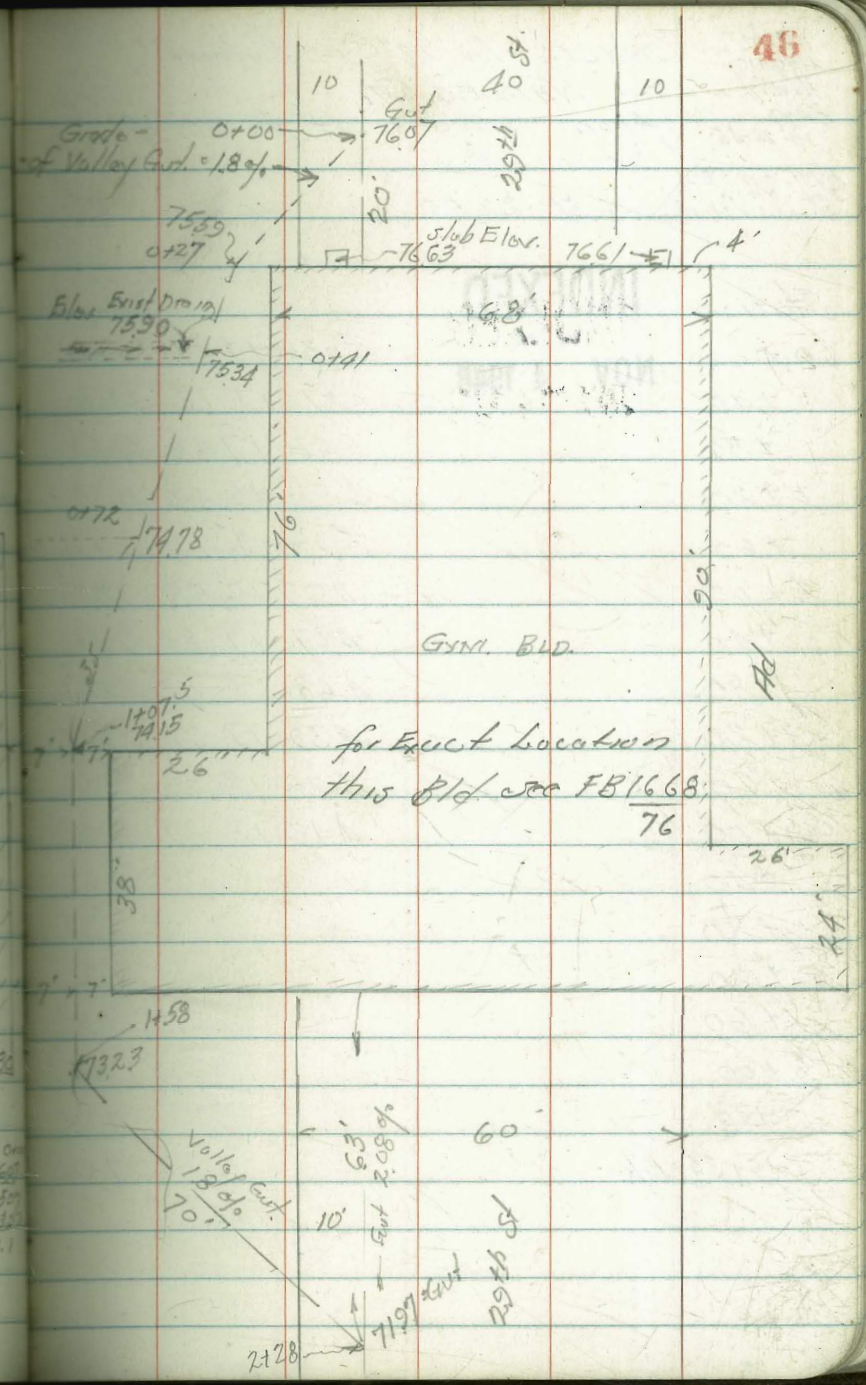
BM
NW.B.P. 29th + Logan

68.45 =
9.11 +
77.56 π
3.10 −
74.46 - T.P.
6.68 +
81.14 π

INDEXED
WK
NOV 4 1948



2+28	1+93	1+58	1+46	1+07.5	0+72	0+27	0+00
71.97	72.60	73.23	73.45	74.15	74.78	75.59	76.07
5.59	4.96	4.33	4.11	6.99	6.36	5.55	5.07
4.42	4.18	3.32	3.10	6.14	5.29	4.55	3.92
+1.17	+0.78	+1.01	+1.01	+0.85	+1.07	+1.00	+1.1



Walker
Hazard
Hurdin
Begg
10-26-45

GRADES - For 24" Conc. Culvert on NAPLES ST. from Dorcas St to WLY of Vega St.

BM. on SELY Prop. Mon. Dorcas + Naples 6.31 22.50 16.19

INDEXED
W K
NOV 4 1948

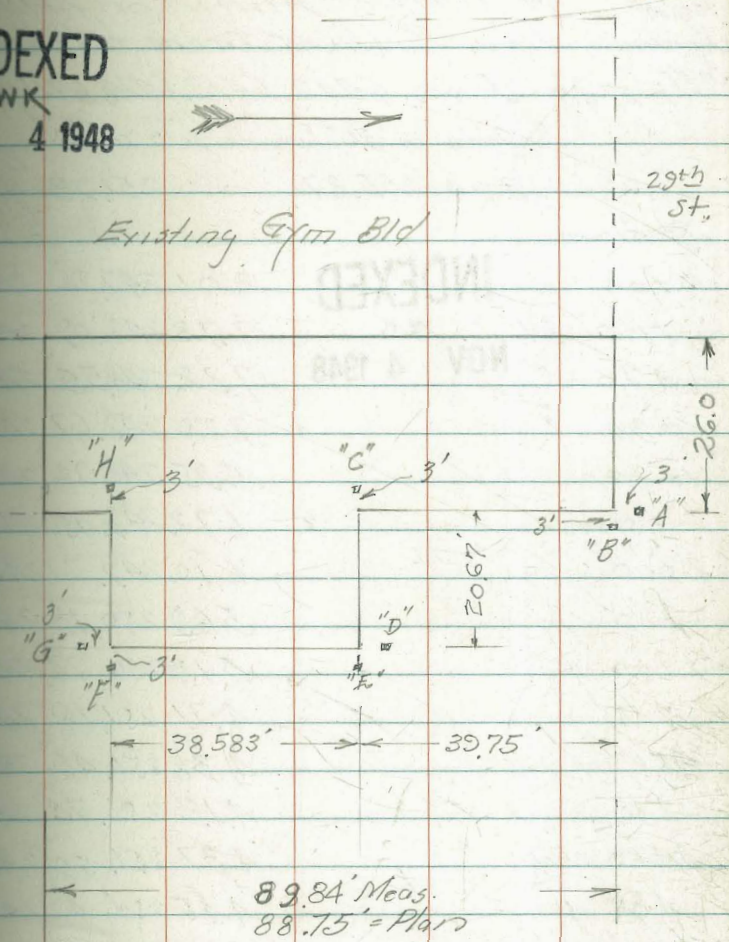
Station					Elev. Bottom Dr.		
0+00			5.03	17.47	11.00	+6.47	6' Lt
+40			5.37	17.13	10.80	6.33	
+80			5.42	17.08	10.60	6.48	
1+20			5.58	16.92	10.39	6.53	
+60			5.38	17.12	10.19	6.93	
2+00			4.95	17.55	9.98	7.57	
+40			4.67	17.83	9.78	8.05	
+80			4.68	17.82	9.58	8.24	
3+20			4.59	17.91	9.37	8.54	
+60			4.28	18.22	9.17	9.05	
4+00			4.13	18.37	8.97	9.40	
+40					8.77		
+80					8.57		
5+20					8.36		
+60					8.16		
6+00					7.96		
+40					7.75		
+91.34 = Brk.					7.50		

Wulker Addition No 2 To
Hendricks Memorial Social & Recreation Hall
Hunley Roll # 7336-A
Carey
5-16-46

B.M.
NW B.P.
Logan 293

	8.37	76.82		68.45
Rim MH Tel.			1.43	75.39
T.P.	5.03	81.75	0.10	76.72
Chk Floor Gym Supply Room			5.05	76.70
" " N.E. Cor Exist Gym			5.00	76.75
	6.09	81.48		75.39
Floor Elev. New Bld			4.78	76.70

INDEXED
WK
NOV 4 1948



Note - Existing bld. Not square by 1 3/4" - New Structure Staked as Suggested by Contractor Neilson to project face of bld to Line of New Addition.

Walker
Hazard
Hardin
Begg 10-27-45

~ GRADES ~

24" WATER MAIN on LAUREL ST.
from Balboa Drive to Kettner Blvd
Plan 6412, 6413, 6414, 6415-L
(For Grades on 36" Line from Here to 30th St See Grd. 220)

Stations				B.M. BP N.W. Elev. Bottom Trench	6th & Laurel Cuts.	offsets
	3.94	255.87		251.93		
0+00			8.01	247.86	239.70	8.16	6' Rt.
+20 = Brk			7.78	248.09	240.10	7.99	
+70 = "			7.32	248.55	242.10	6.45	
+90 "			7.20	248.67	242.50	6.17	
1+20			6.95	248.92	242.50	6.42	
+50			6.72	249.15	242.50	6.65	
2+00			6.10	249.77	242.50	7.27	
+50			5.69	250.18	242.50	7.68	
3+00			5.13	250.74	242.50	8.24	
+50			4.71	251.16	242.50	8.66	
4+00			4.38	251.49	242.50	8.99	
+30			4.13	251.74	242.50	9.24	
4+60 = Brk			4.37	251.50	242.50	9.00	
+80 "			4.45	251.42	242.90	8.52	
5+00			4.48	251.39	243.70	7.69	
+37.5 Brk			4.60	251.27	245.20	6.07	
+57.5 Brk			4.69	251.18	245.60	5.58	
6+00			4.91	250.96	245.60	5.36	
+25 Brk			5.06	250.81	245.60	5.21	
+75 "			5.82	250.05	244.60	~~6.45~~ 5.45	
7+00			5.68	250.19	244.60	5.59	

INDEXED
WK
NOV 4 1948

25587

T.P.	1.07	250.66	6.28	249.59	Elev. Bottom Trench			250.66 ✓ 073
Station							chk MM BP 5th+Lowol	249.93 249.92 001
7+31.5 Brk			0.95	249.71	244.60	5.11		
+62.5 "			1.74	248.92	243.98	4.94		
8+00 "			3.00	247.66	242.70	4.96		
+40			4.39	246.27	241.34	4.93		
+80 Brk			5.59	245.07	239.98	5.09		
9+00 "			6.30	244.36	239.18	5.18		
+20 "			7.06	243.60	237.98	5.62		
+40 "			7.80	242.86	236.38	6.48		
+78.8 "			8.00	242.66	232.50	10.16		
10+15 "			8.59	242.07	232.50	9.57		
+50			9.35	241.31	232.50	8.81		
11+00			10.60	240.06	232.50	7.56		
+35 T.P.	1.01	240.25	11.42	239.24	232.50	6.74		
11+70 = Brk			1.88	238.37	232.50	5.87		
12+00			2.66	237.59	231.90	5.69		
+25			3.36	236.89	231.40	5.49		
+70			3.20	237.05	231.40	~~6.65~~ 5.65		
13+15 Brk			3.61	236.64	231.40	5.24		
+35			4.20	236.05	231.00	5.05		
13+70			5.26	234.99	229.95	5.04		
14+00			6.22	234.03	229.05	4.98		
+40			7.45	232.80	227.85	4.95		
+72			8.43	231.82	226.89	4.93		
14+88 = Brk			8.50	231.35	226.25	5.10		

24025

Stations					Elev. Bottom Trench	Cuts	offsets
15+04			9.32	230.93	225.29	5.64	
+20			9.67	230.58	224.01	6.57	
+35!	=Brk		9.88	230.37	222.50	7.87	
+70			10.50	229.75	222.50	6.25	7.25
16+00			11.21	229.04	222.50	6.54	
+42.5	=Brk		12.42	227.83	222.50	5.33	
T.P.	0.80	228.66	12.39	227.86			
16+62.5	=Brk		14.5	227.21	222.10	5.11	
17+00			2.61	226.05	220.98	5.07	
+40	Brk		3.79	224.87	219.78	5.09	
+60	"		4.34	224.32	218.98	5.34	
+80	"		4.94	223.72	217.78	5.94	
18+00	"		5.44	223.22	216.18	7.04	
+31.8	"		6.23	222.43	213.00	9.43	
+77.5	Brk		8.20	220.46	213.00	7.46	
+97.5	"		9.68	218.98	212.60	6.38	
19+17.5	"		11.23	217.43	211.80	5.63	
+37.5	"		12.75	215.91	210.60	5.31	
T.P.	0.15	216.11	12.70	215.96			
19+70			2.61	213.50	208.29	5.21	
20+00			4.89	211.22	206.16	5.06	
+50	Brk		8.55	207.56	202.60	4.96	
+75	"		9.96	206.15	201.15	5.00	
21+25	"		11.57	204.54	199.15	5.39	
+50			12.77	203.34	197.65	5.69	

Station		216.11				
T.P.	0.73	203.79	13.05	203.06		
21+75			3.17	200.62	19565	4.97
22+00			5.78	198.01	19300	5.01
+40			9.93	193.86	18876	5.10
T.P.	0.58	191.47	12.90	190.89	~~187.52~~	
+80			1.90	189.57	18452	5.05
23+20			6.01	185.46	180.28	5.18
+40			7.86	183.61	178.68	4.93
+60			8.78	182.69	177.48	5.21
+85			10.36	181.11	176.08	5.03
24+15			11.35	180.12	174.88	5.24
+35			12.88	178.59	173.28	5.31
T.P.	0.88	179.41	12.94	178.53		
+55			3.27	176.14	171.28	4.86
25+00			8.79	170.62	165.70	4.92
T.P.	0.89	167.28	13.02	166.39		
+50			2.75	164.53	159.50	5.03
26+00			8.95	158.33	153.30	5.03
+20	Brk		11.28	156.00	150.82	5.18
+62.5	"		12.39	154.89	150.30	4.59
T.P.	0.81	155.65	12.44	154.84		
27+04	Brk		1.22	154.43	149.36	5.07
+50			2.81	152.84	147.75	5.09
28+00			4.55	151.10	146.00	5.10
+30			5.61	150.09	144.95	5.09

Station		K			Grade		
28+5494		15565	647	149.18	144.07	5.11	
+80			736	148.29	143.19	5.10	
29+00	Brk		8.04	147.61	142.50	5.11	
+20			8.34	147.31	142.20	5.11	
+40			8.45	147.20	141.90	5.30	
+60			866	146.99	141.60	5.39	
+80			886	146.79	141.30	5.49	
30+00	Brk		926	146.39	141.00	539	
+20	"		969	145.96	140.30	566	
+40	"		1036	145.29	139.20	609	
+60	"		1232	143.33	137.70	563	
T.P.	572	149.03	1234	143.31			
+80	Brk		795	141.08	135.80	5.28	
31+00	Brk		1027	138.76	133.50	5.26	
B.M.	1.83	148.00	286	146.17		B.P.	S.E. Cor Curlew & Laurel Sts 003
31+20			11.57	136.43	131.20	5.23	
T.P.			12.59	135.41			
+40					128.90		
+60					126.60		
+80					124.30		
32+00.08 = E.C.					122.00		
+50 Brk					116.25		
+87.5 "					116.00		
33+37.5 "					110.25		
+50					107.50		
34+00					96.50		

Station								
34+50					85.50			
35+00					74.50			
+12.5 Brk		77.66	1.25	76.41	71.75	4.66	Bench Mark S.F.B.P. India & Laurel	54.75
+52.10 "			3.18	74.48	67.39	7.09		270 +
36+00 "			5.62	72.04	67.39	4.65		57.45
+50			11.00	66.66	61.80	4.86		059 −
37+00		64.87	3.77	61.10	56.20	4.90		56.86 T.P.
+50			9.30	55.57	50.62	4.95		1295 +
+96 = Brk			14.28	50.59	45.50	5.09		69.81 π
38+50 "			14.25	50.62	45.50	5.12		059 −
39+00			12.97	51.90	46.70	5.20		69.227 T.P.
+50			11.86	53.01	47.90	5.11		844 +
40+00			10.64	54.23	49.10	5.13		77.66 π
+50 = Brk. T.P. 154		56.83	9.58	55.29	50.30	4.99		13.04 −
40+74.6 = " Rt 0°05'								64.62 T.P.
+87.5 "			1.46	55.37	50.00	5.37		025 +
41+00			1.30	55.53	49.66	5.87		6487 π
+40 Brk			2.42	54.41	48.60	5.81		958 −
+60 "			3.64	53.19	47.70	5.49		53.29 T.P.
+80 "			5.38	51.45	46.40	5.05		154 +
42+00 "			7.22	49.61	44.70	4.91		56.83 π
+50			11.91	44.92	39.30	5.62		12.96 −
43+00		44.51	5.37	39.14	33.90	5.24		43.87 T.P.
+36 Brk.			9.78	34.73	30.02	4.71		0.64 +
+62.5			11.09	33.42	29.60	3.82		44.51 π
+70.02 = End Layout			11.08	33.43	29.00	4.43	Lost Sph. Rail 43+71.92	11.16
								33.35
							FB 1676-16 →	33.34
								001

Walker
Hazard
Hurdin
Begg
10-31-45

Grades - for Line Change
24" Water Main on Laurel St

Page 54

B.M. S.E.B.P. Curlew & Laurel 146.17
4.40 +
150.57
13.02 -
137.55 T.P.
0.66 +
138.21 x
12.59 -
125.62
0.57
126.19
12.86
113.33
0.76
114.09

Station				El. Bottom Trench		
28+30 = Same as Page 53				144.95		
28+39.21 = B.C.	150.57	0.84	149.73	144.63	5.10	6' Rt.
+60		1.57	149.00	143.90	5.10	
+80		2.30	148.27	143.20	5.07	
29+00 = Brk.		2.97	147.60	142.50	5.10	
+20		3.30	147.27	142.20	5.07	
+40		3.39	147.18	141.90	5.28	
+60		3.60	146.97	141.60	5.37	
+80		3.82	146.75	141.30	5.45	
30+00 Brk.		4.24	146.33	141.00	5.33	
+20 "		4.70	145.87	140.30	5.57	
+40 "		5.44	145.13	139.20	5.93	
+60 "		7.45	143.12	137.70	5.42	
+80 "		9.65	140.92	135.80	5.12	
31+00 "		12.02	138.55	133.50	5.05	
+20	138.21	1.95	136.26	131.20	5.06	
+40		4.26	133.95	128.90	5.05	
31+67.91 = E.C.		7.59	130.62	125.70	4.92	
32+00 = Brk.		11.34	126.87	122.00	4.87	
+50 "	126.19	4.33	121.86	116.25	5.61	
32+87.5 "		5.53	120.66	116.00	4.66	
33+37.5 "		11.08	115.11	110.25	4.86	

Cont. P-57

Grades - 24" Water Main -
- for Line Change
Cont. from P-56

Station				El. Bottom Trench
33+50	114.09	1.75	112.34	107.50
34+00		13.00	101.09	96.50
+50	102.01	12.00	90.01	85.50
34+91.54 = B.C.	90.88	10.16	80.72	76.36
35+07.98 } Equation = E.C. = Brk 35+08.88 }		13.74	77.14	72.74
35+12.5 = Same as Page 55		14.56	76.32	71.75

Sketch of change in Alignment
24" Water Main
on West Laurel

4.84 Change made per - R.O. Stevens to give
4.59 clearance for Exist 4" Gas Line. 10-30-45
4.51

E.C. = 35+08.88
35+07.98

4.36 ← ℄ R = 1000'
T = 8.22'
L = 16.44'
Δ = 0°56'30" B.C.
34+91.54
Uniform Grade

4.40 → Left out

4.57
4.66 ← P-55 used this
0.09 diff.

497.70

E.C.
31+67.91

℄ R = 1000'
T = 165.85'
L = 328.70'
Δ = 18°50

B.C.
28+39.21

T.P. 114.09
12.99
T.P. 101.10
0.91+
102.01
12.86
T.P. 89.15
1.73
90.88

Walker Grades - 4" Water Main
Hardin on New Jersey St.
Huntley from Proctor Place
11-13-45 to Angle Point 290' S.S.L. Meade Ave

	1.75	309.88	308.13	B.M. Top cb

E side New Jersey
100.2' S.S.L. Meade FB 1332-48

Station 46.9' South of S.L. Meade Ave				Bot. Trench	Cuts	offsets
=0+00		0.06	309.82	306.3	3.5	5'
+50		1.62	308.26	304.7	3.6	
1+00		4.15	305.73	303.1	2.6	
+21.35 = Brk		4.95	304.93	302.4	2.5	
+53.10 = Brk		6.90	302.98	300.3	2.7	
+73.10 "		8.20	301.68	298.9	2.8	
+93.10 "		9.11	300.77	297.2	3.6	
2+13.10 "		9.84	300.04	295.4	4.7	
+33.10		10.14	299.74	293.4	6.3	
2+42.4 Δ		10.84	299.04	292.2	6.8	

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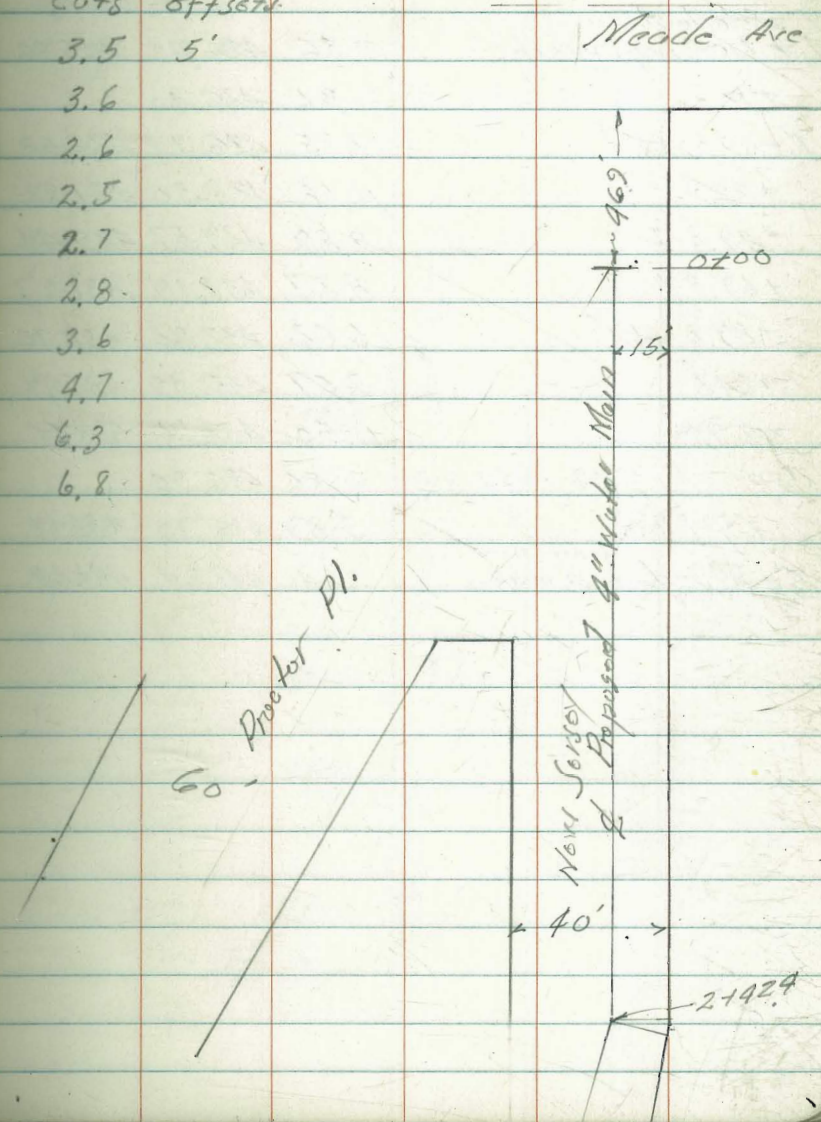

Walker
Hurdin
Hunley

Construction Grades for Curb on 60th St. Between Estelle & El Cajon Blvd.

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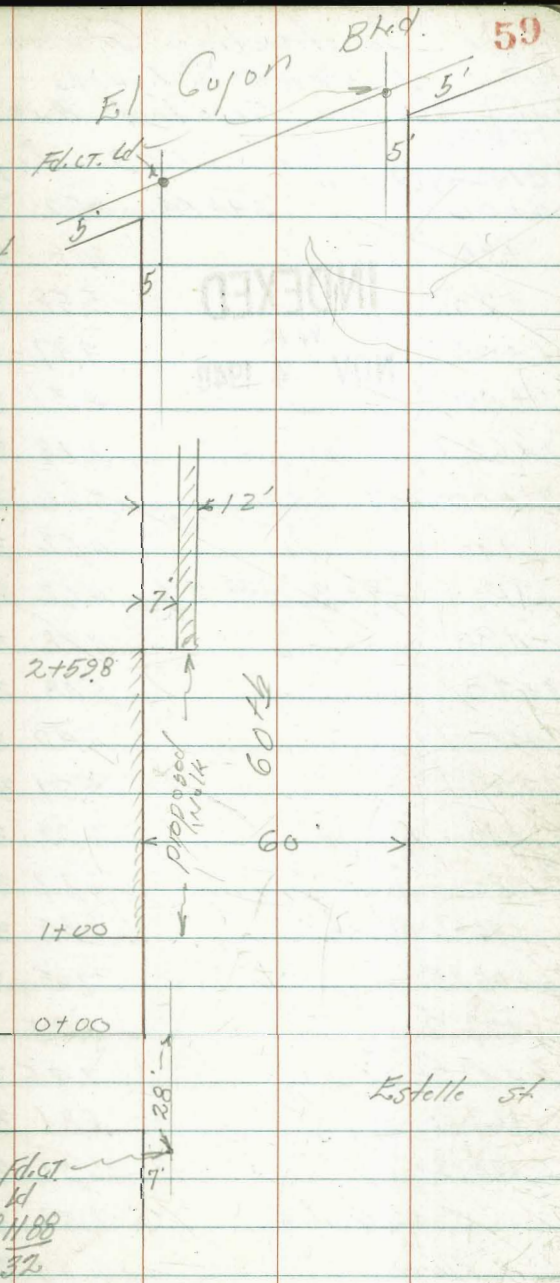
N.L. Estelle = 0+00	10.10	428.76		418.66	N.W. BP Estelle & 60th FB 1188 - 32 Grades		
~~N.L. Estelle St.~~				Elev. Stake	Elev. Cb	Cuts & Fill	offset
1+00 = beg. work			2.36	426.40	425.86	+0.54	2' Lt.
T.P.	13.06	439.46	2.36	426.40			
1+09.8 = Brk.			12.75	426.71	426.52	+0.19	"
+29.8 "			11.16	428.30	427.92	+0.38	"
+49.8 "			9.89	429.57	429.44	+0.13	"
+69.8 "			8.27	431.19	431.07	+0.12	"
+89.8 = Brk.			6.62	432.84	432.76	+0.08	"
2+24.8			3.57	435.89	435.71	+0.18	"
~~+59.8~~			~~0.50~~	~~438.96~~	~~438.66~~		
T.P.	7.98	444.88	2.56	436.90			
2+59.8 = Brk			5.89	438.99	438.66	+0.33	"
2+87.9 = End exist. walk from North			3.64	441.24	441.23	+0.01	"



Walker
Hurdin
Hunley
1-10-46

Construction Grades for
Proposed Culverts
on Euclid Ave
Plan 6509-L

NW F.B. 1393-44
BM B.P. Euclid & Univ.

340.70
3.74
344.44

				Elev Stakes	Flow Line	Cuts	
℄ Cleanout No 4							
=0+00		344.44	6.62	337.82	333.34	4.48	11.3 Lt. = cross on Ch.
+35			6.16	338.28	333.06	5.22	"
+70			5.58	338.86	332.78	6.06	"
1+05			4.87	339.57	332.50	7.07	"
+40			4.31	340.13	332.22	7.91	"
1+66.9	℄ cleanout #3		3.78	340.66	332.00	8.66	6' Lt.
2+00			3.96	340.58	331.71	8.87	6' Lt.
+40			4.52	339.92	331.39	8.53	" "
T.P.	3.83	344.25	4.02	340.42			
+80			4.68	339.57	331.07	8.50	" "
3+20			5.08	339.17	330.75	8.42	" "
+60			5.49	338.76	330.43	8.33	" "
4+00			5.91	338.34	330.11	8.23	" "
+40			6.39	337.86	329.79	8.07	" "
+80			6.77	337.48	329.47	8.01	" "
+86.67 = B.C. Lt.			6.80	337.45	329.42	8.03	" "
5+06.95			7.05	337.20	329.26	7.94	" "
+27.25			7.25	337.00	329.10	7.90	" "
+47.52			7.45	336.80	328.94	7.86	" "
+67.80			6.81	337.44	328.78	8.66	" "
+88.09 =			6.56	337.69	328.63	9.06	" "
S. edge Grating			7.58	336.67			
Flow			10.31 17.89	326.36			

Cont. P-61

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Walker
1-11-46

Construction Grades-
Culverts on Univ. Ave from 47th to Euclid Ave
Cont. from P-60

B.M. P-60 340.70
4.50+
345.20 ⊼
4.62-
340.58 T.P.
4.82+
345.40 ⊼
3.85-
341.55-

Stations		Elev. Stakes	Elev. Flow Line	Cuts	offsets.	
Exist. Curb Inlet S.E. 47th & Univ	345.40 ⊼ 4.93	340.47	335.00	5.47	Cross on cb.	
Exist. Catch Basin SW 47th & Univ.	4.51	340.89	334.98	5.91	" " "	chk N.W. B.P. 47th Univ.
℄ Cleanout No 1 = 0+00	4.18	341.22	334.69	6.53	6' Lt.	345.40 ⊼
+40	4.30	341.10	334.38	6.72	" "	4.58-
+80	4.38	341.02	334.07	6.95	" "	340.82 T.P.
1+20	4.45	340.95	333.76	7.19	" "	4.49+
+45	4.50	340.90	333.56	7.34	" "	345.31 ⊼
1+68.8 - ℄ Cleanout No 2	4.58	340.82	333.37	7.45	" "	
2+00	4.64	340.76	333.06	7.70	" "	
+40	4.68	340.72	332.66	8.06	" "	
+80	345.31 ⊼ 4.73	340.58	332.26	8.32	" "	
3+06 - ℄ cleanout No 3	345.40 4.65	340.66	332.00	8.66	" "	
cb Inlet opp. 1+68.8	5.06	340.34	336.00	4.34	cross on cb.	

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W K
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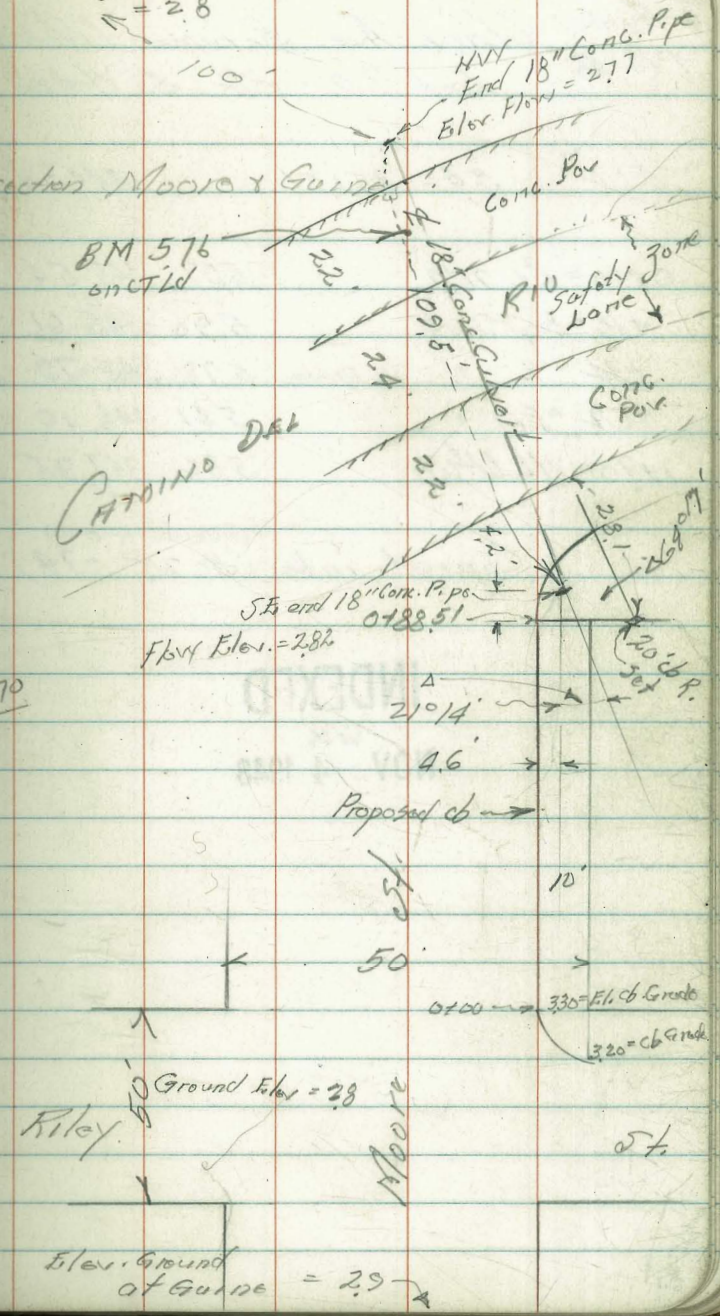
3.80 344.50 340.70 BM P-60
21.5' East of cleanout No 4 cb. = 7.50 cb 337.00
East end Pipe

Curb Grades - Moore St.
And Riley
North to CAMINO 1

B.M. Page 11	5.59	8.84		3.25	B.M. & Mon Jefferson & Rosecrans
T.P.	4.91	7.84	5.91	2.93	
			Rods	Elev. Stake	Elev cbs.
P.C. Rot. on N.L. Moore			4.64	3.20	3.20
E.C. on Riley = 0+00			4.54	3.30	3.30
0+26.42			3.88	3.96	3.96 (.66)
+52.84			3.22	4.62	4.62
0+60.00 (.716)			3.07	4.77	4.77
+80			2.68	5.16	5.16
+88.51 = B.C. 20' Radius.			2.57	5.27	5.27
℄ Rot.			2.51	5.33	5.33
E.C.			2.45	5.39	5.39 ← Cb Lw Make 5.70
chk Pav. opp Above E.C.			2.49	5.35	
Flow Line					
N.W. End 18" Conc. Pipe 109.5' of Pipe			5.07	2.77	
S.E. " 18" " "			5.02	2.82	
100' N.W. end			5.0	2.8	
℄ Intersection Riley & Moore			5.0	2.8	
Set BM ct. Ld Ph. 200' West of ℄ Riley in Conc. Pav.			2.08	5.76	



Walker Hinley 1-18-46

Grades - 36" of Curb on So. Side Univ. Ave. Between Utah & 28th Lot 12 - Blk. 5, West End Add.

BM	5.46	351.51		346.05	Univ. & 28th Elev. ~~Exist cb~~		
0+00 = BL 28th			5.97	345.54			
+16 = Seq. Const.			5.90	345.61	345.61		offset
+34 = " "		in Drive	5.78	345.73	345.86	F 0.13	3' Back in Drive
+52 = End "			5.41	346.10	346.10		
1+90 = BL Utah			3.56	347.95	347.95		

Copied into (Sidewalk Book 8-25-74)

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Walker
Hunter
Hardin

GRADES – Proposed Culvert At Florida And El Cajon Blvd.

1-20-46 Plan # 6945-L

INDEXED
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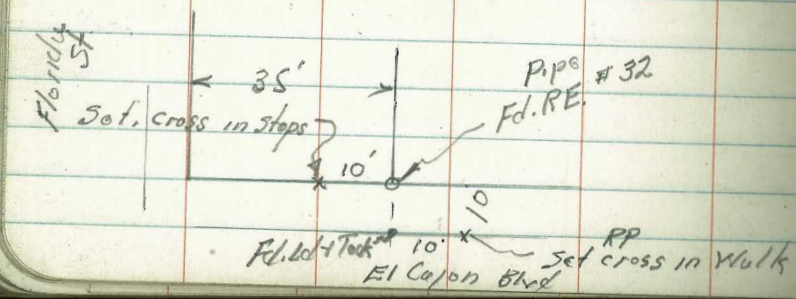
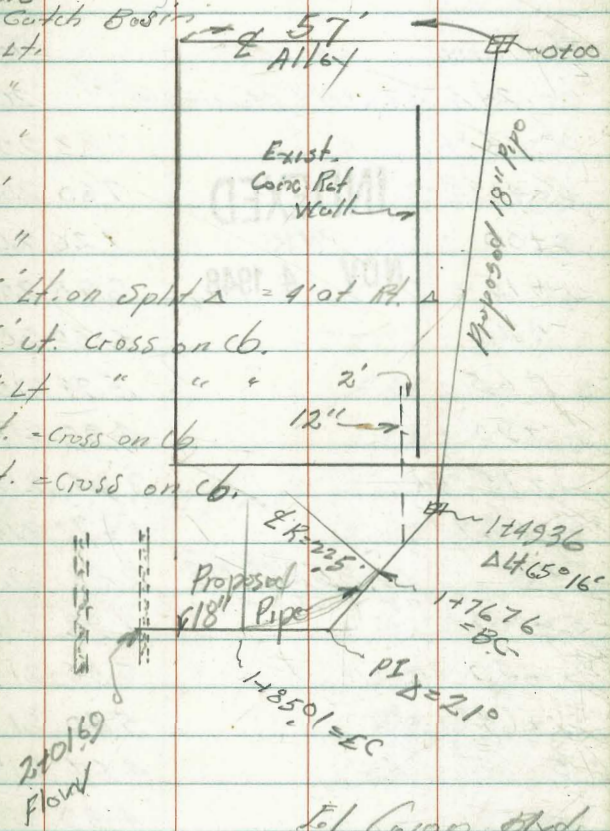
5.97 306.62 300.65

Stations		Elev. Stakes	BM SWBR Florida & El Cajon Elev. Flow Line	Cuts	offsets
0+00 = ℄ Alley			301.00	+0.44	= Top Catch Basin
0+00 = ℄ Catch Basin Type "D"	5.18	301.44	298.00	+3.44	4' Lt.
+30	5.13	301.49	297.70	3.79	" "
+60	5.04	301.58	297.40	4.18	" "
+90	4.63	301.99	297.10	4.89	" "
1+20	5.20	301.42	296.80	4.62	" "
+49.36 = Δ Rt. 65°16'	5.10	301.52	296.50	5.02	4.5' Lt. on Split Δ = 4' at Rt. Δ
1+76.76 = B.C.	5.67	300.95	295.56	5.39	6.5' Lt. Cross on Cb.
1+80.88 ctr. curve	5.75	300.87	295.42	5.45	4.5' Lt " " "
1+85.01 = E.C.	5.82	300.80	295.28	5.52	4.5' Lt. = Cross on Cb.
2+01.69 = End = East edge Exist. Box Culvert.	6.02	300.60	294.70	5.90	4' Lt. = Cross on Cb.
chk Flow 4' South F.B. 1687-1	13.06	293.56			
12" Culvert					
0+00	5.22	301.40	296.07 / 296.32	5.33 = 18" / 5.08 = 12"	
+24 = End Pipe	4.78	301.84	296.57	5.27	
0+08	4.90	301.72	296.40	5.32	

1.0%

3.44%





Walker
Hardin
Hunley
1-22-46

GRADES - Proposed 8" Water Main
on WINCHESTER ST.
from Deauville St.
to Rancho Drive

2.48 216.16 213.68 BM NW BP Morningside & Winchester F.B. 1692-28

Stations			Elev. Stakes	Elev. Bottom Trench	Cuts	offsets		π	Rods	℄ of St. Elevations of Exist. Pavmg.
0-124.3	=10' East of ℄ Morningside	8.07	208.09	204.33	3.76			216.16	8.00	208.16
0-82.86		7.83	208.33	204.41	3.92				7.92	208.24
0-41.43		7.60	208.56	204.55	4.01				7.78	208.38
0+00		7.26	208.90	204.85	4.05				7.48	208.68
+15		6.95	209.21	205.13	4.08				7.20	208.96
+40		6.58	209.58	205.73	3.85				6.60	209.56
+65		5.94	210.22	206.49	3.73				5.84	210.32
+90		4.99	211.17	207.44	3.73				4.89	211.27
1+15 = Brk		3.94	212.22	208.31	3.91				4.02	212.14
+62.9		1.67	214.49	209.57	4.92	This portion altered as shown to meet exist 8" Pipe		224.03	2.03	214.13
T.P. 1+98 =	10.35 224.03 Exist 8" C.I. Line	2.48	213.68	210.5	X = Meet this bottom Exist Pipe					
2+10.81		7.92	216.11	211.14	4.97				8.39	215.64
+40 = Brk		6.50	217.53	212.64	4.89				7.56	216.47
+64.90 ~~BC~~		5.40	218.63	213.46	5.17				6.74	217.29
2+68.31 = BC		4.61	219.42	214.16	5.26				6.04	217.99
3+00		4.39	219.64	214.62	5.02				5.58	218.45
+25		4.14	219.89	214.88	5.01				5.32	218.71
+50		4.01	220.02	214.95	5.07				5.25	218.78
+75		3.98	220.05	214.83	5.22				5.37	218.66
4+00										

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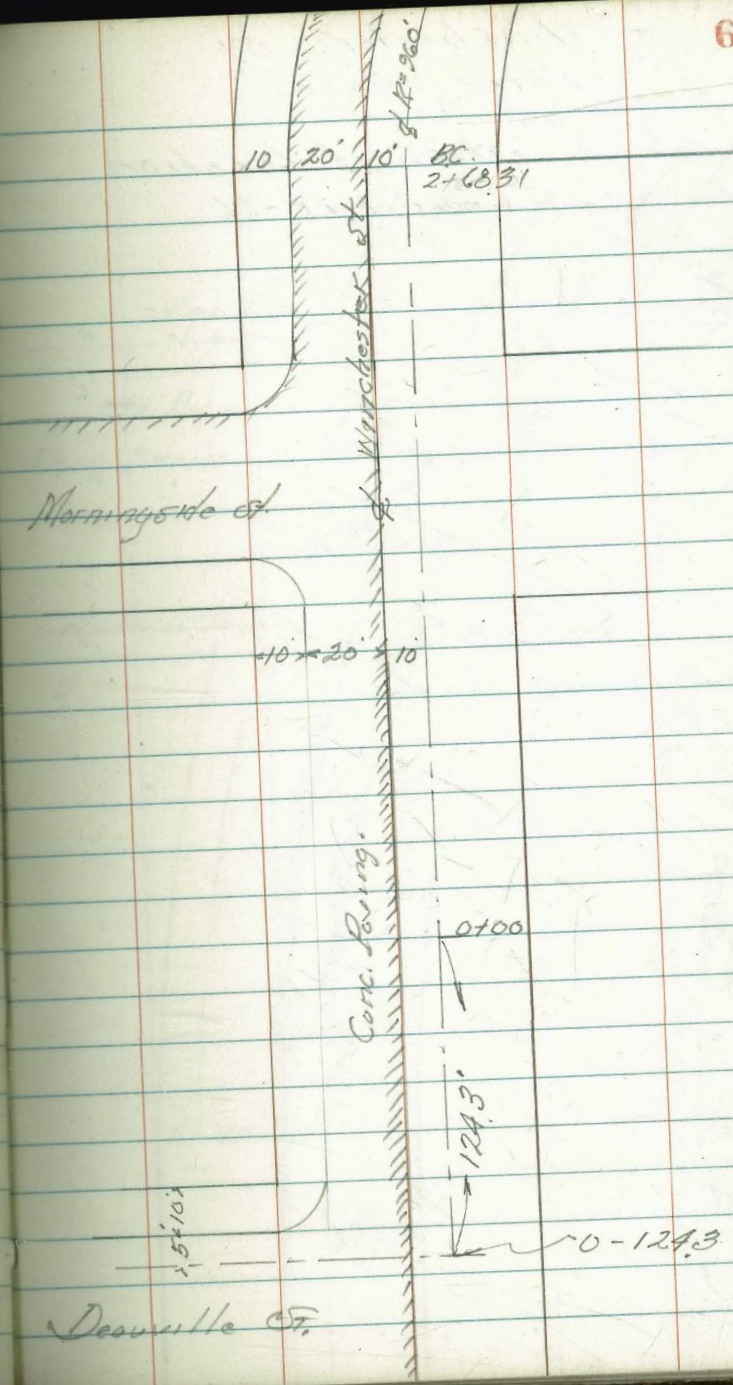
Cont. P. 66

Cont. from P. 65

Stations		224.03		Elev. Stakes	El. Bottom Trench
4+25			3.92	220.11	214.4
+85	opp valve				
5+55	" "				
6+00.34 = E.C.			10.12	213.91	210.0
+25			10.20	213.83	210.0
+50			9.42	214.61	210.5
+75			7.51	216.52	211.17
7+00			6.49	217.54	212.43
+25			5.29	218.74	214.06
+65			2.13	221.90	216.67
8+00			0.27	223.76	219.06
T.P.	5.98	229.74	0.27	223.76	~~221.20~~
+35			5.05	224.69	221.30
+51.9			4.52	225.22	221.74
Chk S.W. B.P.	Winchester Rancho		4.87	224.87	FB 1692
				224.88	27
				.001	

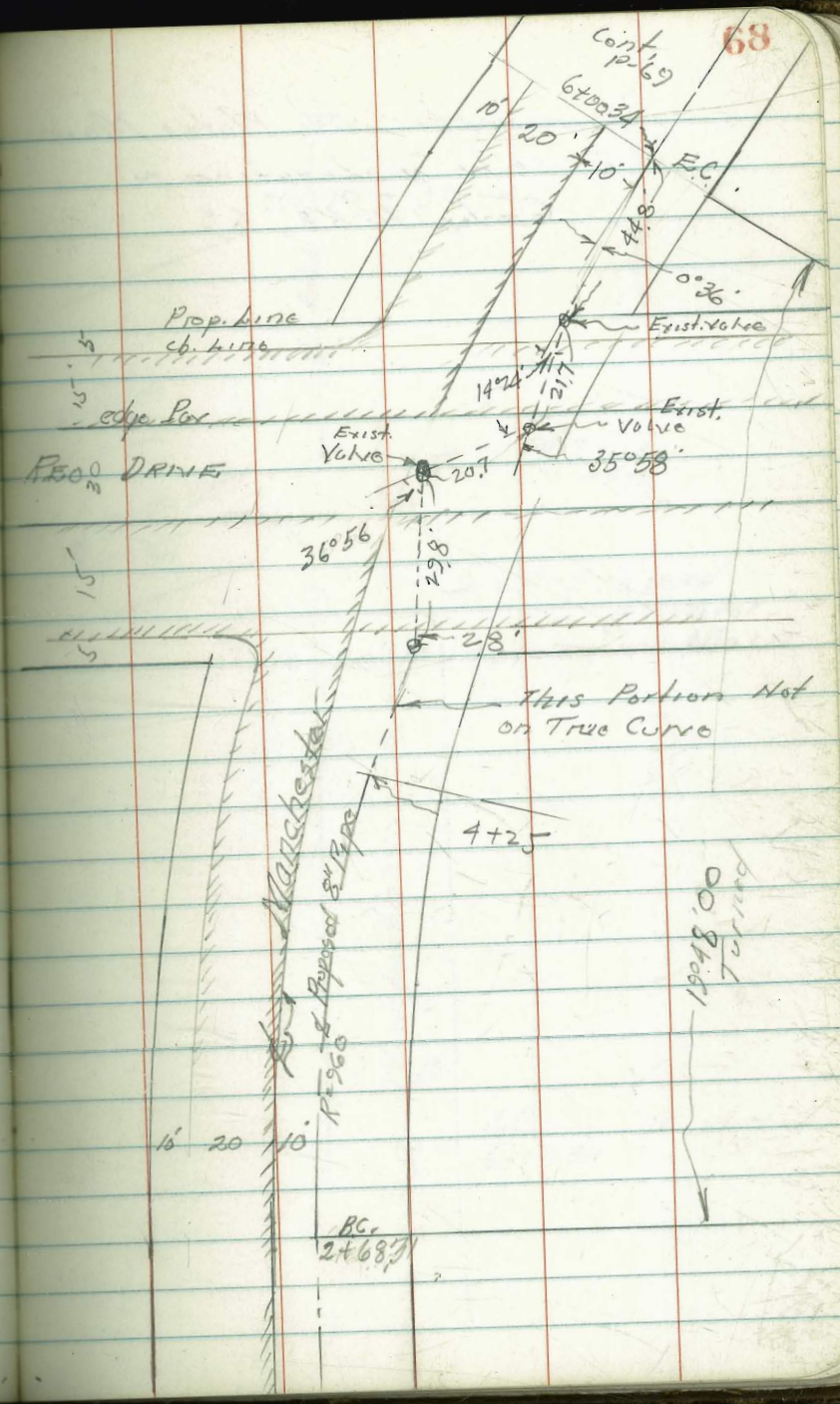
Cuts	offsets		224.03	Rods	Elev. Exist. Paving
5.7				5.75	218.28
				6.66	
				8.70	
+3.9				10.19	213.84
3.8				10.14	213.89
4.1				9.84	214.19
5.3				8.96	215.07
5.1				7.70	216.33
4.7				6.07	217.96
5.2				3.46	220.57
4.7				1.07	222.96
			229.74		
3.5				4.64	225.10
3.5				4.10	225.64

Winchester St.
Water Line
Sketch of Location -
for Construction.
Grades P. 65-66

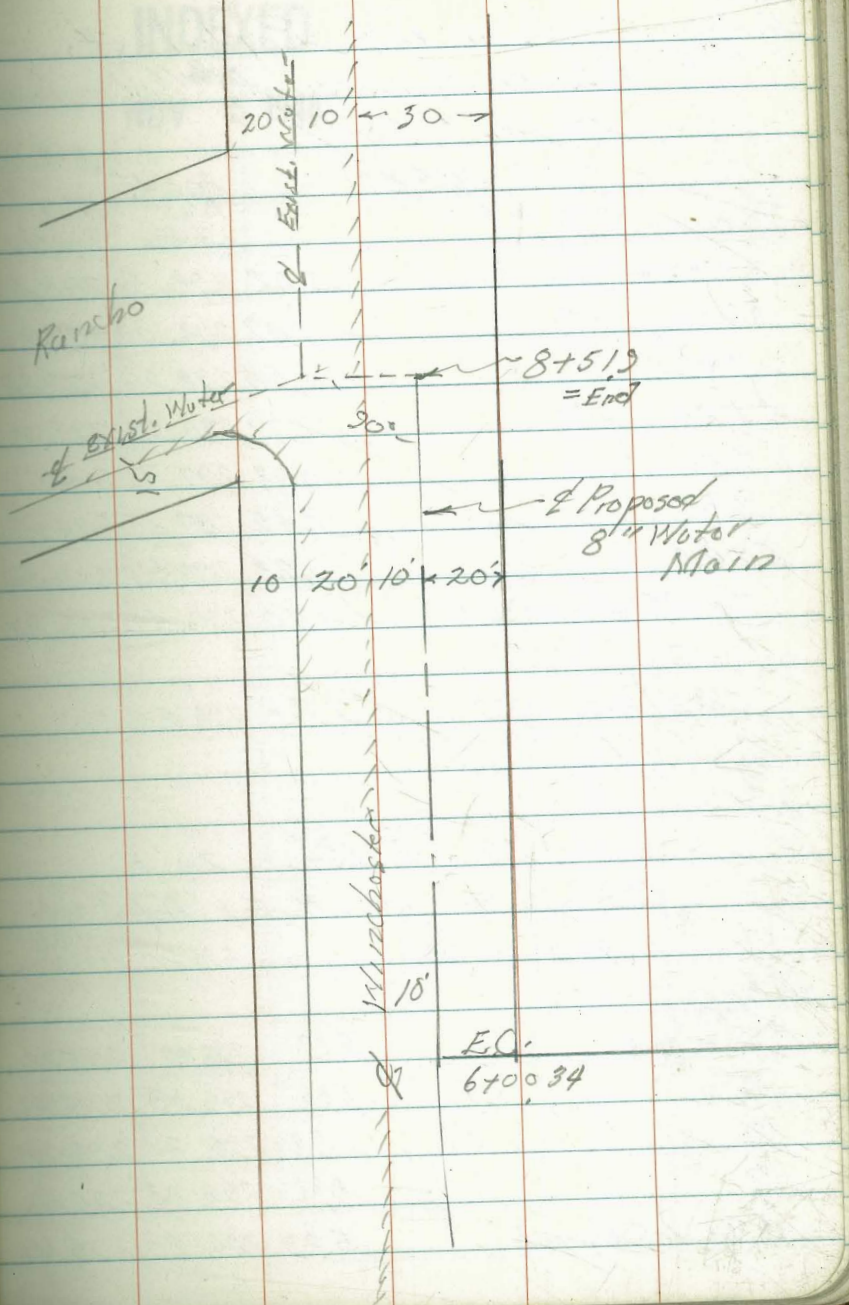


Winchester St.
Water Main

Sketch of Location
Const. Grades P-65-66



Winchester St. Water Main
~ Sketch of Location ~
Grades P-68, 69



INDEXED
WK
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Walker
Hardin
Hunley
2-11-46

GRADES - for Proposed Curb on South Side Poplar St. Between Fairmount and Columbine Sts.

Profile # 3047

0.35 305.80 | 305.45 BM. NW Conc. Mon Fairmount & Poplar | F.B. 1628 P-2

Cont. on P. 71

Station			Elev. Stakes	Elev. Top cb.	Cuts	offsets
opp NW Cor Heather = 2+83.2 = Profile stations		7.22	298.58	298.40	0.18	3' South of cb face
3+20		7.47	298.33	297.96	0.37	"
+60		7.54	298.26	297.48	0.78	" "
4+00		7.71	298.09	297.00	1.09	" "
+40		8.02	297.78	296.52	1.26	" "
+80		8.45	297.35	296.04	1.31	" "
5+20		9.23	296.57	295.56	1.01	" "
+48.15 = B.C. 20' cb R		9.40	296.40	295.22	1.18	" "
Chk & Pav. 2+83.2 FB 1628 13		7.26	298.54	✓		

Grades SE cb Ret. 20' R

Columbine St & Poplar Profile # 3040

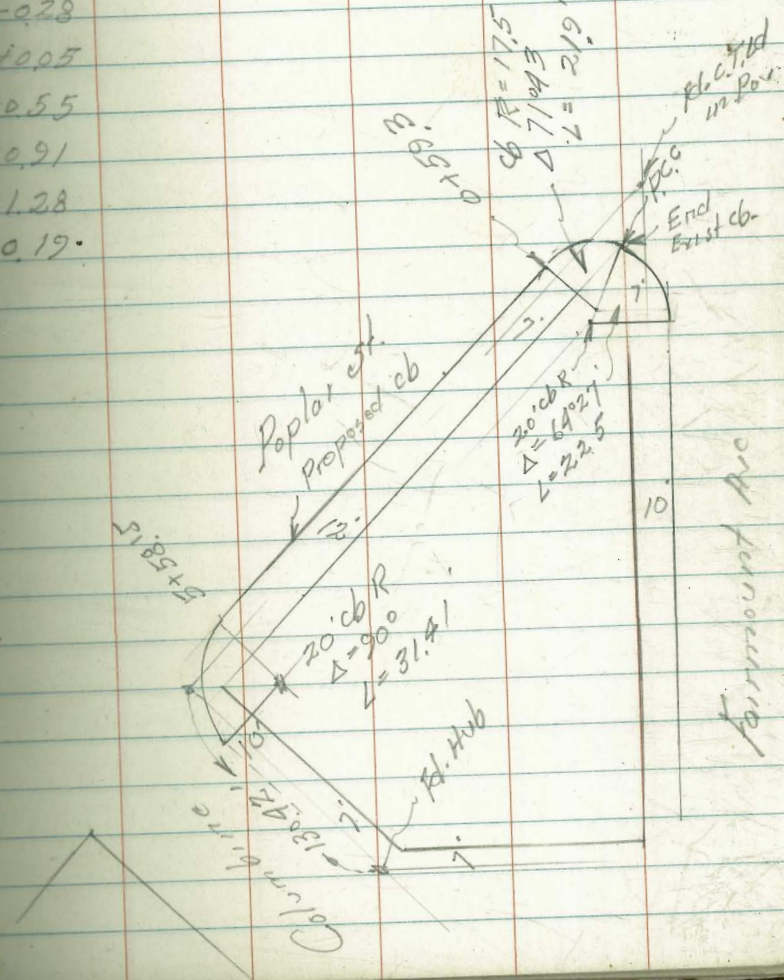
5.19 301.59 | 296.40 = Above stake 5+48.15

Station						
5+48.15 = P.C. 20' cb R		5.19	296.40	295.22	+1.18	3' Back
①		5.06	296.53	295.14	+1.39	
②		5.38	296.21	295.09	+1.12	
③		5.36	296.23	295.08	+1.15	
④ = P.C. on Columbine		5.29	296.30	295.10	+1.20	

Walker
Hardin
Hunley
2-18-46

Additional Grades on Poplar St.
between Fairmount
And Columbine St.

	0.22	30567		30545	B.M. Ann P-70
P.C.C on Fmt. = End Exist cb Rot			3.87	301.80	301.80
℄ Curve			3.77	301.90	301.90	0.0
E.C = 0+59.3			3.92	301.75	301.75	0.0
0+80			4.66	301.01	301.40	-0.39
1+20			5.23	300.44	300.72	-0.28
+60			5.58	300.09	300.04	+0.05
2+00			5.76	299.91	299.36	+0.55
+33.2 = Brk			5.76	299.91	299.00	+0.91
+58.2			5.69	299.98	298.70	+1.28
2+83.2 = Brk			7.08	298.59	298.40	+0.19



Walker
Hurlin
Heinley
2-14-46

Rough Grades - Galveston St.
on Easterly Side
from Napier to Milton

INDEXED
WK
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BM 2" Iron Pipe N.W. Napier & Galveston
FB 1590-45 = 87.14

Station		Elev. Stake	Prop. Line Grades	Cuts	offsets
E Napier					
=0+00	100.15	1.78	98.37	95.10	3.27 on E
+40 Bk	108.18	7.85	100.33	94.20	6.13
+80		6.97	101.21	93.30	7.91
1+10		6.49	101.69	92.62	9.07
+30		4.15	104.03	92.17	11.86
+50 = P.V.C		1.62	106.56	91.72	14.84
+70		1.53	106.65	91.13	15.52
+90		3.21	104.97	90.45	14.52
2+10		4.92	103.26	89.53	13.73
+30		7.92	100.26	88.32	11.94
+50		9.68	98.50	87.13	11.37
+70 F.V.C		12.36	95.82	85.65	10.17
3+10	95.88	4.40	91.48	82.51	8.97
+50		9.49	86.39	79.37	7.02
+82	86.49	12.14	83.74	76.85	6.89
+89.93 = S.L. Milton St.				76.22	Left out
4+69.93 = N.L. " "		8.87	77.01	73.22	3.79
on & Mon Milton & Galveston		11.46	75.03		
FB 1590-47			75.61		
			0.58		

This Mon Has been lowered from Elev. as shown in Above Book

	87.14
	13.01 +
	100.15 π
	1.25 -
	98.90 T.P.
	9.28 +
	108.18 π
	12.36 -
	95.82 T.P.
	0.06 +
	95.88 π
	12.14 -
	83.74 T.P.
	2.75 +
	86.49 π
	2.75 -
	83.74 T.P.
	11.89 +
	95.63 π
	8.51
Chk Starting BM	87.12
	87.14
	0.02
	95.63
	5.12
Ground Chk 2+75 FB 1590 P46	90.5
	90.4
	0.1

Walker ~ Curb Grades ~ 35TH PLACE
Hunley And N. curb. Monroe. Ave
Hurdin
2-14-46

Drawing No 6544-L

Station					
4.55	396.77		392.22	B.M. S.E.B.P. Monroe & Wilson	Plan #6544-L.
50' East of E.C. 12'cb.R					
=0+00				cuts	offsets
+25 NE Cor.	5.04	391.73	391.73	0.0	3' from cb
+50 = P.C. 12'cb R	5.12	391.65	391.65	0.0	
L. Rot. NE				left out	
E.C. Rot on 35th	5.02	391.75	391.75	0.0	
N'ly 12'cb R					
P.C. Rot on 35th Place	4.13	392.64	391.75	+0.89	3' from cb face
E.C. Rot. on Monroe	5.06	391.71	391.55	0.16	3' " " "

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Walker
Hendricks
Hurdin
Hunley
3-6-46

CONSTRUCTION - GRADES.
Culvert And Cb. Returns

on Market St.
Bet. Kettner & Calif st.
Plan 6370-L

B.M. S.E. Top Hyd.
F.B. = B-26 / 2 = 4.98
1.00 +
5.98 π
10.74 -
Chk Flow 13.5 Rt. 24" Pipe. - 4.76

Station	π 5.98			Elev Flow Line	Cuts.	offset.
14.10' W WL Calif. = 0+00		5.60	0.38	-4.78	5.16	4.5' N
+25		5.00	0.98	-4.68	5.66	"
+50		4.90	1.08	-4.58	5.66	"
+75		4.98	1.00	-4.48	5.58	"
1+00		4.85	1.13	-4.38	5.51	"
+25		4.76	1.22	-4.28	5.50	"
+50		4.65	1.33	-4.18	5.51	"
+50		4.54	1.44	-4.08	5.52	"
2+00		4.54	1.44	-4.00	5.44	"
+10.9 = opp. Rad 15' cb.		4.55	1.43	-3.95	5.38	"
3.25 2+43.4		4.41	1.57	-3.82	5.39	Grade only.
2+76 = End		3.94	2.04	-3.68	5.72	" "

INDEXED
W.K.
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Reset Returns 3-26-46
Above BM = 4.98
1.32 +
6.30 π

Ret. S.W. Kettner & Mkt.

3.5 W WL Kettner	π 6.30			Top cb.	Meet cb.
B.C.		4.90	1.40	1.38	
1		5.17	1.13	1.43	-0.30
2		5.29	1.01	1.49	-0.48
3		5.10	1.20	1.55	-0.35
4 = E.C. = 1' N SL Mkts st.		5.64	0.66	1.60	-0.94

S.E. Return

1' N SL Market	π 6.30				
BC		5.31	1.09	2.09	F 1.00
1		4.74	1.56	2.05	F 0.49
2		4.49	1.81	2.01	F 0.20
3		4.47	1.83	1.97	F 0.14
3.5' E.E. Kettner 4 = E.C.		4.50	1.80	1.93	F 0.13

Cont. P-77

Walker
Hendricks
Hunley
Curey
3-18-46

Grades - Proposed Curb on 63rd St. in Front of Lot 9 Blk. 4 Encanto Hts.

And Lots 17, 18, Blk 3 " "

	0.39	213.01		212.62	BM SE Top Hydt. Imp. & 63rd
T.P.	0.51				
= Chk Rail & 63rd FB 12 39/2		201.95	11.57	201.44 = .01 High	

Station

E Line

0+08.7	0+33.7	0+58.7	0+83.7	1+08.7	1+33.7
197.20	197.32	197.44	197.56	197.68	197.80
4.75	4.63	4.51	4.39	4.27	4.15
out in channel	out in ch.	7.85	9.33	9.12	9.19
		-3.34	-3.94	-4.85	-5.04

E Line

1+66.1
197.93
4.02
7.55
-3.53 = Nail in Pole = 2.34' Back of cb.

		201.95		
T.P.	6.41	200.47	7.89	194.06

W Line

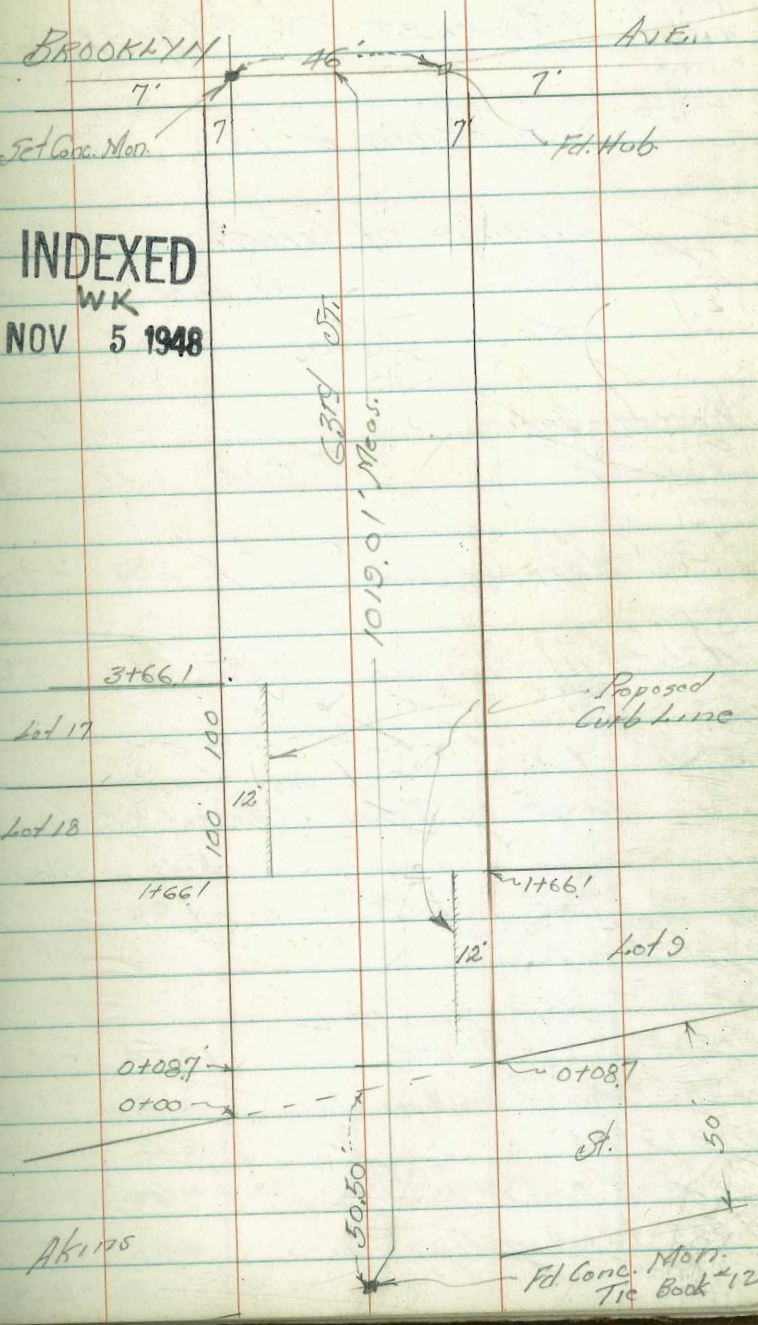
1+66.1	1+91.1	2+16.1	2+41.1	2+66.1
197.86	197.99	198.12	198.25	198.38
2.64	2.48	2.35	2.22	2.09
6.99	7.05	6.46	5.91	5.54
-4.35	-4.57	-4.11	-3.69	-3.45

W L.

2+91.1	3+08.7 = P.V.C.	3+28.7	3+48.7	3+66.1
198.51	198.60	198.90	199.50	200.17
1.96	1.87	1.57	0.97	0.30
5.13	4.09	3.19	3.12	2.39
-3.17	-2.22	-1.62	-2.15	-2.09

(Stakes Set 3' Back of cb.)
200.47

T.P.			5.43	195.04



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WK
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Walker
Hendricks
Hunley
Carey
3-27-46

Grades on Culvert in MARKET St. And Kettner Blvd.

Cont. from P-75

Change of Grade in Intersection Kettner to Clear Elec. Conduit Box

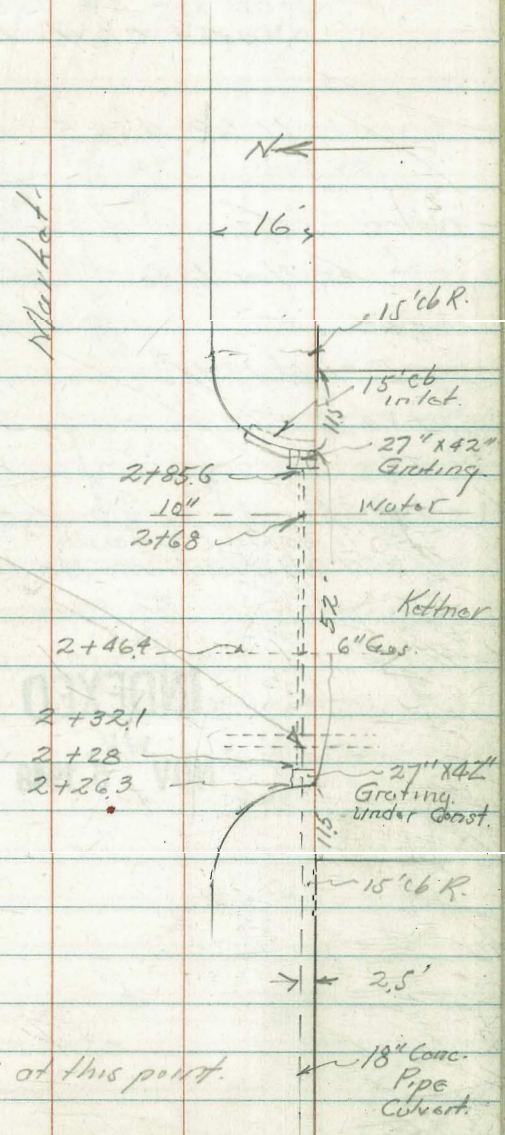
π = P-75
6.30

			Elev. Flow
West edge Grating on E east side Kettner	5.14	1.16	-1.34
2+32.1 = W edge Conc. Conduit Box	8.34	-2.04	-2.04
2+26 = East end present ~~24"~~ 18" Conc. Pipe	10.19		-3.89

3-28-46

Levels on Drain under Const. Market & Kettner

		Rods	Elev.
1.15	π 6.13	4.98	
1410' W W.L. Calif. St. = 0+00 Page 75			
2+26.3 = 0.4' East of W cb Flow 18" Pipe Kettner		10.04	-3.91
2+28.0 = beg. Dble. 12" Conc. Pipes		8.08	-1.95
2+52.5 = Brk. 12" " "		8.00	-1.87
+68 = ℄ Exist 10" Water Main on Top.		7.49	-1.36
+85.6 = W end grating Top.		4.98	1.15
2+85.6			-0.85



-1.16 = Flow Line 12" at this point.

→ = Top Grating

→ = Flow Box = Flow 12" Pipes

Walker
Hendricks
Hunley
5-1-46

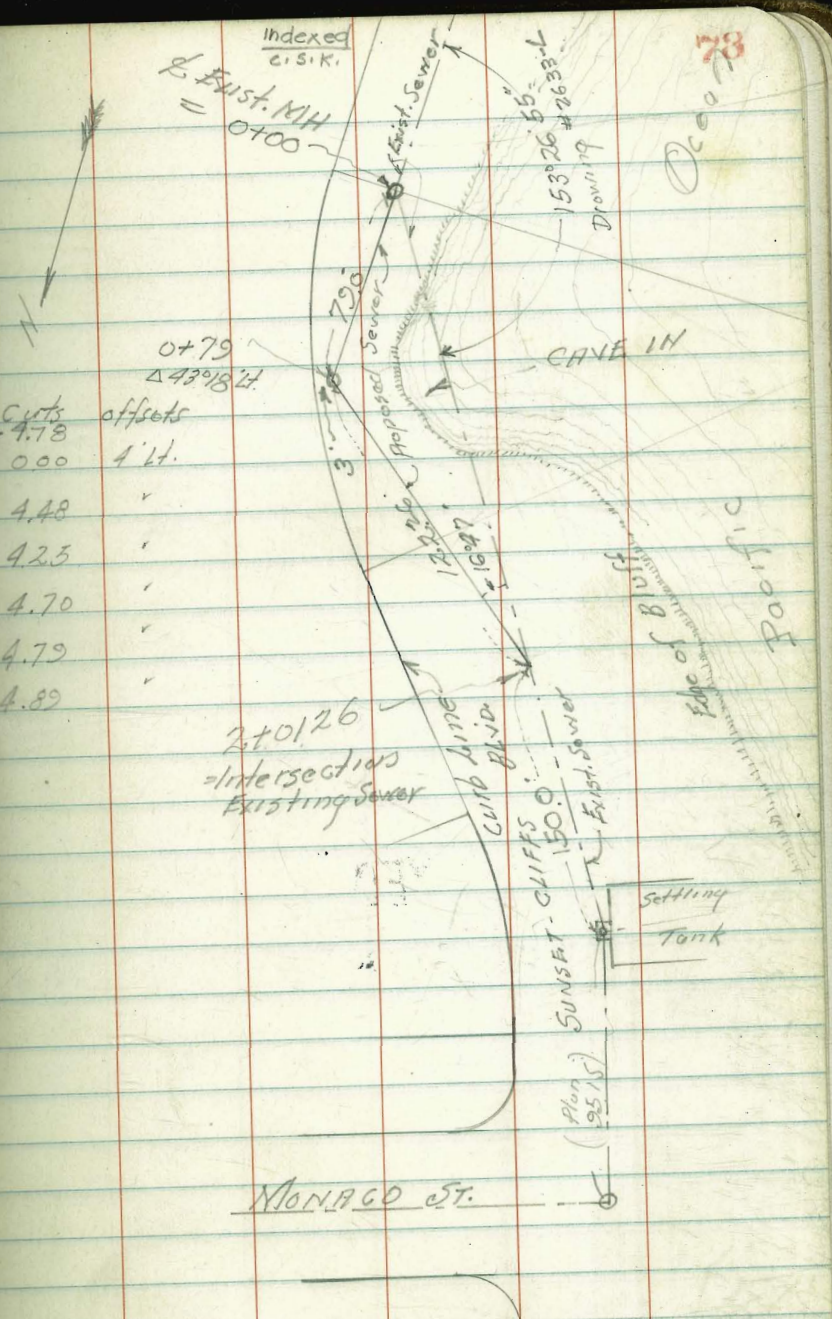
Grades - SEWER in SUNSET - CLIFFS BLVD. South of Monaco St. as per relocation because of Cave in on Sunset Cliffs Blvd.

	10.63	47.65		37.02 Stake Elev.	B.M. S.E.B.P. Sunset & Monaco Flow Line Elev.	
0+00			5.96	41.69	36.91	→ 4.78
" on Flow Line			10.74	36.91	36.91	0.00
0+40			6.80	40.85	36.37	4.48
+79 = Δ Lt. 43°18'			7.56	40.09	35.84	4.23
1+20			7.66	39.99	35.29	4.70
+60			8.11	39.54	34.75	4.79
2+01.26 =			8.56	39.09	34.20	4.89
150'N on Flow to South					32.00	
150 N on Flow Line MH			17.43	30.22	30.22	

1.35%

Curts offsets

INDEXED
WK
NOV 5 1948



IMPROVED TABLES
AND
INFORMATION

HORIZONTAL STADIA CORRECTIONS					
2°—00′	— 0.1	21°—00′	— 12.8	33°—00′	— 29.7
3°—00′	— 0.3	21°—30′	— 13.4	33°—15′	— 30.1
4°—00′	— 0.5	22°—00′	— 14.0	33°—30′	— 30.5
5°—00′	— 0.8	22°—30′	— 14.7	33°—45′	— 30.9
6°—00′	— 1.1	23°—00′	— 15.3	34°—00′	— 31.3
7°—00′	— 1.5	23°—30′	— 15.9	34°—15′	— 31.7
8°—00′	— 1.9	24°—00′	— 16.5	34°—30′	— 32.1
9°—00′	— 2.5	24°—30′	— 17.2	34°—45′	— 32.5
10°—00′	— 3.0	25°—00′	— 17.9	35°—00′	— 32.9
10°—30′	— 3.3	25°—30′	— 18.6	35°—15′	— 33.3
11°—00′	— 3.6	26°—00′	— 19.2	35°—30′	— 33.7
11°—30′	— 4.0	26°—30′	— 19.9	35°—45′	— 34.1
12°—00′	— 4.3	27°—00′	— 20.6	36°—00′	— 34.6
12°—30′	— 4.7	27°—30′	— 21.3	36°—15′	— 35.0
13°—00′	— 5.1	28°—00′	— 22.0	36°—30′	— 35.4
13°—30′	— 5.5	28°—30′	— 22.8	36°—45′	— 35.8
14°—00′	— 5.9	29°—00′	— 23.5	37°—00′	— 36.2
14°—30′	— 6.3	29°—30′	— 24.3	37°—15′	— 36.6
15°—00′	— 6.7	30°—00′	— 25.0	37°—30′	— 37.1
15°—30′	— 7.2	30°—15′	— 25.4	37°—45′	— 37.5
16°—00′	— 7.6	30°—30′	— 25.8	38°—00′	— 37.9
16°—30′	— 8.1	30°—45′	— 26.2	38°—15′	— 38.3
17°—00′	— 8.5	31°—00′	— 26.5	38°—30′	— 38.7
17°—30′	— 9.0	31°—15′	— 26.9	38°—45′	— 39.1
18°—00′	— 9.5	31°—30′	— 27.3	39°—00′	— 39.6
18°—30′	— 10.1	31°—45′	— 27.7	39°—15′	— 40.0
19°—00′	— 10.6	32°—00′	— 28.1	39°—30′	— 40.5
19°—30′	— 11.2	32°—15′	— 28.5		
20°—00′	— 11.7	32°—30′	— 28.9		
20°—30′	— 12.3	32°—45′	— 29.3		

Chains to Feet	
1	66
2	132
3	198
4	264
5	330
6	396
7	462
8	528
9	594
10	660

Feet to Chains	
100	1.515
200	3.030
300	4.545
400	6.060
500	7.575
600	9.090
700	10.606
800	12.121
900	13.636
1,000	15.151

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1½ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent lenth divided by twice the radius.

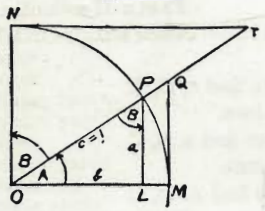


TABLE II

TRIGONOMETRIC FORMULÆ.

$\angle A = \angle MOP \qquad \angle B = \angle PON = \angle OPL$

$R = OB = c = 1$

$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$

$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$

$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$

$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$

$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$

$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$

$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B$ #

$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$

$\text{exsec } A = PQ = \text{coexsec } B$

$\text{coexsec } A = PT = \text{exsec } B$

$\sin \tfrac{1}{2} A = \sqrt{\frac{1 - \text{Cos } A}{2}} \qquad \cos \tfrac{1}{2} A = \sqrt{\frac{1 + \text{Cos } A}{2}}$

$\sin 2A = 2 \sin A \cos A \qquad \cos 2A = \cos^2 A - \sin^2 A$

Law of Lines $\frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$

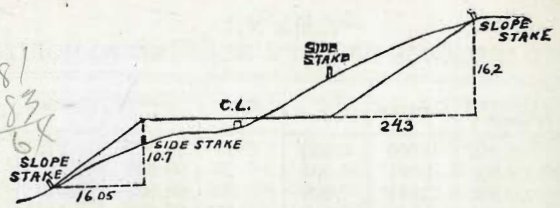
Law of Cosines $c^2 = a^2 + b^2 - 2\,ab \cos C$

Law of Tangents $\frac{a+b}{a-b} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)}$

11256
210
11046

83
170
100

27109
154
27263



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.

329.6
150.81
480.45

145

138
52
190

9677
9208
469
150
13.19

221.4
11.5
2099

1019
4461
97286
366.1
606.76

97286
166.1
806.76

2.82

6.2
1.2
5.0

10633
556
10077

10633
654
9979