1444

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THE FREDERICK POST CO.

ENGINEERING and DRAFTING SUPPLIES

IRVING PARK STATION

CHICAGO, ILL.

2 + 31 = Pole   2 + 39± ℄ Walk 7'

2+03 = Hole

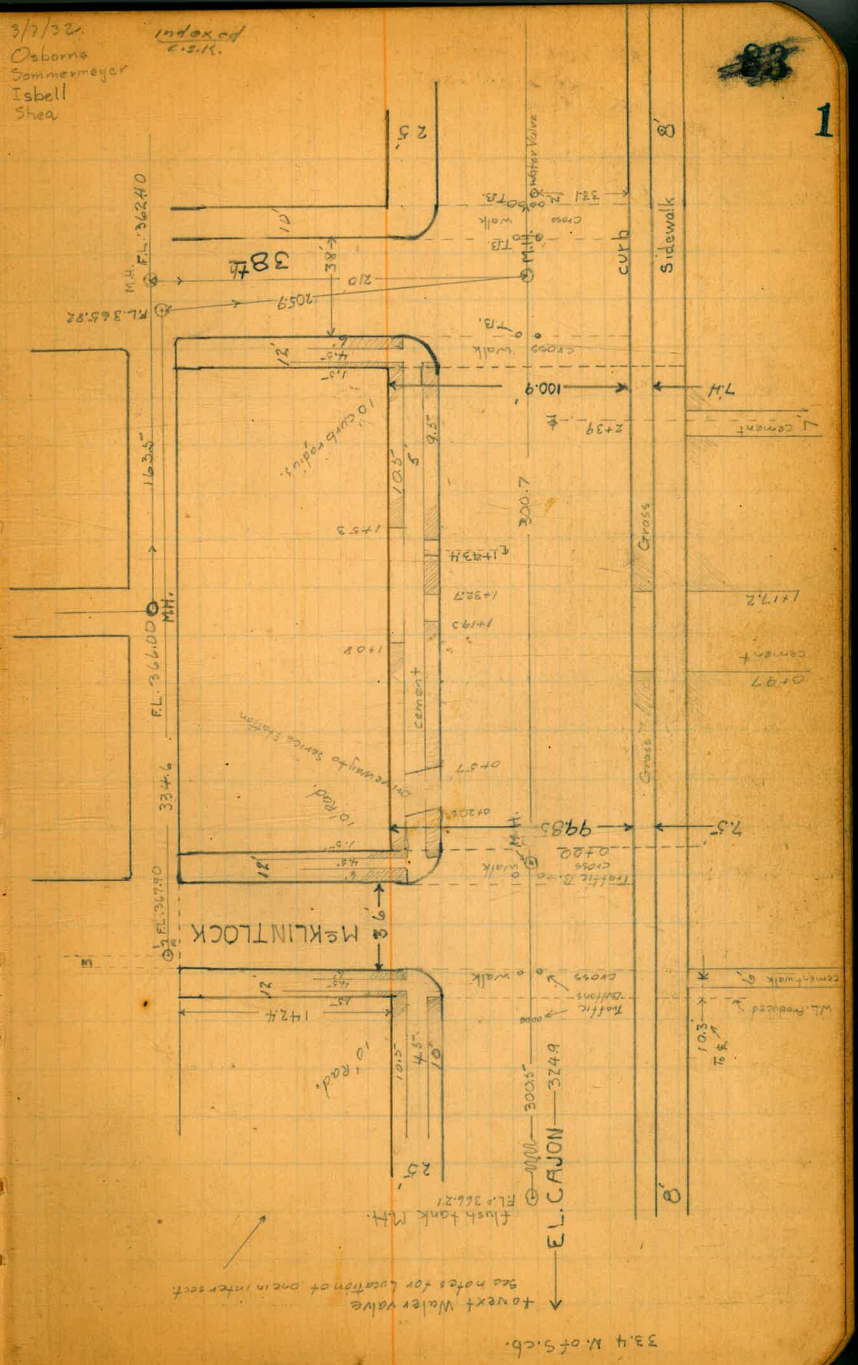
2 + 65.23

3/2/32
Osborne
Sommermeyer
Isbell
Shea

Indexed E.S.H.

× Sections for traffic tunnels on El. Cajon between W.L. McKlintock and W.L. 38th H.I.

El. Cajon = 12.5' ct. 25' cbs 18.75' ¼'s			373.50
B.M. = B.P. Sl. + 4.5' 5	378.05	S.W. Cor. El. Cajon = 37th	
W.L. McKlintock – 60' st. 12' cbs 36' roadway.			
N.L. El. Cajon on dirt		4.6	373.5
+10.5' = N edge of sidewalk		4.69	373.36
+15' = S. " "		4.78	373.27
N. cb. El. Cajon top cb.		5.03	373.02
gut.		5.48.	372.57
¼		5.29	372.76
℄		5.08	372.97
¼		5.38	372.67
S. cb. El. Cajon in gutter		5.5-8	372.50
top cb.		4.99	373.06
+7.4 = N. edge sidewalk		4.74	373.31
+15.4 = S. " "		4.61	373.44
W. cb. line McKlintock			
S. edge walk		4.5-8	373.47
N. " "		4.81	373.24
S. cb. top cb		4.85	373.20
gut.		5.5-6	372.49
¼		5.43	372.62
℄		5.18	372.87
¼		5.38	372.67
N. cb.		5.58	372.47
N.L. gut.		5.37	372.68



		H.I. 378.05
N.L. top cb.	4.93	373.12
℄ McKlintock		
N.L. on paving	5.06	72.99
N. cb.	5.73	72.32
¼	5.41	72.64
℄	5.27	72.78
¼	5.46	72.59
S. cb. gut.	5.63	72.42
top cb.	4.92	73.13
N. edge walk	4.79	73.26
S. " "	4.56	73.50
℄ + 8 on N.L. = 6" water Valve		
E. cb. line McKlintock		
S. edge walk	4.78	73.27
N. " "	4.95	73.10
S. cb. top cb.	5.04	73.01
gut.	5.73	72.32
¼	5.51	72.54
℄	5.20	72.85
¼	5.46	72.59
N. cb.	5.80	72.25
N.L. in gut.	5.63	72.42
top cb.	5.17	72.88
cb. + 7.7'		
2.2' N. of ℄ = M.H. on rim	5.21	72.84
flow Line	11.91	66.14

378.05

0+00 = E.L. McKlintock		
N.t. on dirt.	5.0	373.1
+10.5 - edge of walk	4.88	73.17
+15.5 = " " "	5.01	73.04
N. cb. top cb.	5.12	72.93
gut.	5.86	72.19
¼	5.46	72.59
℄	5.23	72.82
¼	5.60	72.45
S. cb. gut.	5.80	72.25
top cb.	5.16	72.89
N. edge walk - Note - for pluses see sketch.	5.04	73.01
S. " "	4.89	73.16
0+02		
1.7' N. of N. cb. = Fire Hydrant.		
4.2' S. of ℄ = Water Valve		
0+13.5 - 1.7' S of scb. = Pole		
0+20.5 = W. end of driveway on N. side.		
S. edge walk.	4.97	73.08
N. " "	5.18	72.87
3.5' S. of scb. = 8" tree		
scb. top cb.	5.38	72.67
gut.	5.99	72.06
¼	5.70	72.35
℄	5.46	72.59

378.05

℄	5.69	372.36
N. cb. gut. in driveway	6.11	71.94
top cb.	5.48	72.57
+9.5 = S edge walk	5.34	72.71
+14.5 N. " "	5.22	72.83
N.L.	5.2	72.9
0+45.1 = 6" Drainage outlet in S.cb.		
0+57 = E. end of driveway on N. side		
N.L.	5.7	72.4
N. edge walk	5.80	72.25
S. " "	5.85	72.20
N. cb. top cb.	6.02	72.03
gut. in driveway	6.55	71.50
¼	6.09	71.96
℄	5.76	72.29
¼	5.96	72.09
S. cb. ~~top cb.~~ gut.	6.14	71.91
top cb.	5.44	72.61
N. edge walk	5.36	72.69
S. " "	5.08	72.97
0+71.5 3.5' S. of S.cb. = 9" tree		
0+73 = Water Meter on North		
0+75		
S. edge walk	5.27	72.78
N. " "	5.85	72.50
S.cb. top cb.	5.72	72.33
gut.	6.26	71.79

378.05

1/4	6.08	371.97
℄	6.03	72.02
1/4	6.24	71.81
N. cb. gut.	6.72	71.33
top cb.	6.25	71.80
S. edge walk	6.11	71.94
N. " "	6.06	71.99
N.L. on dirt.	6.0	72.1

0+83 = ℄ 3' Cement walk on north. from N. edge of walk to N.L.

0+97 = W. end of front walk to school

N.L.	6.2	71.9
N. edge walk	6.24	71.81
S. " "	6.33	71.72
N. cb. top	6.56	71.49
gut	6.88	71.17
1/4	6.49	71.56
℄	6.15	71.90
1/4	6.22	71.83
S. cb. gut	6.29	71.76
top	5.67	72.38
N. edge walk	5.50	72.55
S. " "	5.22	72.83

1+08 = W. end of Concrete apron in front of Bld. on North. N.L. to N. edge walk.

S. edge walk on south	5.20	72.85
N. " "	5.37	72.48

378.05

S. cb.	top	5.73	372.32
	gut.	6.32	71.73
¼		6.29	71.76
℄		6.24	71.81
¼		6.63	71.42
N. cb	gut.	7.15	70.90
	top	6.64	71.41
S. edge walk		6.40	71.65
N. " "		6.26	71.79
N.L. on cement.		6.21	71.84

1+17.2 = E. end of front walk to school – cement

N.L. on cement		6.17	71.88
N. edge walk		6.46	71.60
S. " "		6.56	71.49
N. cb.	top	6.73	71.32
	gut.	7.28	70.77
¼		6.67	71.38
℄		6.23	71.82
¼		6.38	71.67
S. cb	gut.	6.42	71.63
	top	5.94	72.11
N. edge walk		5.83	72.22
S. " "		5.42	72.63

1+19.3 W. end of concrete walk from cb. to s. edge walk on North

1.5' S. of S. cb. = Pole

378.05

1+32.7 = E. end of concrete walk from N. cb. to s. edge of walk on North.

s. edge walk		5.67	372.38
N. " "		5.97	72.08
S. cb.	top	6.02	72.03
	gut.	6.60	71.45
¼		6.58	71.47
℄		6.53	71.52
¼		6.89	71.16
N. cb	gut	7.42	70.63
	top	6.80	71.25
s. edge walk		6.74	71.31
N. " "		6.50	71.55
N. L.	on cement	6.15	71.90

1+43.4 = ℄ 4' cement walk from N. cb. to s. edge walk on North

1+53 = E. end of concrete apron in front of Bldg. on North N. h. to N. edge walk.

N. L.	on cement	6.21	71.84
N. edge of walk		6.88	71.17
S. " " "		6.98	71.07

1.5' N. of cb. = water meter

N. cb.	top	7.10	70.95
	gut.	7.65	70.40
¼		7.15	70.90
℄		6.70	71.35
¼		6.73	71.32
S. cb.	gut.	6.74	71.31

37805

S. cb. top	6.08	371.97
N. edge walk	6.10	71.95
S. " "	5.86	72.19
1+66.7 = 6" drainage outlet in S. cb.		
1+75		
S. edge walk	5.95	72.10
N. " "	6.24	71.81
S. cb. top	6.24	71.81
gut	6.90	71.15
¼	6.88	71.17
℄	6.94	71.11
¼	7.27	70.78
N. cb to gut	8.00	70.05
top	7.37	70.68
S. edge walk	7.24	70.81
N. " "	7.16	70.89
N.L. on dirt	6.8	71.3
2+00		
N.L. on dirt	6.8	71.3
N. edge walk	7.42	70.63
S. " "	7.58	70.49
N. cb. top	7.71	70.34
S gut.	8.31	69.74
¼	7.53	70.52
℄	7.12	70.93
¼	7.10	70.95

378.05

S. cb.	gut.	7.00	371.05
	top	6.26	71.79
N. edge walk		6.43	71.62
S. " "		6.27	71.78
2+25			
S. edge walk		6.46	71.59
N. " "		6.63	71.42
S. cb.	top	6.59	71.46
	gut.	7.21	70.84
¼		7.30	70.75
℄		7.28	70.77
¼		7.83	70.22
N. cb	gut	8.64	69.41
	top	8.06	69.99
S. edge walk		7.83	70.22
N. " "		7.75	70.30
N. L.		7.2	70.9
2+31	1.5' S. of S. cb. = Pole		
2+39 = ℄ of cement walk 7' wide. from S. edge walk to shoot on South			
2+50			
N. L.	on dirt	7.6	70.5
N. edge walk		8.11	69.94
S. " "		8.18	69.87
N. cb.	top	8.34	69.71
	gut.	8.93	69.12
¼		8.04	70.01

378.05

℄		7.57	370.48
¼		7.47	70.58
S.cb.	gut.	7.43	70.62
	top	6.93	71.12
N. edge walk		6.82	71.23
S. edge walk		6.66	71.39

2+53 = 6" Drainage outlet in S.cb.

2+65.23 = W.h. of 38th st.

S. edge walk		6.79	71.26
N. "	"	6.95	71.10
S.cb	top	6.90	71.15
	gut	7.52	70.53
¼		7.59	70.46
℄		7.66	70.39
¼		8.27	69.78
N. cb.	gut.	9.09	68.96
	top	8.50	69.55
S. edge walk		8.34	69.71
N. "	"	8.36	69.79
N.L. on dirt		8.00	70.05

31.3' E. of W.h. 38th - 39.8' N. of S.cb. EL. Cajon = Drop M.H.

Rim	8.13	69.92
Flow line of 8" Line from W.M.H. at Alley + 38th	15.76	362.29 ~~.32~~
F.L. of E.+W. Line on EL Cajon + E.M.H. " " "	16.67	361.~~41~~ 38

Indexed C.S.I.C.

X Sections for traffic tunnel on El Cajon

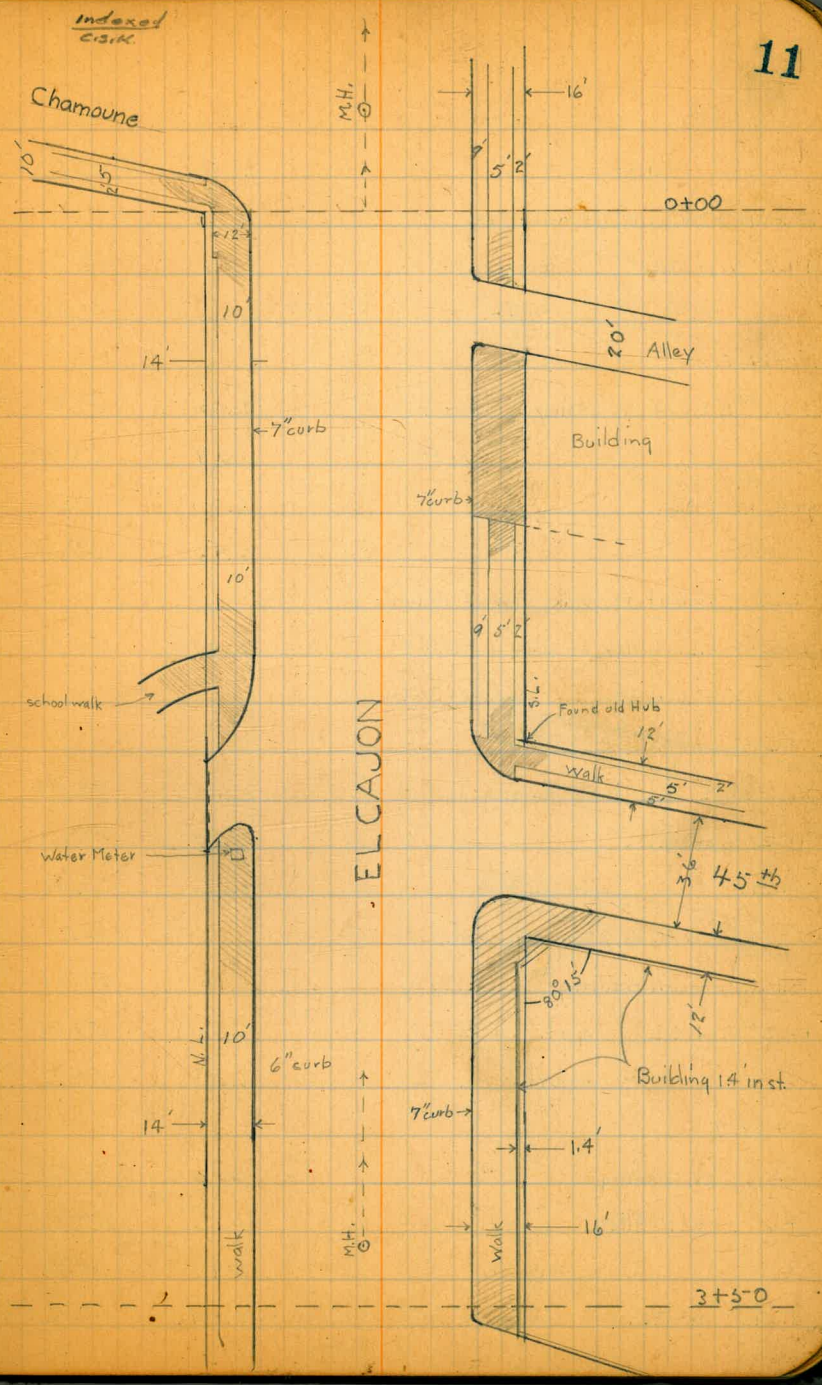
Between W.L. Chamoune & E.L. Highland N. of El Cajon

14' cb. on N.

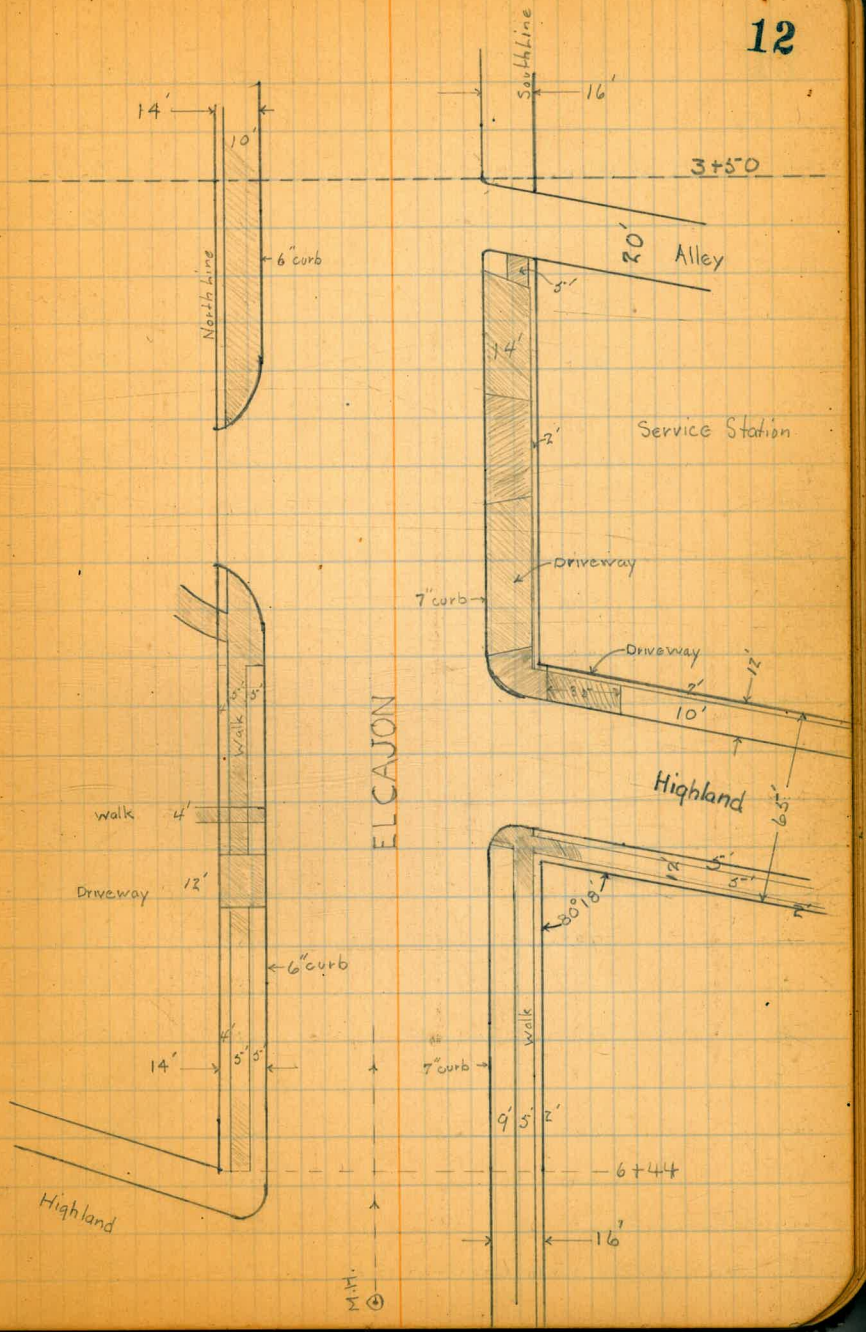
El Cajon = 100' st. 70' Roadway : : 17.5' ½ S. 16' cb

0+00 = line at right angle to N.L. El Cajon at N.W. prop. cor.

		H. I.	S.W. BP. El Cajon & Chamoune	
El Cajon & Chamoune				
B.M.	+ 7.43	364.01		356.58
66.8' E. of 0+00				
33.8' N. of S. cb. El Cajon = M.H. - Rim			6.16	357.85
	flowline		22.73	41.28
0+00				
N.L. El Cajon on dirt			5.2	58.8
+2' = edge of walk			4.97	59.04
N. cb.	top		5.14	58.87
	gut.		5.82	58.19
¼			5.93	58.08
℄			6.08	57.93
¼			6.50	57.51
S. cb.	gut.		7.16	56.85
	top		6.44	57.57
+9 = N. edge walk			6.38	57.63
+14 = S. " "			6.26	57.75
S.L. on dirt.			6.1	57.9
0+15.7 = P.C. 2' Rad. Alley return				
S.L.			5.9	58.1
+2'			6.06	57.95
+7			6.15	57.86
S. cb.	top		6.29	57.72



364.01		
gut.	7.00	357.01
0+17.0 = P.C. 2' Rad. Alley Ret.		
14.2' N. of S.L. top cb.	6.24	57.74
gut.	6.92	57.09
0+19.5		
℄ S.L. at E.L. of 20' Alley top cb.	6.06	57.95
gut	6.19	57.82
14.2 N. of S.L.	6.90	57.11
S. cb.	6.98	57.03
0+21.3 = end of 12' walk start of 10' walk		
2' S. of N.L. = edge of walk	5.07	58.94
0+24.5 - 1.6' N. of S.L. = Water Valve		
0+29.5		
N.L. on ℄ ~~Rd~~ Alley paving	6.43	57.58
14.2 N. of S.L.	6.78	57.23
S. cb.	6.85	57.16
0+37.1 = P.C. of 2' Rad. Alley Ret.		
S.L. on paving	6.10	57.91
14.2 N. of S.L. gut. - at P.C.	6.63	57.38
top cb.	6.00	58.01
0+38.7		
S.L. on paving	6.06	57.95
+6 = W.L. Alley in gut.	6.66	57.35
top cb.	5.96	58.06
S. cb. at P.C. top cb.	6.09	57.92



	36401 ✓		
	qut.	6.76	357.25 ✓
0+39.6			
S.L. at W.L. of Alley	top cb.	5.92	58.09 ✓
	qut.	5.92	58.09 ✓
+13.5 = Pole			
S. cb.	top	6.08	57.93 ✓
	qut	6.77	57.24 ✓
¼		6.44	57.57 ✓
℄		6.01	58.00 ✓
¼		5.91	58.10 ✓
N. cb.	qut.	6.01	58.00 ✓
	top	5.34	58.67 ✓
+10 = N. edge of walk		5.02	58.99 ✓
N.L. on dirt		5.1	58.9 ✓
1+00			
N.L.		5.5	58.5 ✓
+4 = N. edge of walk		5.52	58.49 ✓
N. cb.	top	5.72	58.29 ✓
	qut.	6.33	57.68 ✓
¼		6.06	57.95 ✓
℄		6.02	57.99 ✓
¼		6.43	57.58 ✓
S. cb.	qut	6.82	57.19 ✓
	top	6.85 ?	57.16 ✓
+14 = S. edge of walk		6.20	57.81 ✓
S.L. on concrete apron in front of store		5.94	58.07 ✓

364.01 ✓

1+00.3		
S. cb. line at W. end of walk in front of store		
1+03.2		
S.L. at W. " " " " " " "	5.93	358.08 ✓
+2 = S. edge of walk	6.21	57.80 ✓
+7 = N. " " "	6.23	57.78 ✓
S. cb top	6.27	57.74 ✓
gut	6.84	57.17 ✓
1+37		
1.5' N. of N. cb. = Fire Hydrant		
1+39.8		
S.L.	6.4	57.6 ✓
+2 = walk	6.24	57.77 ✓
+7 = "	6.26	57.75 ✓
S cb. top	6.43	57.58 ✓
gut.	6.98	57.03 ✓
¼	6.38	57.63 ✓
½	6.10	57.91 ✓
¼	6.13	57.88 ✓
N. cb. = P.C. of Ret. to school driveway gut.	6.48	57.53 ✓
top	5.90	58.11 ✓
+10 = N. edge walk + E. edge of 12' walk to school	5.80	58.21 ✓
N.L.	5.9	58.1 ✓
1+41.3		
N.L. = E. edge of schoolwalk	5.76	58.25 ✓

364.01 ✓

1+50

N.L. on walk		5.79	358.22 ✓
+4 = Edge of walk on El Cajon		5.82	58.19 ✓
+13.1 = cb.	top	5.90	58.11 ✓
	gut.	6.54	57.47 ✓
N. cb.		6.56	57.45 ✓
¼		6.18	57.83 ✓
℄		6.11	57.90 ✓
¼		6.44	57.57 ✓
S. cb.	gut.	7.01	57.00 ✓
	top	6.50	57.51 ✓
+9 = edge walk		6.32	57.69 ✓
+14 = " "		6.23	57.78 ✓
S.L.		6.2	57.8 ✓

℄ +52.2

4' S. of N.L. = W. edge school walk

1+54.3

N.L. = " " " "		5.81	58.20 ✓
+4 = edge walk		5.83	58.18 ✓
+11.8 = cb	top	5.88	58.13 ✓
	gut	6.49	57.52 ✓
N. cb.		6.62	57.39 ✓

1+56.1

45.5 N. of S.L. = Water Valve

1+58.8

18.5 S. of N.L. = Water Valve

364.01

6.71

1+65			
1.5 S. of Scb. = Pole			
1+65.6			
4' S. of N.L. N. edge of walk meets curb on return	top	5.86	358.15
	gut.	6.37	57.64
1+65.8			
S.L.		6.4	57.6
+2		6.23	57.78
+7		6.35	57.66
S. cb. at P.C. of return	top	6.54	57.47
	gut.	7.00	57.01
¼		6.42	57.59
℄		6.18	57.83
¼		6.30	57.71
N. cb.		5.56	58.45
+ 10.1 = cb. on ret.	gut.	6.38	57.63
	top	5.87	58.14
N.L.		5.9	58.1
1+66.48			
S.L. = Prop. Hub on E.L. 45th = S.E. Prop. Cor. EL. Cajon & 45th			
1+68.5			
S.L. = E. edge of walk on E. side of 45th		6.26	57.75
1+71.7			
N.L. = cb. on ret.	top	5.83	58.18
	gut	6.43	57.58

364.01

1+73.6			
S.L. = W. edge walk on E. side 45th		6.38	357.63
+2 = edge of walk in return		6.40	57.61
+13.6 = cb on ret.	top	6.58	57.43
	gut	7.04	56.97
S. cb. Line		7.05	56.96
1+77.2			
7.8' N. of S.L. = P.C. of return. 10' Rad.	top cb.	6.54	57.47
	gut	7.09	56.92
1+78.8			
N.L. on paving in school drive		6.39	57.62
N. cb.		6.66	57.35
¼		6.33	57.68
℄		6.28	57.73
¼		6.40	57.61
S. cb		6.93	57.08
S.L. = E. cb. of 45th	gut.	7.20	56.81
	top	6.56	57.45
1+94			
N.L. on paving		6.39	57.62
+9' S. = Eastarly Point of W ret. of drive	gut	6.52	57.49
	top cb.	6.04	57.97
N. cb.		6.73	57.28
1+97			
S.L. = ℄ 45th		6.71	57.30
S. cb.		6.61	57.40

364.01

¼		6.44	357.57
℄		6.31	57.70
¼		6.44	57.57
N. cb. = P.C. of return to drive	gut.	6.74	57.27
	top	6.14	57.87
+10 = edge walk		5.94	58.07
+13 = top cb. on return		5.86	58.15
gut.		6.32	57.69
N.L.		6.33	57.68

2+00

2' S. of N.L. = ℄ 1'x1' concrete box holding a Water Valve.

11' S. of N.L. = ℄ of 6'x5' concrete meter box – 6" side along El Cajon

6" pipe ±2 meters —	top of pipe	9.34	54.67
	Bottom of box	10.33	53.68

18.8 S. of N.L. = Water Valve

2+14.6

4.7' N. of S.L. = P.C. of return 10' Rad.	top cb.	6.74	57.27
	gut	7.32	56.69

2+15.2

S.L. = W. cb. of 45° ±h	top cb.	6.77	57.24
	gut.	7.42	56.59
+12.6 = cb ~~bottom~~ on ret.	top.	6.72	57.29
	gut	7.26	56.75
S. cb.		7.22	56.79
¼		6.59	57.42

364.01

℄		6.46	357.55
¼		6.51	57.50
N. cb.	gut.	6.77	57.24
	top	6.14	57.87
+50 = edge of walk		5.97	58.04
N. L.		5.9	58.1
2+24			
N. L.		6.0	58.0
+4 = edge of walk		6.01	58.00
N. cb.	top	6.17	57.84
	gut.	6.83	57.18
¼		6.58	57.43
℄		6.43	57.58
¼		6.70	57.31
S. cb.	gut.	7.22	56.79
"	top	6.73	57.28
S. L.		6.52	57.49
2+25.3			
1.5' S. of S. cb. = Pole			
2+31.3			
S. L. on doorway of Bldg.			
2+32.1			
1.4' N. of S. L. = edge of Building - on walk		6.52	57.49
S. cb.	top	6.82	57.19
	gut.	7.26	56.75

364.01
- 6.74
357.27
+ 5.14
362.41

	364.01 ✓		
T.P.		6.74	357.27 ✓
+ 5.14	362.41 ✓		
2+50			
1.4' N. of S.L. = edge of Bldg. - on walk		4.94	357.47 ✓
S. cb.	top	5.23	57.18 ✓
	gut	5.70	56.71 ✓
¼		5.23	57.18 ✓
E		4.94	57.47 ✓
¼		5.07	57.34 ✓
N. cb	gut.	5.38	57.03 ✓
	top	4.71	57.70 ✓
+10 = edge of walk		4.60	57.81 ✓
N. L.		4.6	57.8 ✓
3+00			
N. L.		4.8	57.6 ✓
+4 = edge walk		4.74	57.67 ✓
N. cb.	top cb.	4.95	57.46 ✓
	gut.	5.60	56.81 ✓
¼		5.22	57.19 ✓
E		5.15	57.26 ✓
¼		5.34	57.07 ✓
S. cb	gut	5.84	56.57 ✓
	top	5.42	56.99 ✓
+ 17.6 = edge of bldg.		5.10	57.31 ✓

	36.241		
3+33.4			
50' S. of N.L. = M.H.	Rim	5.21	357.20
	Flowline	22.38	40.03
3 (2)+50			
1~~4~~' N. of S.L.		5.38	57.03
S.cb. - P.C. Alley ret.	2' Rad. top	5.53	56.88
	gut	5.90	56.51
¼		5.56	56.85
℄		5.16	57.25
¼		5.38	57.03
N.cb	gut	5.83	56.58
	top	5.10	57.31
+10 = edge of walk		4.85	57.56
N.L		4.9	57.5
3+51.8			
14.6' N. of S.L. = P.C. of 2' Rad. Alley ret.	top cb.	5.52	56.89
	gut.	5.84	56.57
3+54.			
S.L. = E.L. 20' Alley = W edge of Bldg.	top cb. + gut.	5.50	56.91
14.6' N. of S.L.		5.85	56.56
S.cb.		5.89	56.52
3+65.4			
S.L. = ℄ of Alley paving		5.72	56.69
S.cb.		5.90	56.51

	362.41		
3+72			
15.9' N. of S.L. = P.C. 2' Rad. Alley ret.	top cb.	5.60	356.81
	gut.	5.88	56.53
3+73.5			
S.L.		5.49	56.92
+8.5 N. = cb line of Alley	gut.	5.75	56.66
	top cb.	5.52	56.89
S.cb. = P.C. of Alley ret.	top	5.60	56.81
	gut.	5.94	56.47
3+74			
2.5' S. of S.cb. = Pole			
3+75.5			
N.L.		5.2	57.2
+4 = edge of walk		4.99	57.42
N. cb	top	5.21	57.20
	gut	5.88	56.53
¼		5.47	56.94
℄		5.27	57.14
¼		5.55	56.86
S. cb.	gut	5.95	56.46
	top	5.60	56.81
+9 = edge of walk		5.41	57.00
+14 = " " "		5.30	57.11
S.L. = W.L. Alley	top cb.	5.39	57.02
	gut.	5.49	56.92
T.P. on bench S.W. BR. EL. Cajon + Highland	356.14	6.28	356.13

	H.I.		
	+ 5.43	361.57 ✓	
3+78.3			
S.L.		4.2	357.4 ✓
+2 = edge of walk		4.49	57.08 ✓
+7 = " " "		4.59	56.98 ✓
S.cb. = E. end of driveway to Gas Station top		4.72	56.85 ✓
	gut	5.12	56.45 ✓
3+83.7			
7' N. of S.L. E. edge of driveway + edge of walk		4.64	56.93 ✓
S.cb. on paving		5.13	56.44 ✓
3+86.8			
2' N. of S.L. = E. edge drive + edge of walk		4.56	57.01 ✓
S.cb.		5.13	56.44 ✓
4+07.5			
S.L.		4.6	57.0 ✓
+2 = S. edge of driveway		4.67	56.90 ✓
S.cb.		5.27	56.30 ✓
¼		4.78	56.79 ✓
℄		4.57	57.00 ✓
¼		4.75	56.82 ✓
N.cb. = P.C. of curved ret. to school drive	gut	5.22	56.35 ✓
	top	4.56	57.01 ✓
+10 = edge walk		4.36	57.21 ✓
N.b.		4.4	57.2 ✓
4+15.2			

361.57

N.L.		4.4	357.2
4' S. of N.L. = edge walk		4.36	57.21
12.6's. " " = cb. on ret.	top	4.55	57.02
	gut.	5.17	56.40
N. cb.		5.22	57.35
2' N. of S.L. = edge of driveway		4.68	56.89
S. cb. = W. ~~et~~ end of driveway	top cb.	4.93	56.64
	gut.	5.26	56.31
4+21.4			
S.L.		4.6	57.0
+2' N. of S.L. = Back edge of walk	W. end of driveway	4.71	56.86
S. cb.	top	4.93	56.64
	gut.	5.29	56.28
4+25.2			
4' S. of N.L. = edge of walk meets curb on ret.	top cb.	4.48	57.09
	gut	4.97	56.60
N. cb.		5.21	56.36
4+27.			
N.L. = cb. on return	top cb	4.50	57.07
	gut.	4.94	56.63
N. cb.		5.23	56.34
4+34			

5.2' S. of S.cb. = Inlet pipe for Gas tanks for Service Station

4+42.6

3.9 S. of S.cb. = Inlet pipe " " " " " "

361.57

4+50			
N.L. on paving - school drive		5.19	356.38
N.cb.		5.34	56.23
+		4.86	56.71
		4.68	56.89
+		4.91	56.66
S.cb.	gut.	5.40	56.17
	top	5.05	56.52
+4 = Inlet pipe for Gas tank.			
+14 = edge of walk		4.86	56.71
S.L.		4.9	56.7
4+60.2			
S.L.		4.8	56.8
+2' N. of S.L. edge of walk + E. end of driveway		4.92	56.65
S.cb.	top	5.09	56.48
	gut.	5.43	56.14
4+65.5			
S.L.		4.9	56.7
+2 edge of driveway		4.91	56.64
S.cb.	top	5.09	56.48
	gut. in driveway	5.42	56.15
4+69.6			
N.L. = cb. on ret. to school drive	top cb.	4.81	56.76
N.cb.	gut.	5.28	56.29
N.cb.		5.43	56.14

361.57

4+73		
N.L.	4.7	356.9
+4' - edge of walk meets eb. on ret. top	4.84	56.73
gut.	5.30	56.27
N. eb.	5.43	56.14
4+86.7		
N.L. = E. edge of 12' Curved walk to school	4.64	56.93
+4' S. = edge of walk	4.76	56.81
T.P. on bench sw. cor. Highland		
4+88.5 +5.00 361.14		356.14
S.L.	4.4	356.7
+2 = 1. edge of drive way	4.49	56.65
S.cb. = in drive way	5.07	56.07
¼	4.58	56.56
℄	4.39	56.75
¼	4.58	56.56
N.cb. = P.C. of curved ret. to school drive - gut.	5.12	56.02
Fire Hydrant top	4.47	56.67
+1.4' Fire Hydrant		
+10 = edge of walk + E. edge of curved walk	4.31	56.83
N.L. on walk	4.20	56.94
4+91.3		
45.8' N. of S.L. = Water Valve		
4+95.5		
2' N. of S.L. edge of walk + W. end of driveway	4.50	56.64
S.cb.	5.08	56.06

361.14

4+99.5			
N.L. = W. edge of curved walk.		4.18	356.96
N. cb.	top	4.48	56.66
	gut	5.17	55.97
5+00.5			
N.L.		4.3	56.8
+2.4 = W. edge of walk		4.23	56.91
N. cb	top	4.51	56.63
	gut.	5.16	55.98
¼		4.64	56.50
℄		4.46	56.68
¼		4.59	56.55
S cb. = P.C. of return	gut	5.09	56.05
	top	4.71	56.43
+14 = edge of walk		4.49	56.65
S.L.		4.5	56.6
5+01.1			
N.L.		4.3	56.8
+4 S. = edge of walk + W. edge of sch. walk		4.28	56.86
N.cb.	top	4.51	56.63
	gut.	5.17	55.97
5+02.9			
E. side of Highland			
2' N. of S.L. = edge of walk + E. edge of walk on		4.48	56.66
5+09.4			
N.L.		3.4	57.7

361.14 ✓

+4 = edge of walk.		4.29	356.85 ✓
+9 = edge of 5' walk from here West.		4.39	56.75 ✓
N. cb.	top	4.53	56.61 ✓
	gut.	5.16	55.98 ✓
S.L.		4.58	56.56 ✓
13.2' N. of S.L. = cb. on ret.	top	4.71	56.43 ✓
	gut.	5.15	55.99 ✓
S. cb.		5.12	56.02 ✓
5+12			
1.8' N. of N. cb. = Pole			
5713			
3.2' N. of S.L. = P.C. of ret. (this ret. apparantly has no regular Radius)			
	top cb.	4.70	56.44 ✓
	gut.	5.20	55.94 ✓
5+13.7			
S.L. = E. cb line of Highland	top	4.69	56.45 ✓
	gut.	5.26	55.88 ✓
S. cb.		5.01	56.13 ✓
¼		4.61	56.53 ✓
℄		4.47	56.67 ✓
¼		4.66	56.48 ✓
N. cb.	gut.	5.19	55.95 ✓
	top	4.54	56.60 ✓
+5' = edge of walk		4.40	56.74 ✓
+10 = " " "		4.28	56.86 ✓

361.14

N.L.		3.6	357.5
5+14			
2.5' N. of N.cb. = water Meter.			
5+12.3			
2.6.3' S. of N.L. = Water Valve			
5+34.5			
N.L.		3.6	52.5
+4 = edge of walk		4.37	56.77
+9 " " "		4.51	56.63
N.cb.	top	4.68	56.46
	gut.	5.29	55.85
¼		4.67	56.47
℄		4.62	56.52
¼		4.69	56.45
S.cb.		4.75	56.39
Note. Highland has 41' roadway			
S.L. = ℄ of roadway of Highland		4.79	56.35
5+54			
No regular Rad.			
7.9' N. of S.L. = P.C. of return	top cb.	4.94	56.20
	gut.	5.52	55.62
5+55.5			
S.L. = W. cb. line of Highland -	top	5.04	56.10
	gut	5.64	55.50
+13.7 = cb. on ret.	top	4.93	56.21
	gut.	5.44	55.70
S.cb.		5.47	55.67

361.14

¼		4.84	356.30
℄		4.80	56.34
¼		4.82	56.32
N. cb. = ℄ 4' walk to house	gut.	5.38	55.76
	top	4.76	56.38
+10 = edge of req. walk		4.54	56.60
N.L. on walk		3.96	57.18

Shots on cb. lines of Highland to show drainage

50' S. of S.L. on E. cb.	top	5.00	56.14
	gut.	5.76	55.38
50' S of S.L. on W. cb.	top	5.18	55.96
	gut.	5.83	55.31
T.P. on bench		5.00	356.14
+ 5.18 361.32			

5+60.3

S.L. = edge of walk on Highland.

5+62.6

N.L.		4.2	57.1
+4 = edge of walk		4.77	56.55
+9 = " " "		4.90	56.42
N. cb	top	4.95	56.37
	gut.	5.56	55.76
¼		5.06	56.26
℄		4.88	56.44
¼		5.10	56.22

361.32

S.cb. P.C. of return	gut.	5.66	355.66
	top	5.18	56.14
S.L.		5.08	56.24
5+65.6			
S.L. = edge of walk on Highland.		5.06	56.26
+2 = edge of walk on El Cajon		5.03	56.29
+7 = " " " " " "		5.09	56.23
S.cb.	top	5.18	56.14
	gut	5.66	55.66
5+67			
N.cb. = E. end of driveway			
5+67.5			
1.7' S. of S.cb. = Pole			
5+78.3			
N.cb. = W. end of driveway			
6+00			
S.L.		4.6	56.7
+2 = edge walk		5.16	56.16
+7 " "		5.27	56.05
S.cb.	top	5.34	55.98
	gut	5.80	55.52
¼		5.30	56.02
℄		5.10	56.22
¼		5.23	56.09
N.cb.	gut.	5.72	55.60

361.32

	top	5.14	356.18
+5 = edge of walk		4.99	56.33
+10 = " " "		4.81	56.41
N.L.		3.6	57.7
6+38			
3' S. of S.cb. = 3" tree			
6+41			
N.L.		4.7	56.6
+4 = edge walk		5.04	56.26
+9 = " "		5.12	56.20
N.cb.	top	5.26	56.06
	gut.	5.90	55.42
¼		5.41	55.91
℄		5.13	56.19
¼		5.31	56.01
S.cb.	gut	5.84	55.48
	top	5.52	55.80
+9 = edge of walk		5.27	56.05
+14 = " " "		5.24	56.08
S.L.		4.5	56.8
6+44			
N.L. = E. line of Highland			
6+82.6			
50' N. of S.L. = M.H.	flow line	18.50	42.82

Shots to show drainage on 45th st. S. of EL. Cajon

50' S. of S.L. EL. Cajon on E. cb. 45th	top cb.	EL.	357.07
	gut.		356.39
50' S. of S.L. EL. Cajon on W. cb. 45th	top cb.		356.88
	gut.		356.20

Herbert Hoover
"TUNNEL CONST."

				Flow Line Grade	Cuts
North side Int. Tunnel And Stairway = 0 + 00	362.76	16.01	346.75	346.20	+ 0.55
+ 40		17.47	345.29	345.80	− 0.51
top step stairway on North.		4.55	358.21	358.23	− 0.02

Additional Grades

North stairs top step.	363.35	5.12	358.23	358.23	
" " Bot. "		17.03	346.32	346. ~~23~~ 32	
" " ℄ Tunnel				346.20	
South Stairs		11.15	352.20	346.20	+ 6.00

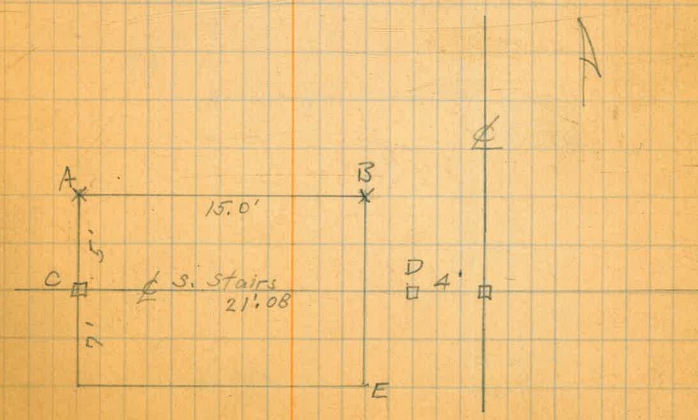
Additional Grades

B.M. C.T. in walk				357.77	
+ 1.03	358.80				
South side int. ℄ tunnel & S. stairs		12.63	346.17	346.17	
1.35	359.12			B.M. 357.77	
D		12.92	346.20	Gr = 346.20	
B		1.46	357.66	Gr = 357.70	F. .04'
E		1.39	357.72	Gr = 357.70	C. .02'
4.55	362.32			B.M. 357.77	
A		4.73	357.59	Gr. 357.70	F. 0.11'
C		4.66	357.66	Gr 357.70	F. 0.04'

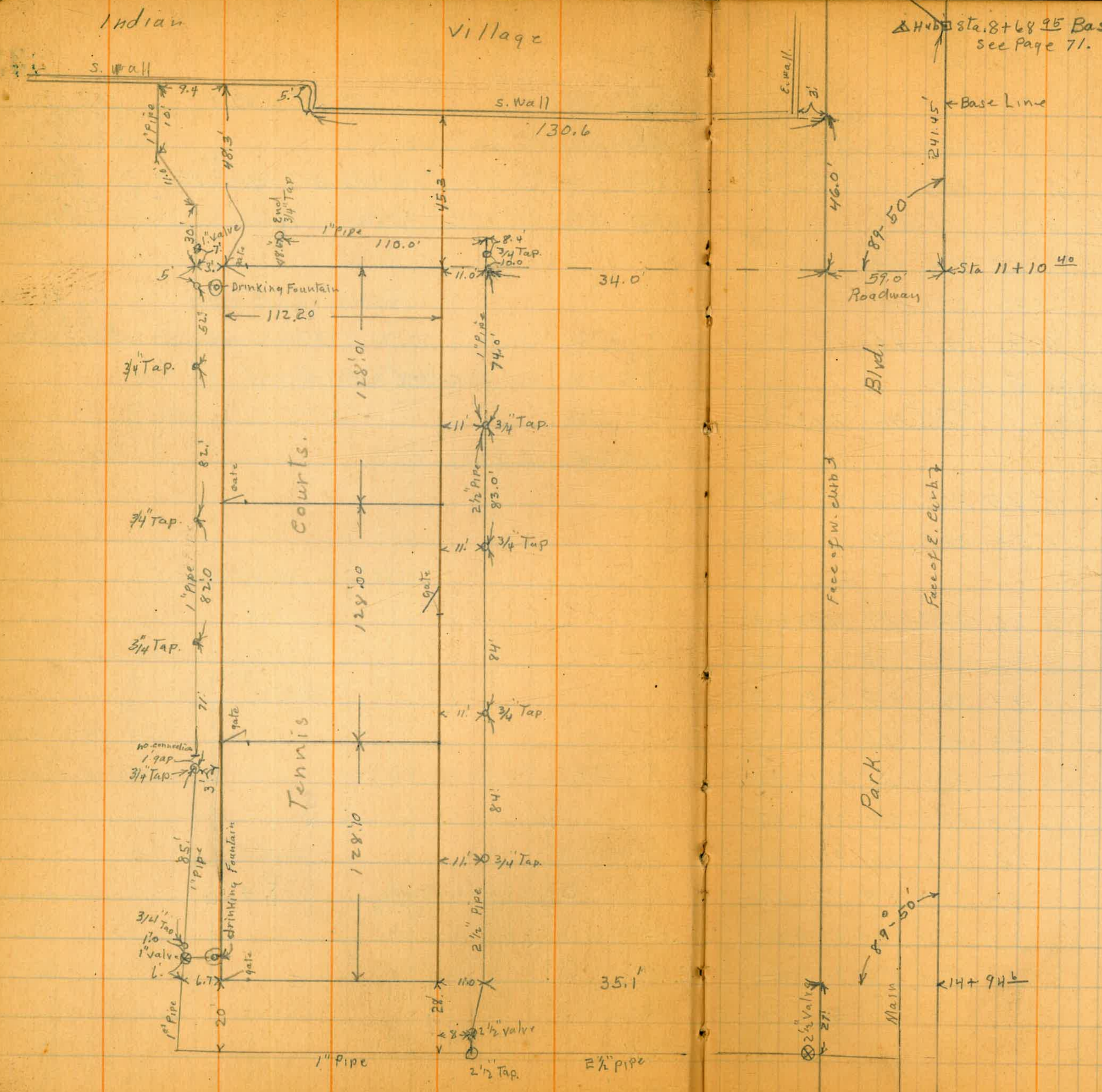
B.M. C.T. in Walk 357.77
4.99
362.76 = ⊼
2.31
chk. B.M. top Fire Hydt. = 360.45
360.46 = BM.
0.01 = Error.

360.46 = B.M.
2.89 +
363.35 = ⊼

raised to Fit tunnel



Location of Tennis Courts & water system. S. of Indian Village W. of Park Blvd.



Walker 4-15-32

Woodrow Wilson Sewer And "Tunnel Const"

	6.23	379.73'		373.50'	B.M. B.P.S.M.Cr 37th and El Cajon Top Fire Hyd. N.E. McClintock & El Cajon.
T.P.	2.61	377.72	4.62	375.11'	
Rim M.H. of McClintock St.			4.91	372.81	
Flow Line S.M.H. " "			11.69	366.03	
Rim M.H. 38th St.			7.80	369.92	
Flow Line MH 38th St.			16.31	361.41	

Construction Notes for Sewer

	+	±	−	Elev. of Shiners	Flow Line Grades	Cuts	offsets
℄ Existing MH. McClintock St. =0+00		378.13			366.03		
+16.8 = Break.			5.45	372.68	365.87	+ 6.81	
+26.8 = Break.			5.55	372.58	362.48	+10.07	
+30.8 = ℄ Tunnel (out)					362.46		
+50 2			5.76	372.37	362.38	+ 9.99	
+75. 2			5.99	372.14	362.28	+ 9.86	
1+00. 2			6.21	371.92	362.18	+ 9.74	
+25 2			6.39	371.74	362.08	+ 9.66	
+50 2			6.72	371.41	361.98	+ 9.43	
+75 2			6.90	371.23	361.88	+ 9.35	
2+00.2			7.12	371.01	361.78	+ 9.23	
+25.2			7.29	370.84	361.68	+ 9.16	
+50.2			7.53	370.60	361.58	+ 9.02	
+75.2			7.81	370.32	361.50	+ 8.82	
3+00.2 = MH 38th					361.41		
					361.38 = Plan		

McClintock + El Cajon.
B.M. Fire Hydt. 375.11
3.02 +
378.13 = ±

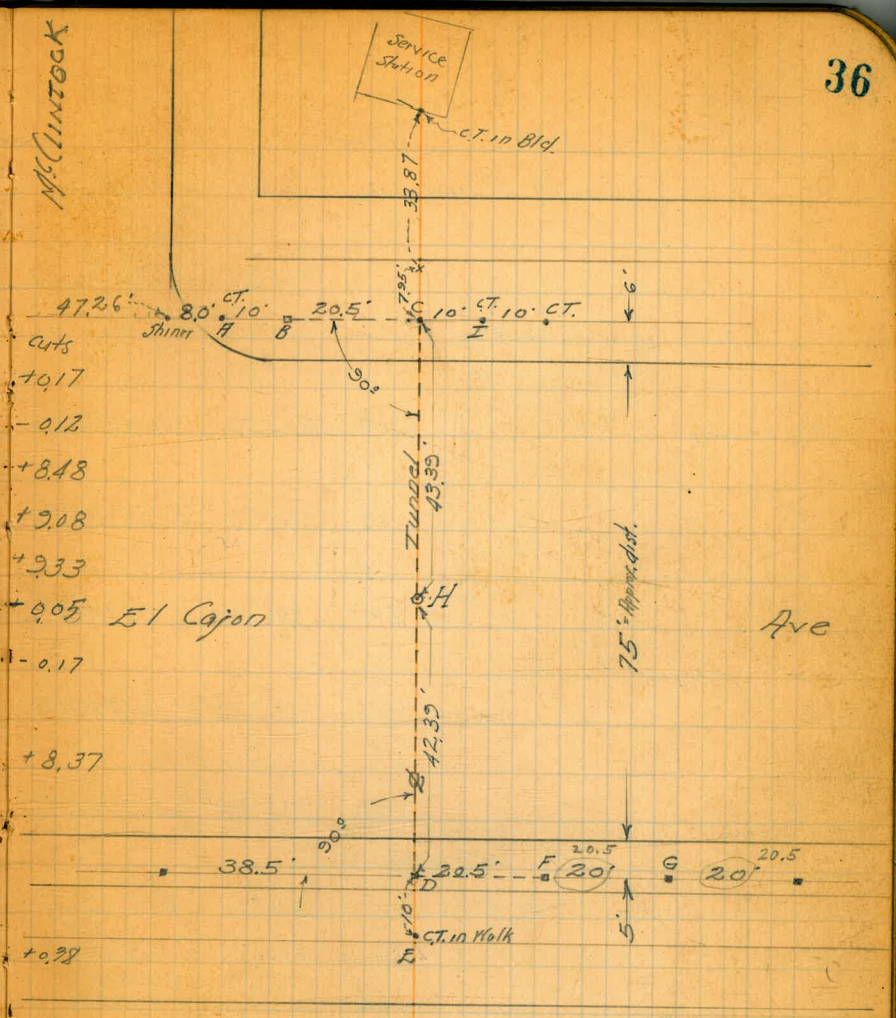
Walker
4-15-32

Tunnel Grades
Woodrow Wilson Jr. High

	3.14	378.25	375.11	B.M.
				Grades Tunnel Flow Line
A = 10' West W end stairs Elev. for top step	5.18	373.07	372.96	
B = Elev. for top step	5.41	372.84	372.96	
C = ℄ Tunnel, Elev.	5.86	372.39	363.91	
D = Elev for Flow Tunnel	5.46	372.79	363.71	
E = Elev for Flow Tunnel	5.21	373.04	363.71	
F = Elev for top step	5.55	372.70	372.75	
G = Elev for top step	5.67	372.58	372.75	
H = ℄ Roadway (not ℄ st.)			363.22	
I = cut to Flow Line Tunnel	5.97	372.28	363.91	
	3.18	378.29	375.11	
D		14.58	363.71	363.71
H		14.69	363.60	363.22

Pierce 6-9-32

	2.48	377.59	B.M 375.11
3'S. of C	13.73	363.86	
H	6.15	371.44	363.40
	14.19	363.40	Fl. at ℄ as built

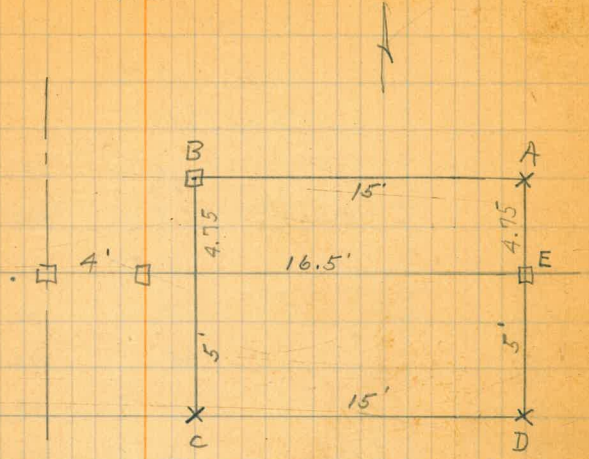


June 4, 1932

Pierce
Hatch
Fiscus

Woodrow Wilson Tunnel
South Stairway

	3.31		375.11	B.M. Top F.H.	
	378.42				
A on curb		5.70	372.72	Top wall 373.39	F 0.67 = 8"
B		6.69	371.73	373.39	F 1.66 = 1-7 7/8"
C		5.58	372.84	373.39	F 0.55 = 6 5/8"
D		5.60	372.82	373.39	F 0.57 = 6 7/8"
E.		5.72	372.70	Top step 372.75	F 0.05 = 5/8"

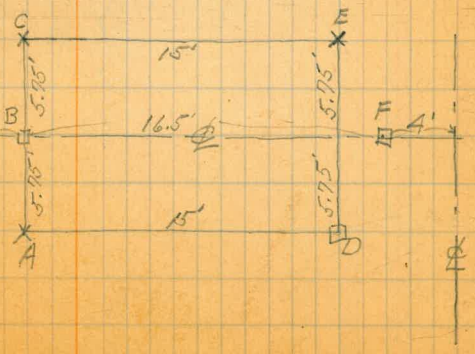


June 28, 1932

Pierce
McCarty.

North Stairway

	2.42	377.53	375.11	B.M. Top F.H.	
A		4.07	372.76	Top Wall 373.43	F 0.67 = 8" ✓
B		4.48	373.05	Top step 372.96	C. 0.09 = 1 1/8" ✓
C		4.64	372.89	373.43	F 0.54 = 6 1/2" ✓
D		5.78	371.75	373.43	F 1.68 = 1'-8 1/8" ✓ CT
E		4.81	372.72	373.43	F 0.71 = 8 1/2"
F		14.40	363.13	363.96	F. 0.83 = 10" ✓

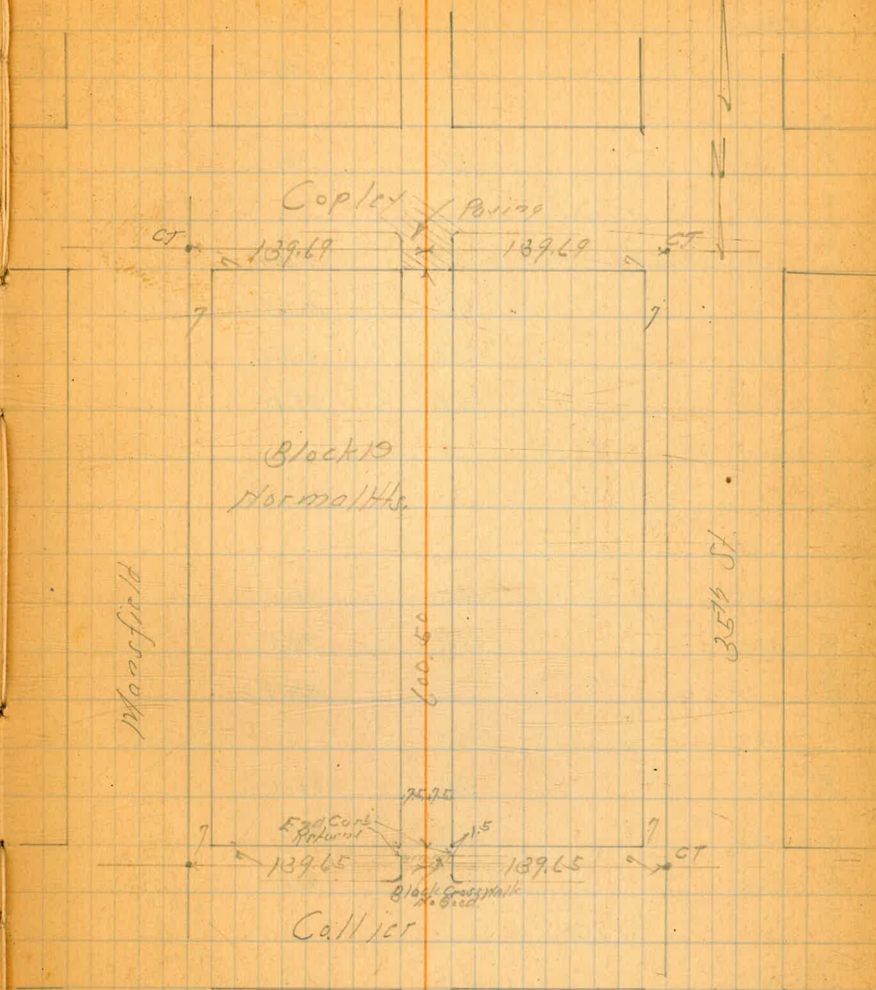


9-7-32
Moore
Gibson
Horthern

Cross Section Alley Block 19 Normal Heights
From Collier to Copley
Between Mansfield + 35th St.

BM	5.60	396.97		391.37	SW. B.P. Collier + Mt. View
TP	4.63	398.01	3.54	393.43	
		N Cb of Collier			
N.E. Cor. Mansfield Paving			4.64	393.42	
" " Top Cb.			4.14	393.92	
W.L. Alley " "			4.59	393.47	
W.L. Ground			5.2	92.9	
℄ "			5.1	93.0	
E.L. "			5.1	93.0	
E.L. Top Cb			4.52	393.54	
N.W. Cor. 35th St. Paving			5.50	392.56	
Top Cb			5.03	393.03	
		1.5' S of N.L. Collier = Nly Edge Conc. Walk + End Cb.			
E Top Cb + Ground			4.20	393.86	
℄			4.4	93.7	
W Top Cb			4.34	393.72	
		N.L. Collier			
W			4.0	94.1	
℄			4.1	94.0	
E			3.9	94.2	
		25' N of N.L. Collier			
-1.5 = ℄ 5' Brick Chimney			2.9	95.2	
E			2.9	95.2	
℄			2.8	95.3	
W			2.8	95.3	

Plotted #E8 9-12-32



398.06

50 N of N.L Collier

W	3.0	95.1
L	2.4	95.7
E	2.4	95.7
80 N		
3.3 Wly Conc. Apron to Garage	3.00	395.06
E	3.0	95.1
L	3.1	95.0
W	3.1	95.0
90 N		
2.5 E of E.L. = Sly 2 Ribbon Dr.	3.00	395.06
100 N		
W	3.0	95.1
L	3.3	94.8
E = Fence	3.2	94.9
150 N		
E	3.1	95.0
L	3.0	95.1
W	2.9	95.2
175 N		
W	2.7	95.4
L	2.7	95.4
E	3.0	95.1
200 N		
E	3.2	94.9
L	2.8	95.3

398.06

W	2.9	395.4
250 N		
W	2.8	95.3
L	3.3	94.8
E	3.1	95.0
TP 5.02 400.81	2.27	395.79
300 N		
E	5.6	395.2
L	5.9	394.9
W	5.9	394.9
335 N		
W	6.0	394.8
L	5.9	394.9
E	5.9	394.9
350 N		
1.5 Fence	5.5	395.3
E	5.5	395.3
L	5.5	395.3
W	5.6	395.2
383 N		
W	5.7	395.1
L	5.6	395.2
4.65 Sly Board Shed	5.4	395.4
403 N		
E	5.5	395.3
4 1 = Nly Board Shed	5.5	395.3

400.81

℄	5.6	395.2
W	5.2	395.6
425 N		
W	5.7	395.1
℄	5.6	395.2
E Fence	5.7	395.1
457 N		
-15 = ℄ Garage Wood Floor	5.70	395.1
E	5.8	395.0
℄	5.5	395.3
W	5.7	395.1
500 N		
W	5.8	395.0
℄	5.5	395.3
E Fence	5.5	395.3
525 N		
E	5.4	395.4
℄	5.5	395.3
W	5.7	395.1
557 N		
W	5.0	395.8
℄	5.0	395.8
E Edge Conc Apron	5.20	395.6
+4 = ℄ Garage Conc Floor	4.84	396.03

400.81

575 N

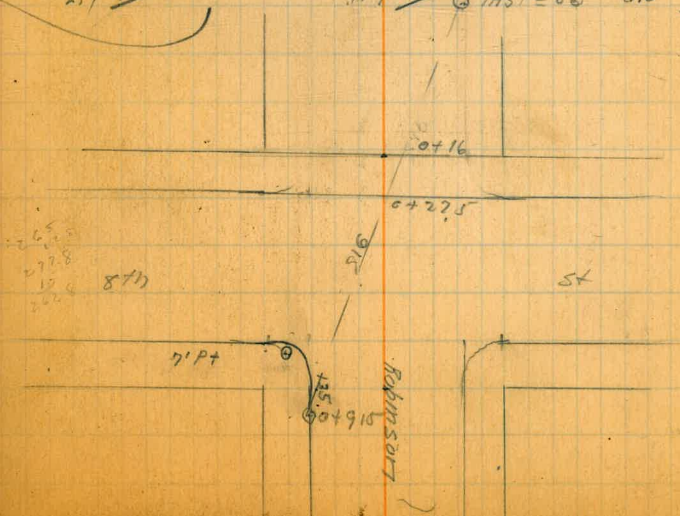
E	5.0	395.8
℄	4.9	95.9
W	5.4	95.4
595 N		
W	5.5	95.3
℄	5.6	95.2
E	5.2	95.6
600 50 N = 52 Copley		
E Top Ck	5.94	94.87
E Edge Paving	6.12	94.68
℄ " "	6.30	94.51
W " "	6.04	94.75
W Top Ck	5.95	94.86
S Ck of Copley		
W Top Ck	6.38	9453
W Edge Paving	6.56	94.25
℄ " "	6.59	94.22
E " "	6.63	94.18
E Top Ck	6.32	94.55
BM	5.95	394.86 394.86

BP 52 Copley + Manhole 394.83

Levels 8th and Robinson to — 1/14/33 — Byrns, Hadaw, Phelps.

sta	+	HI	−	Elev	N12'	℄	S12'
				274.95 BM NW cor Robinson and 8th Plug in curb			
0-91.5	2.80						
0-27.5			4.46 273.29				
0-16.0			4.32 273.43				
0+00			1.20 276.55				
S12'			5.0 272.8				
N12			0.72 277.1				
0+25			4.8 273.0		1.8 276.0	4.8 273.0	9.7 268.1
0+50	0.67		-12.00		7.75 270.0 F.S. 12.00	12.6 265.2 B.S 0.67	16.4 261.4
0+75	0.69		-11.55		7.2 259.2 F.S. 11.55	9.2 257.2 B.S 0.69	11.4 255.0
1+00					4.9 250.7	5.4 250.2	6.9 248.7
1+25					14.0 241.6	14.2 241.4	14.3 241.3
1+34.9	Top Curb				14.9 240.7 Part	14.6 241.0	14.7 240.9 back of curb
1+75					13.9 241.7 back of curb	14.5 Tp Curb 241.1	15.3 240.3 on part
1+85						13.5 242.1	
1+89					2.7 252.9	4.9 250.7 @ inst = 00	6.0 249.6

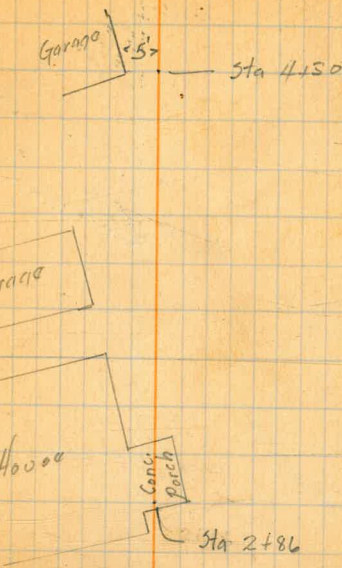
sta	N12'	℄		S12'
2+00	+ 2.0 257.6 B.S. 11.86	1.3 254.3 F.S	0.30	4.2 241.4
2+20	2.1 265.0 B.S. 11.17	4.6 262.5 F.S	0.48	8.9 258.2 on path
2+50	5.2 272.6	8.6 269.2		11.8 266.0
2+67	1.7 276.1	2.5 275.3		7.9 269.9
		0.8 Bot Step 277.0	Front Porch of House.	
2+86		0.15 Tp Step		1.2 276.6
3+26	0.24 277.6 on walk to Gar.	1.7 276.1 (277.6)		5.6 272.2
3+50	2.4 275.4	5.4 272.4		9.1 268.7 — 14.2 263.6 (255)
3+75	4.8 273.0	7.5 270.3		12.8 265.0
4+00	6.2 271.6	10.9 266.9		15.0 252.8 (262.8)
4+20	4.8 273.0	10.0 267.8		14.8 263.0



	N 12'	℄	S 12'
	276.8	275.4	269.4
4+40	+1.0 (BS. 8.95)	2.4 (F.S. 2.45)	8.4
4+70	5.2 279.1	6.5 277.8	6.5 277.8
5+18	4.4 279.9 280.9	4.5 279.8 280.64	4.4 279.9 280.92
5+47.7	3.4 Top Cb 27.7 Not ℄.	2.67 on Pav't	3.39 On Top Cb 10.3' S of ℄

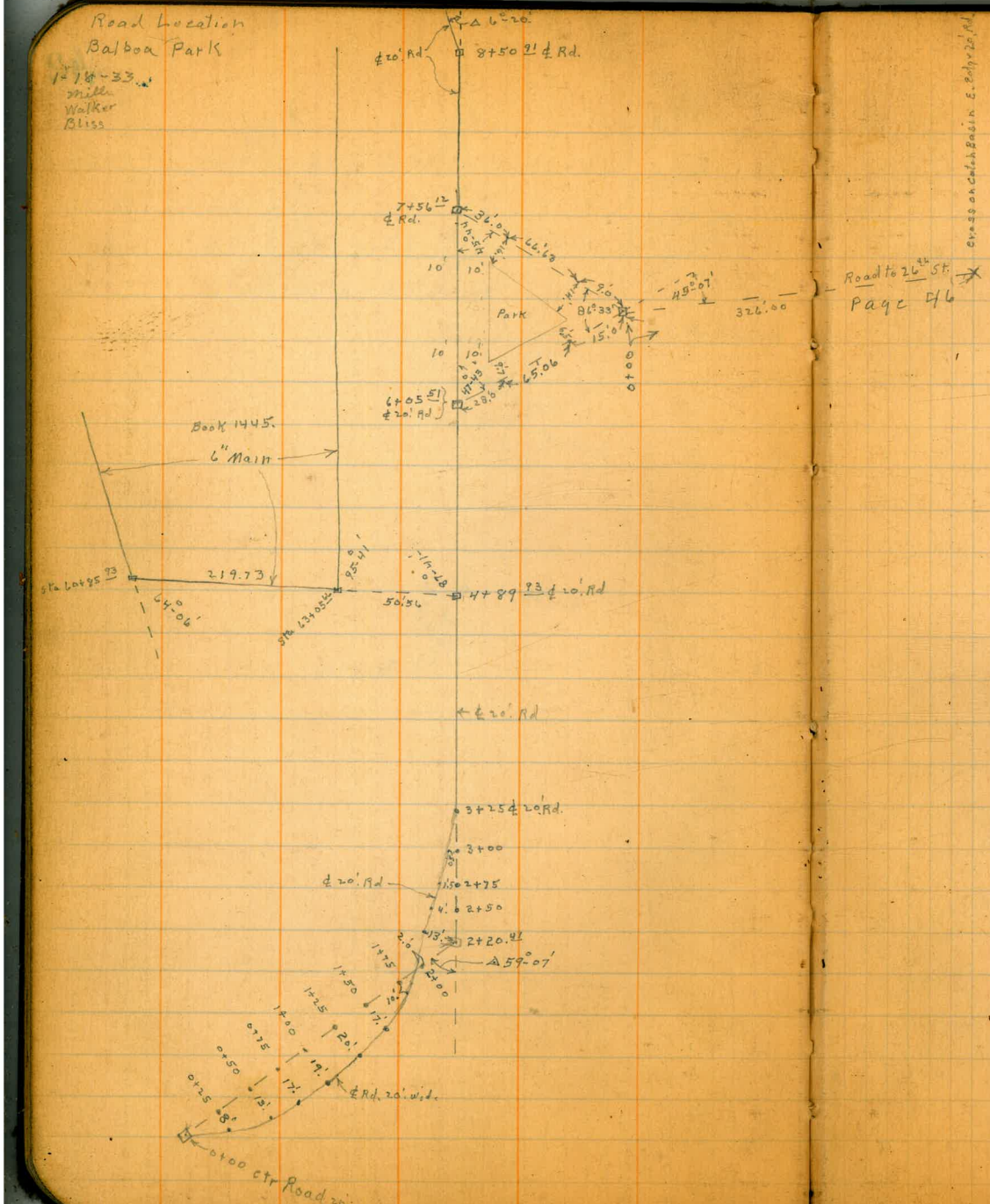
2.30 on B.M. SE Cor 10th & Robinson

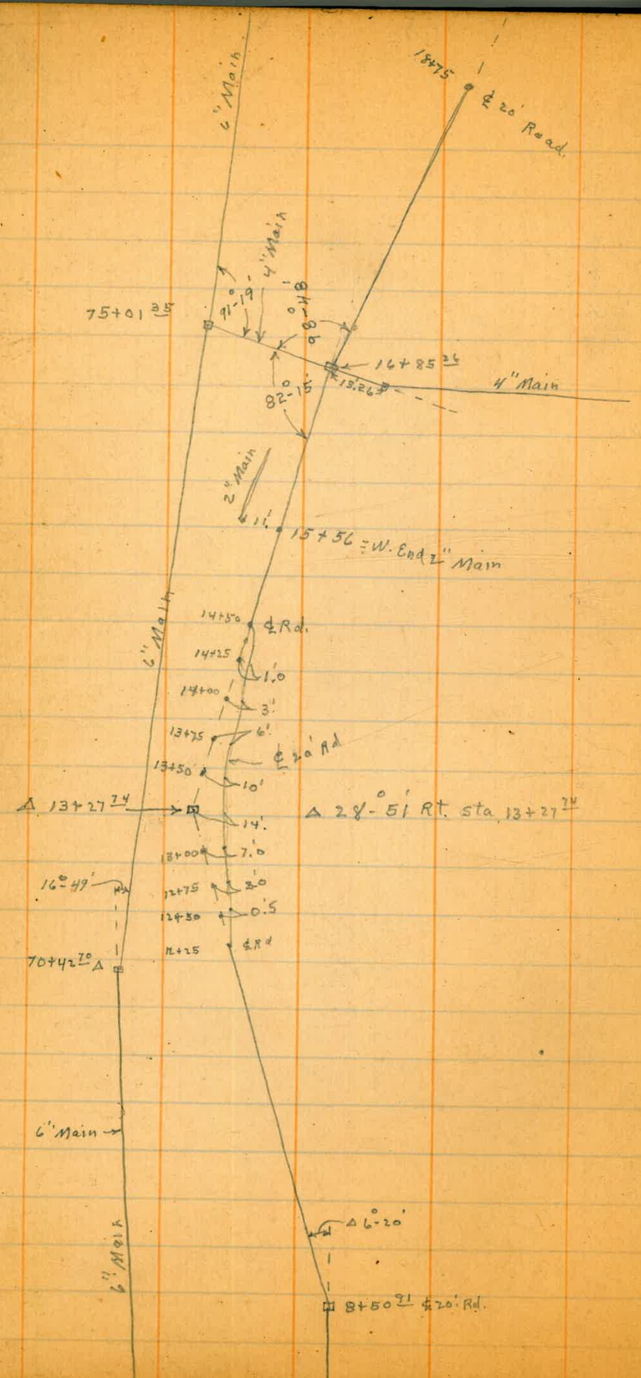
287.01

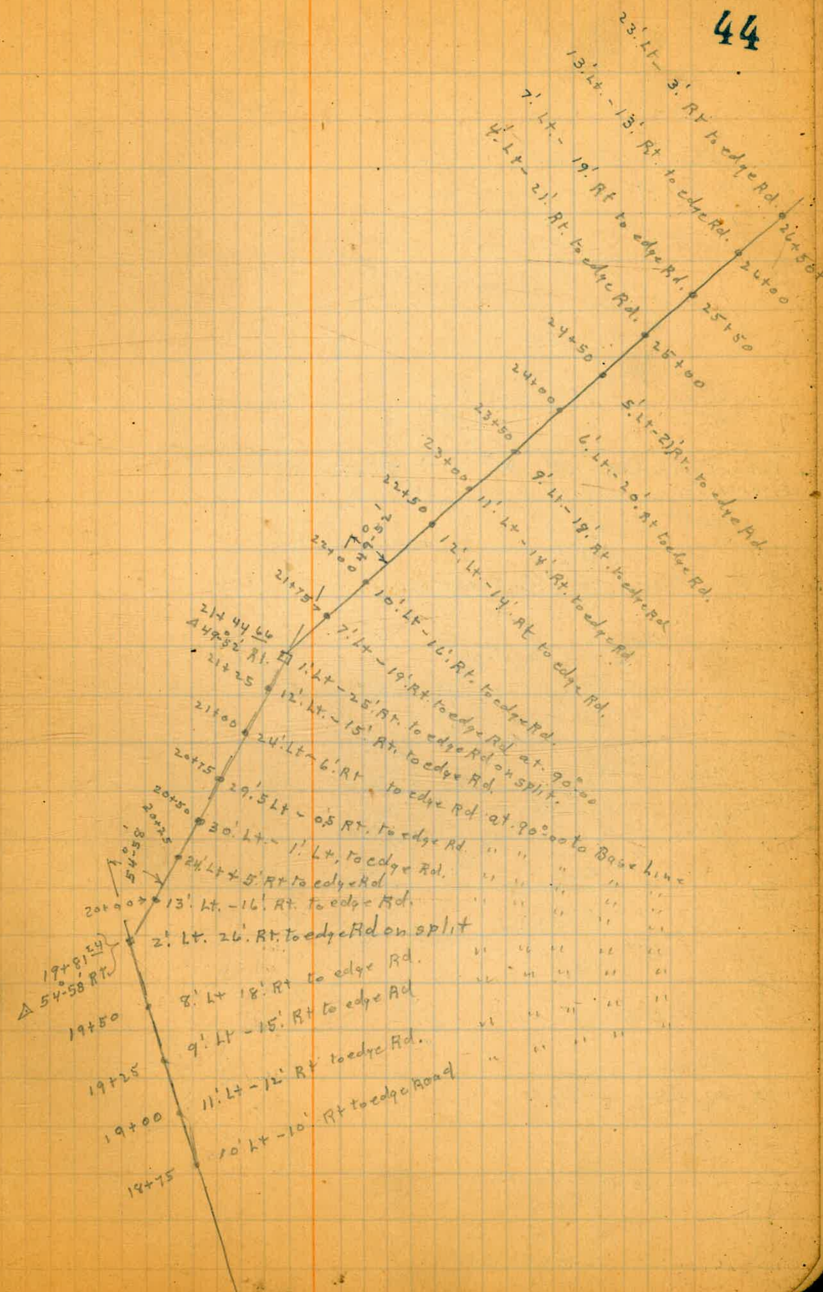


Road Location
Balboa Park

12 14-33
Mills
Walker
Bliss

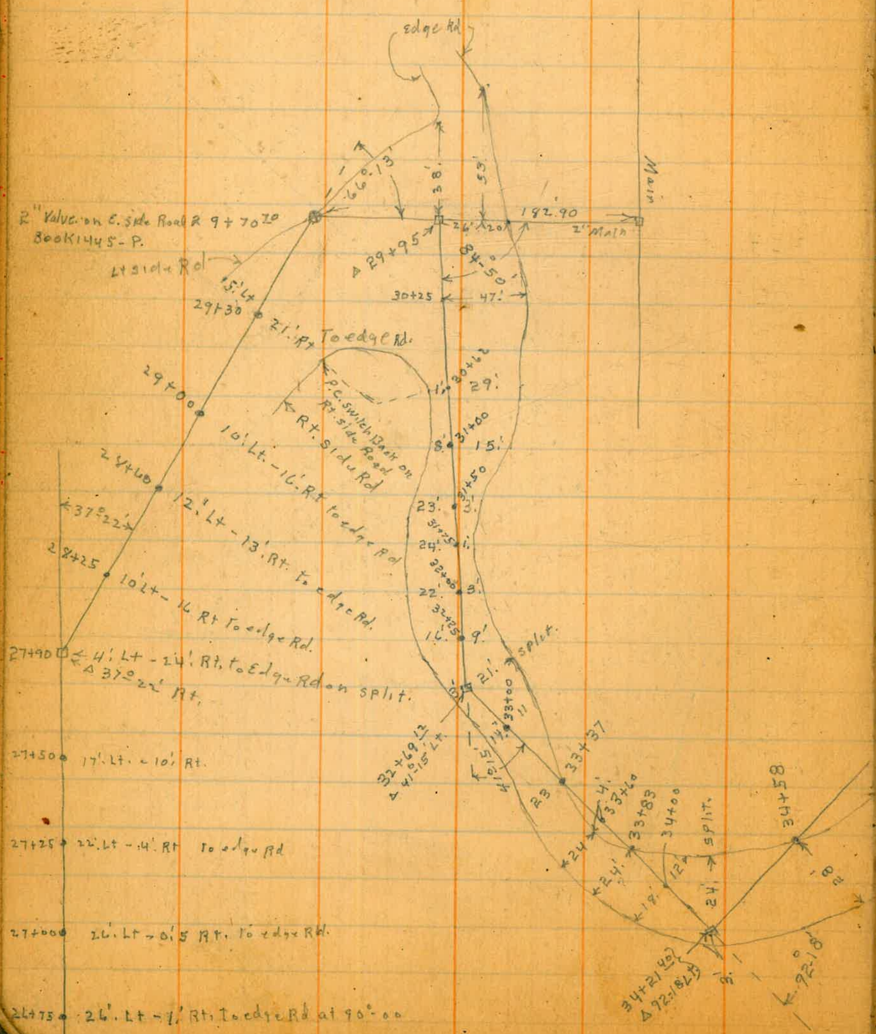


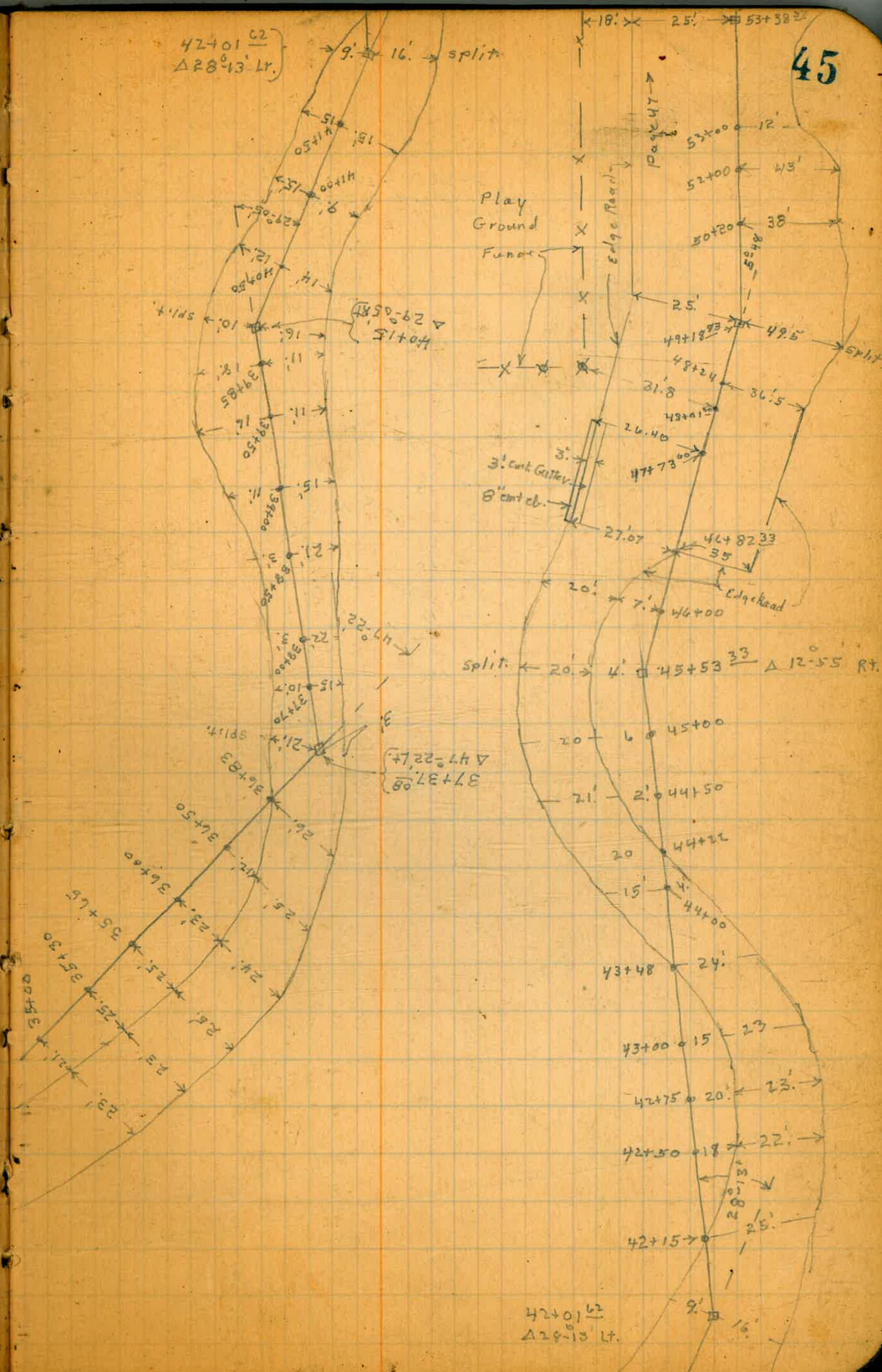

18+75
℄ 20' Road.
6" Main
4" Main
75+01 35
91°-19'
88°-48'
16+85 26
13.26'
4" Main
82°-15'
2" Main
11'
15+56 = W. End 2" Main
6" Main
14+50
℄ Rd.
14+25
1.0'
14+00
3'
13+75
6'
℄ 20' Rd
13+50
10'
Δ 13+27 74
14'
Δ 28°-51' Rt. sta 13+27 74
13+00
7.0
16°-49'
12+75
3.0
12+50
0.5
12+25
℄ Rd
70+42 70 Δ
6" Main
Δ 6°-20'
6" Main
8+50 91 ℄ 20' Rd.

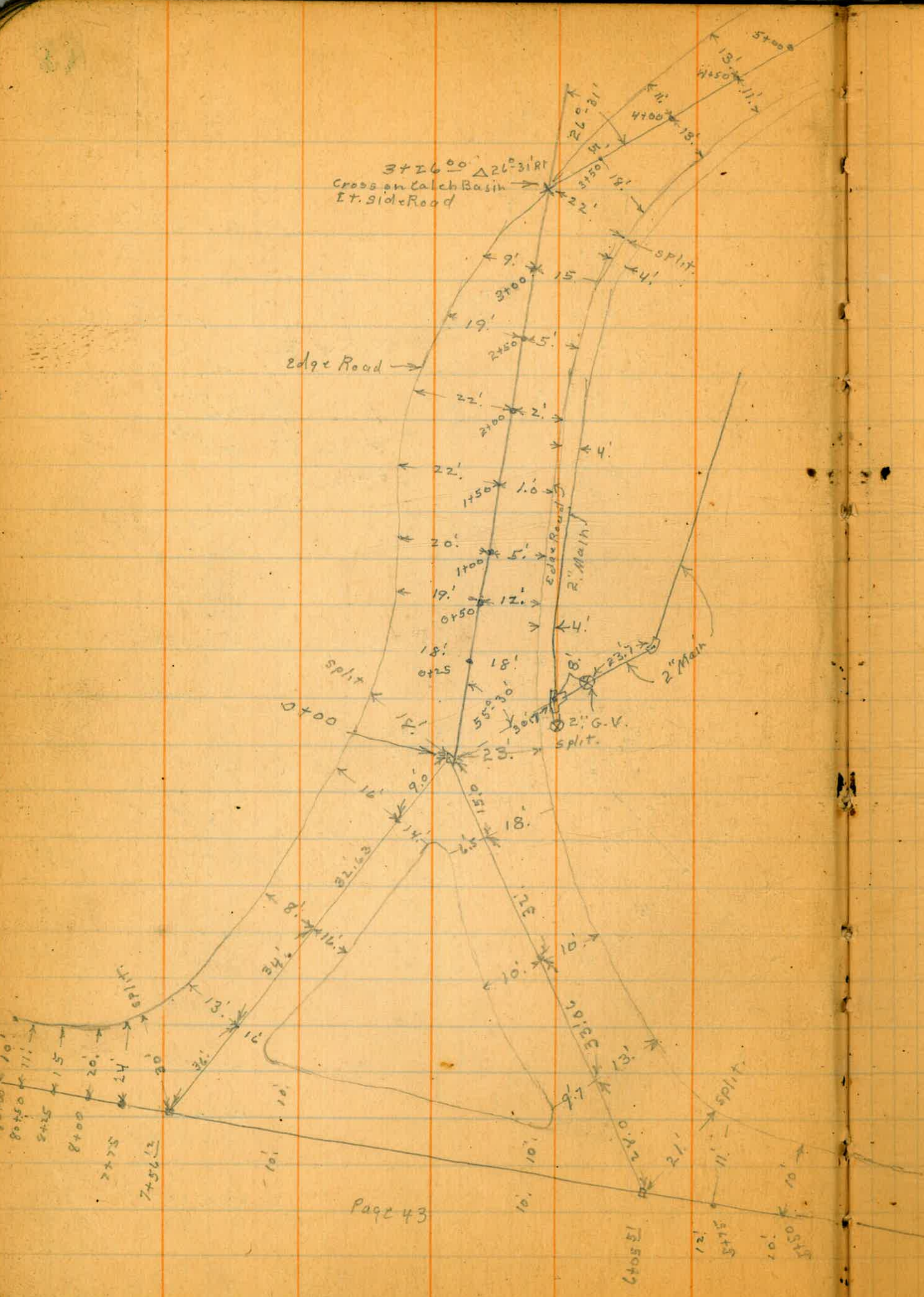

23' Lt - 3' Rt to edge Rd.
13' Lt - 13' Rt. to edge Rd.
7' Lt - 19' Rt to edge Rd.
4' Lt - 21' Rt. to edge Rd.
26+56±
26+00
25+50
25+00
24+50
24+00
23+50
23+00
22+50
22+00
21+75
5' Lt - 21' Rt. to edge Rd.
6' Lt - 20' Rt to edge Rd.
9' Lt - 19' Rt. to edge Rd.
11' Lt - 14' Rt. to edge Rd.
12' Lt - 14' Rt to edge Rd.
10' Lt - 16' Rt. to edge Rd.
49°-52'
21+44 66
Δ 49°-52' Rt.
7' Lt - 19' Rt to edge Rd.
1' Lt - 25' Rt. to edge Rd at 90°
21+25
12' Lt - 15' Rt. to edge Rd on split
21+00
24' Lt - 6' Rt to edge Rd at 90° to Base Line
20+75
29.5 Lt - 0.5 Rt. to edge Rd
20+50
30' Lt - 1' Lt. to edge Rd.
20+25
54°-58'
24' Lt + 5' Rt to edge Rd
20+00
13' Lt. - 16' Rt. to edge Rd.
2' Lt. 26' Rt. to edge Rd on split
19+81 54
Δ 54°-58' Rt.
8' Lt 18' Rt to edge Rd
19+50
9' Lt - 15' Rt to edge Rd
19+25
11' Lt - 12' Rt to edge Rd.
19+00
10' Lt - 10' Rt to edge Road
18+75

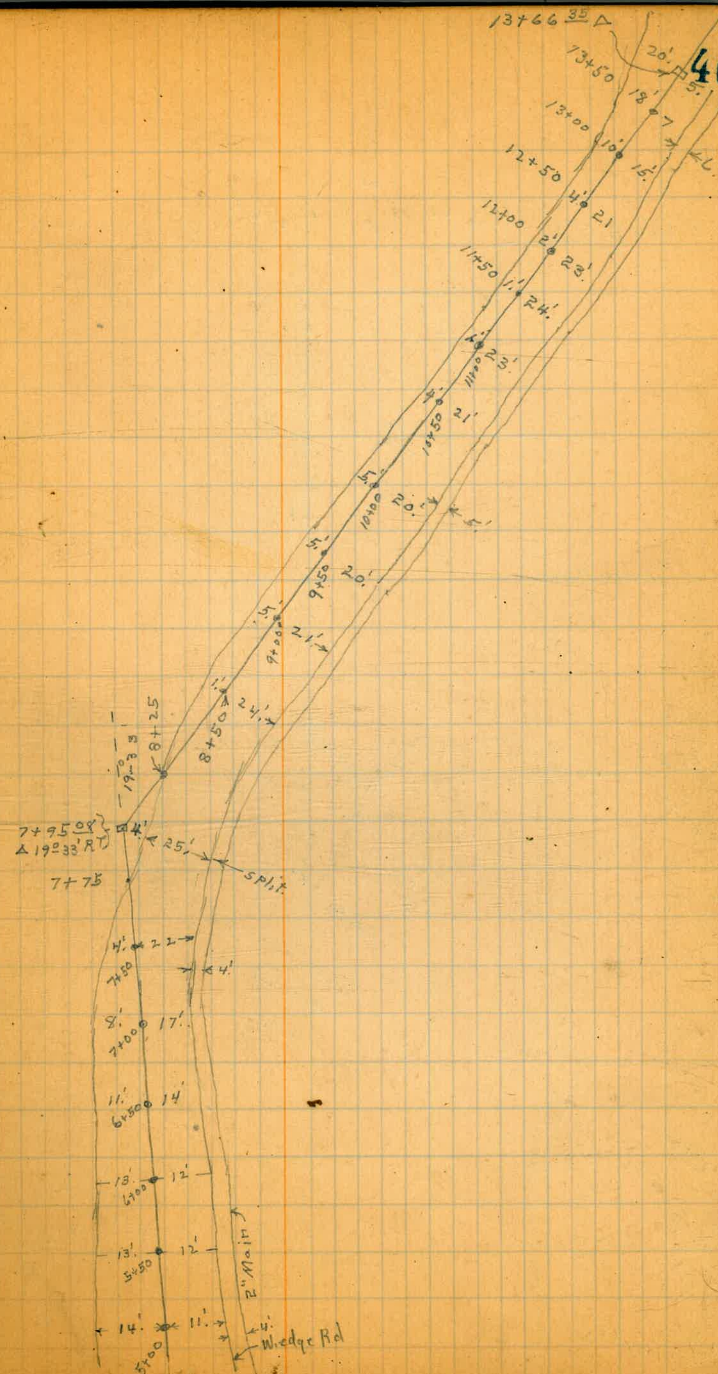
4553.33
129.
4682.33
90.67
4773.00

From sta 29+70.20 to sta 15+56
2" Main 1' to Lt. of Lt. side of Road.

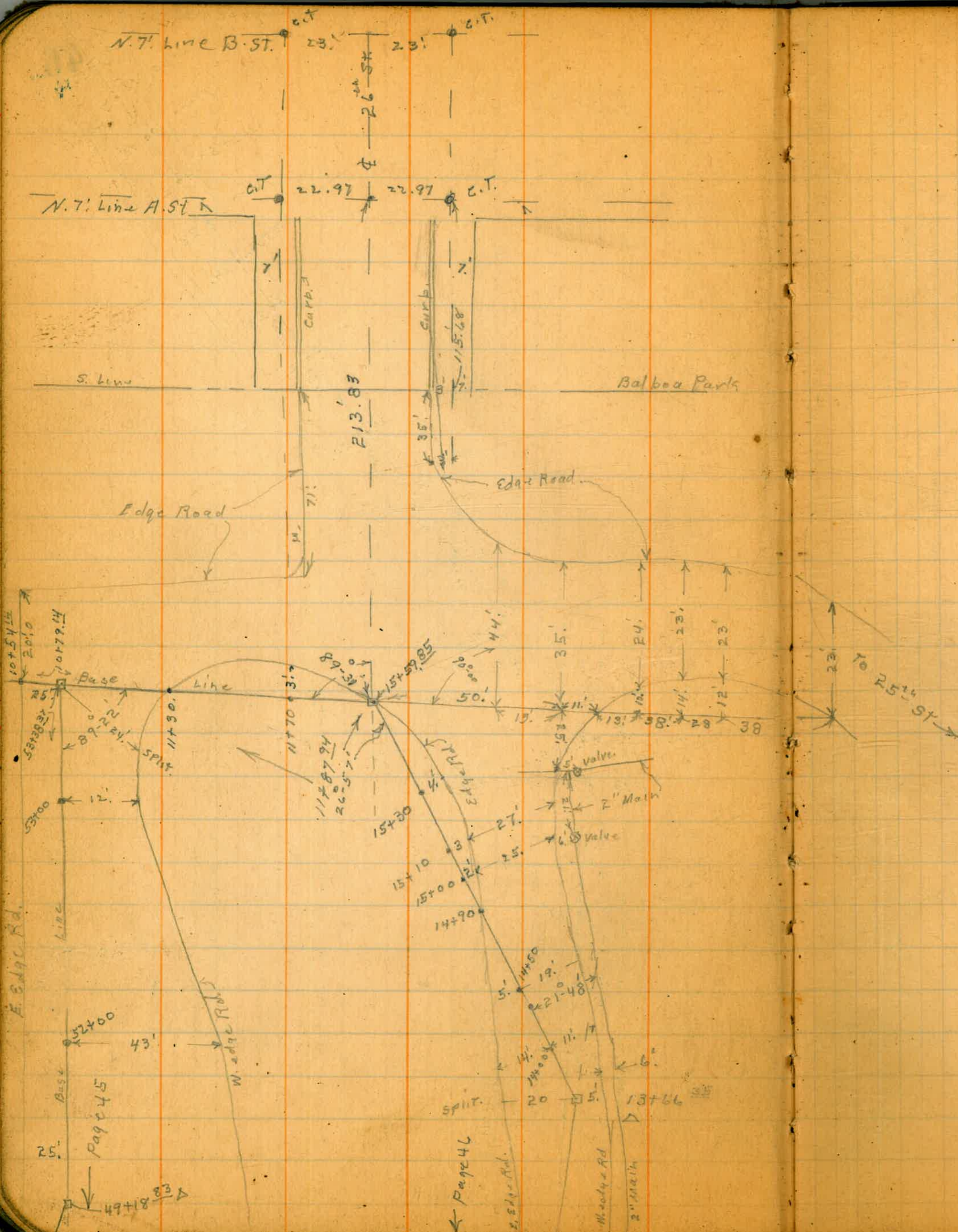





3+26 00 Δ26°31' Rt
Cross on Catch Basin
Et. side Road
Edge Road
Edge Road
2" Main
2" Main
2" G.V.
Split
Split
Split
Split
0+00
Page 43

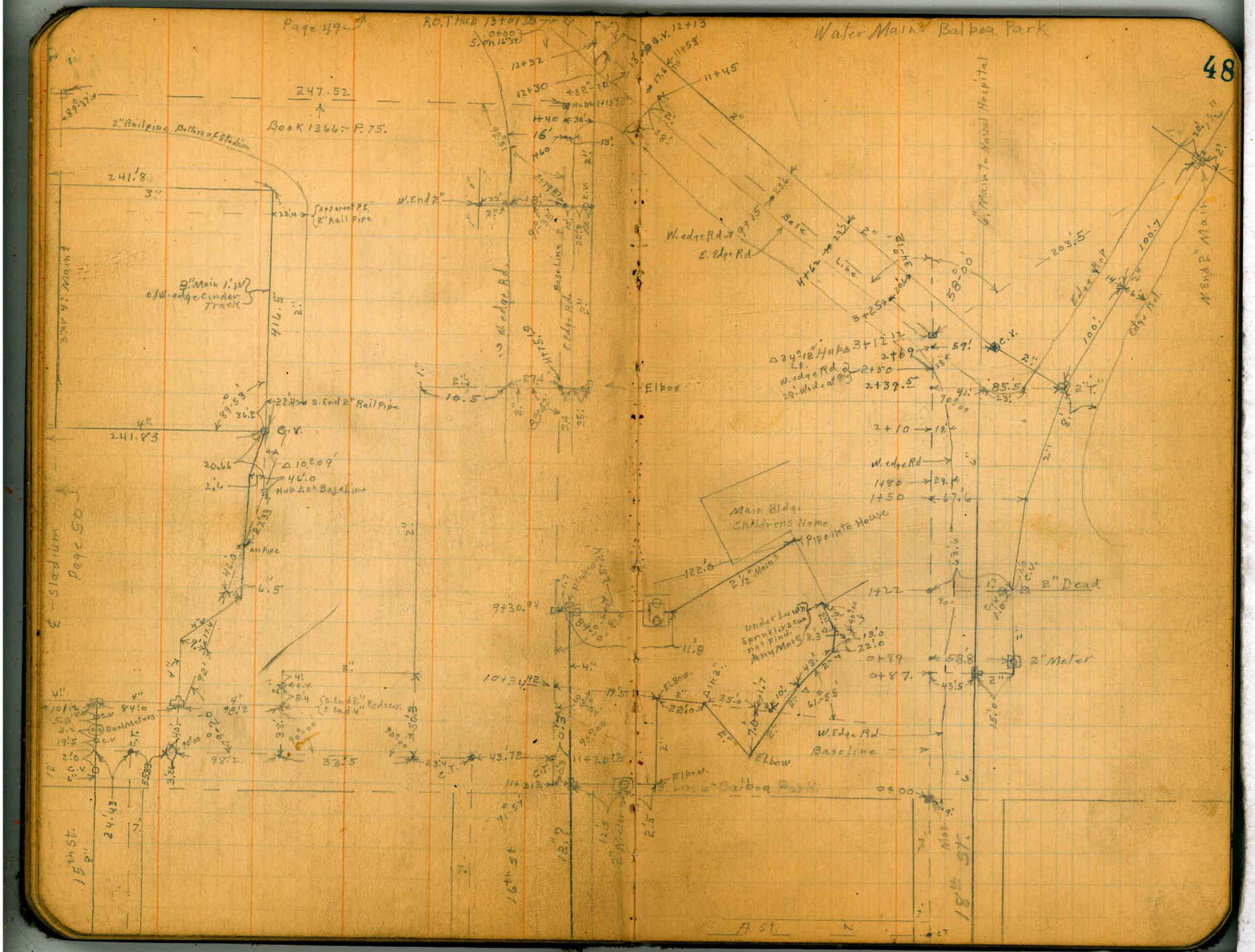

13+66 35 Δ
7+95 08
Δ 19°33' Rt
7+75
Split
2" Main
Wiedge Rd

89-22
44-41

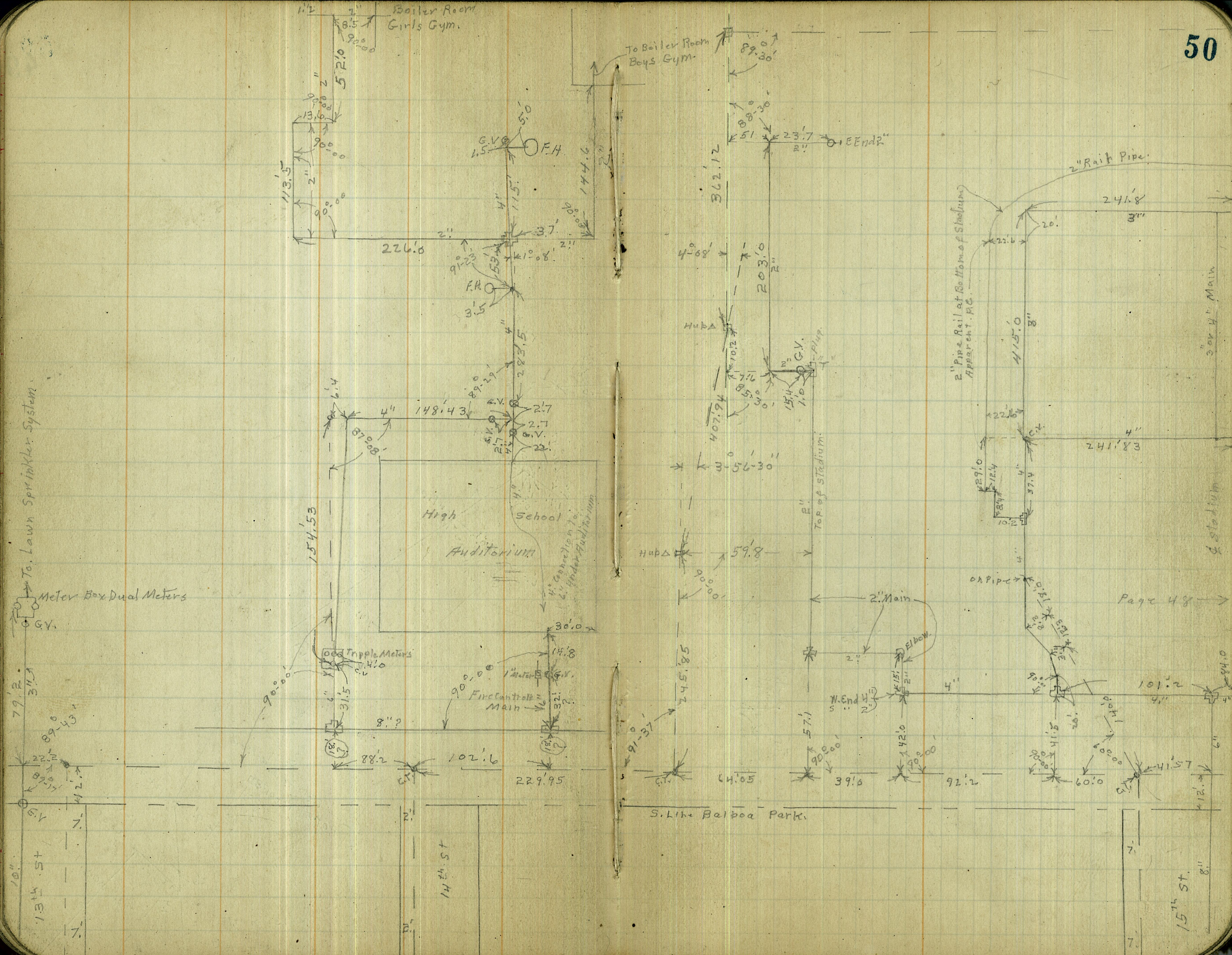


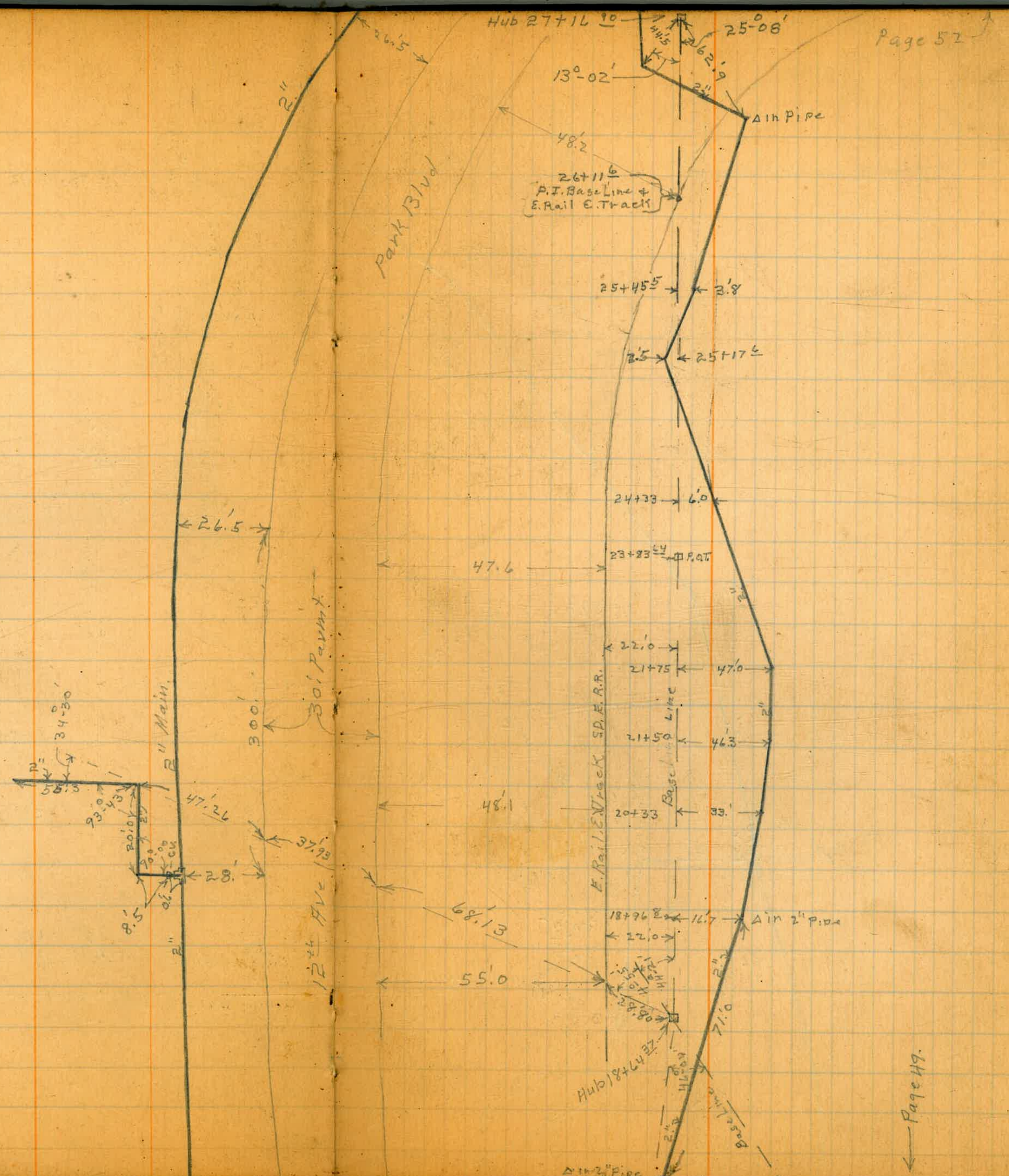
120.03

Water Mains Balboa Park

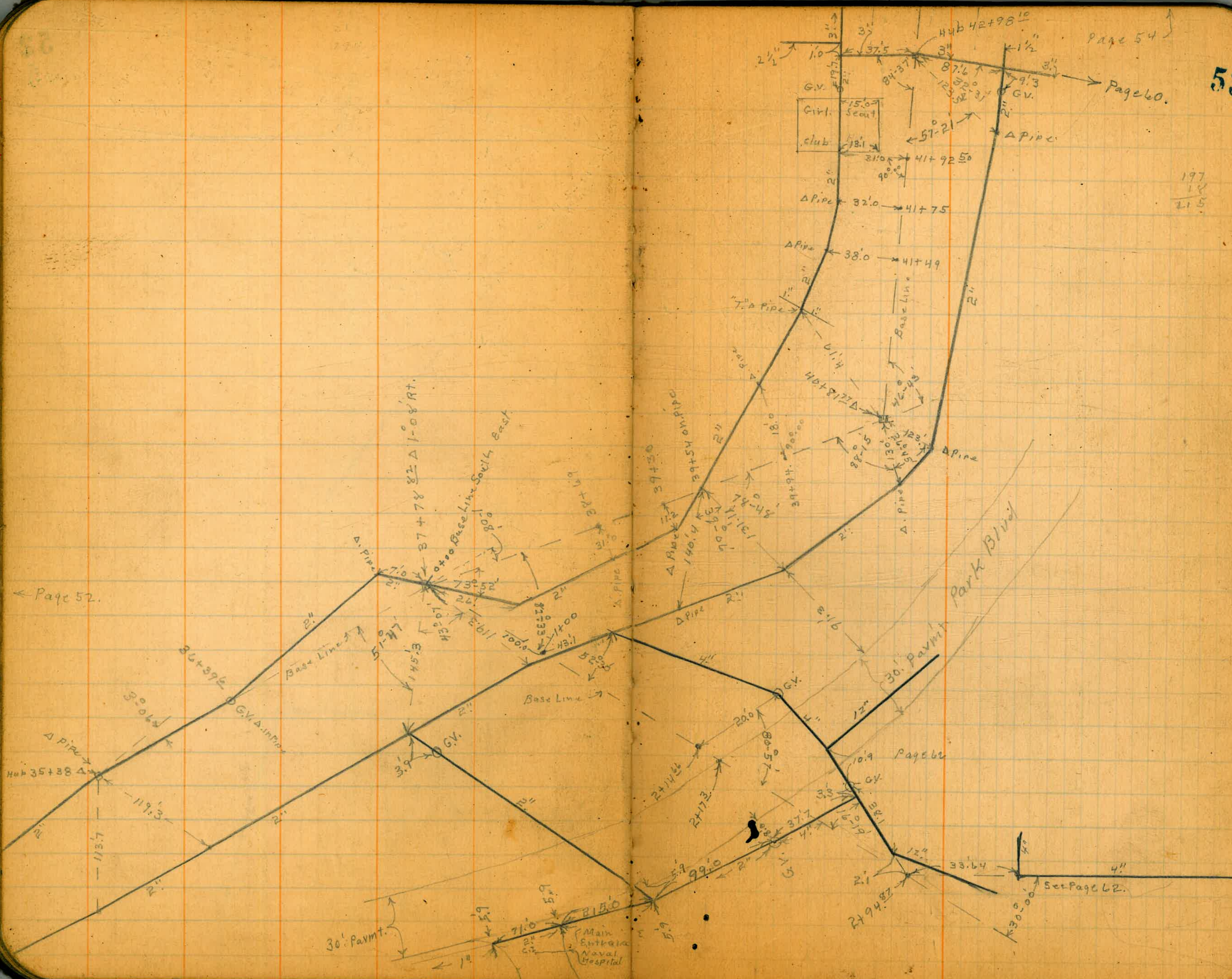


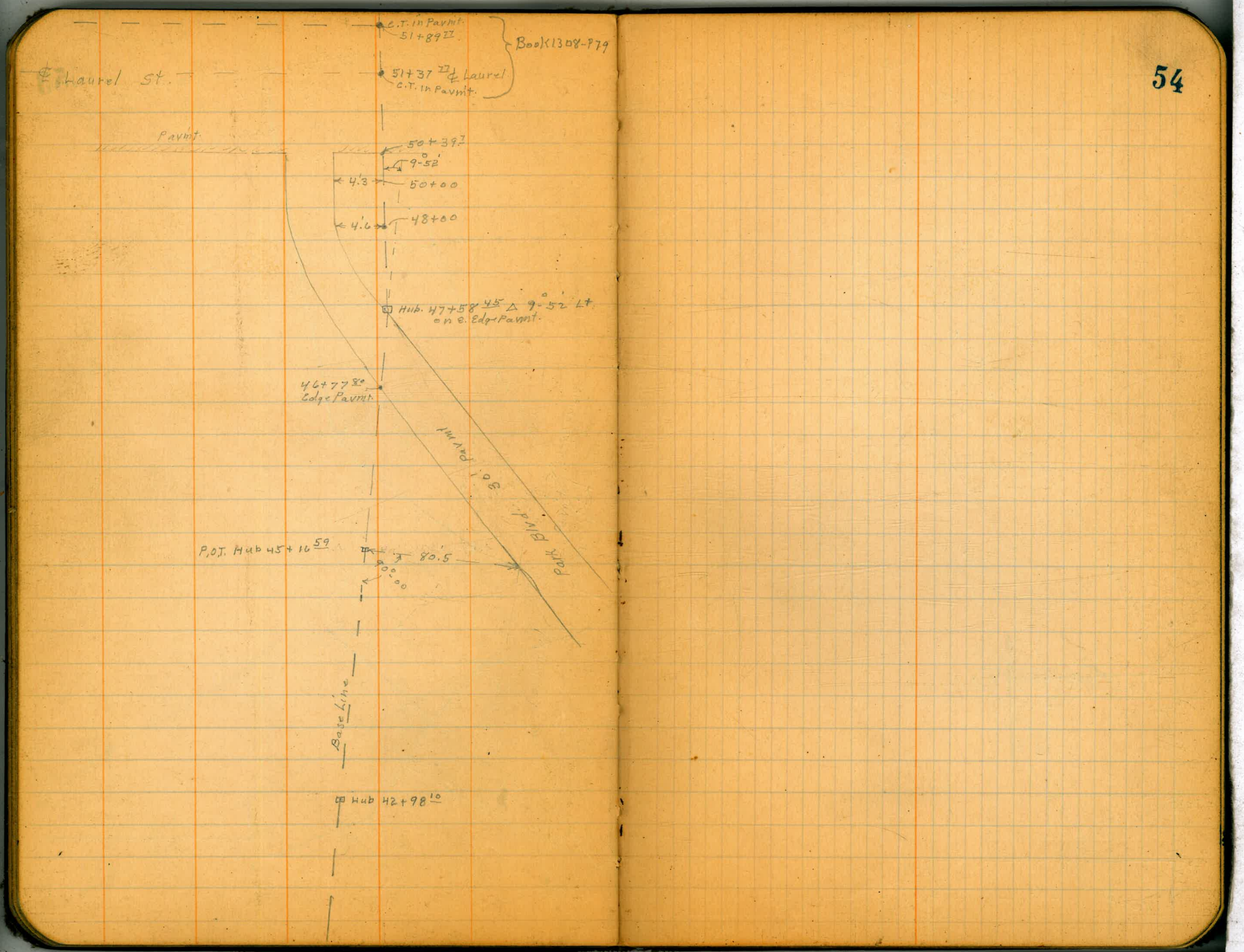

E Rail E Track
S.D.E. R.R. Co. T Line
Hub △ 18+64 37
△ in 2" Main 18+96
△ 2" Main
46°04'
page 51
18+18
17+43
Edge Rd.
2"
208.0
15+40.60
15+15 54
C.V.
Edge Rd.
2" Main Dead
on Pipe
14+82
14+50
13+64
Base Line
E Edge Rd.
13+10
W. edge Rd.
P.O.T. Hub 13+01.50
12+41
12+32
12+30
C.V. 12+13
0+70
End 2"
E edge Rd

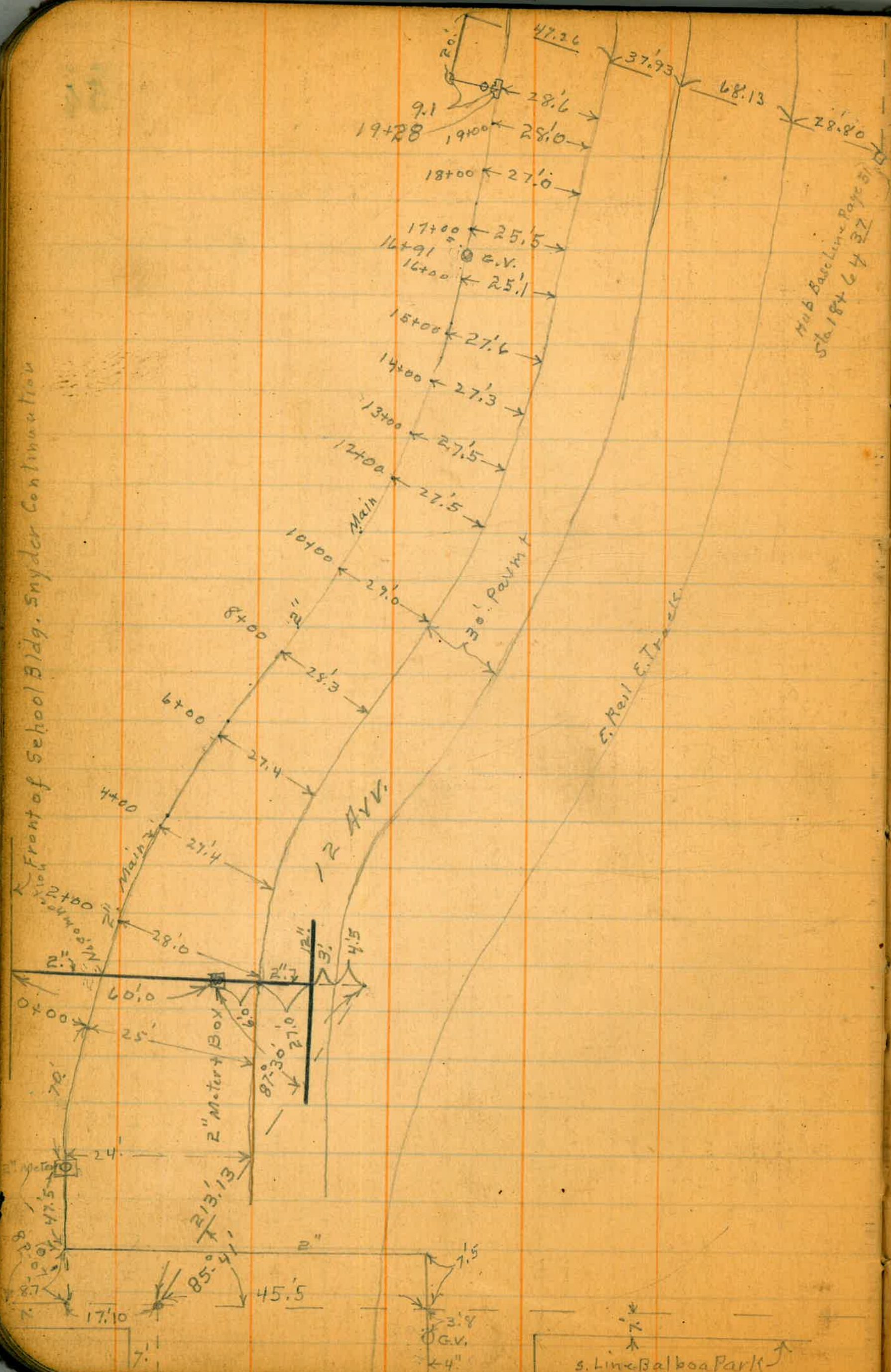

Boiler Room
Girls Gym.
To Boiler Room
Boys Gym.
F.H.
G.V.
EEnd 2"
2" Rail Pipe
2" Pipe Rail at Bottom of Stadium Apparent. P.C.
3" or 4" Main
Hub
Top of Stadium
High School
Auditorium
4" Connection to 6" under Auditorium
To Lawn Sprinkler System
Meter Box Dual Meters
Tripple Meters
Fire Control Main
2" Main
Elbow
W. End 4"
Oh Pipe
Page 48
℄ Stadium
S. Line Balboa Park.
13th St.
14th St.
15th St.


Hub 27+16 90
25-08'
13°-02'
Page 52
Δ in Pipe
48.2
26+11 6
P.I. Base Line &
E. Rail E. Track
Park Blvd
25+45 5
3.8
25+17 6
24+33
6.0
47.6
23+83 64
22.0
21+75
47.0
21+50
46.3
30' Pavm't
2" Main
26.5
300'
E. Rail E. Track S.D.E.R.R.
Base Line
48.1
20+33
33.'
47.26
37.93
28.'
8.5
55.3
12th Ave
68.13
18+96 8
16.7
Δ in 2" Pipe
22.0
55.0
28.80
Hub 18+64 37
71.0
Page 49
Δ in 2" Pipe

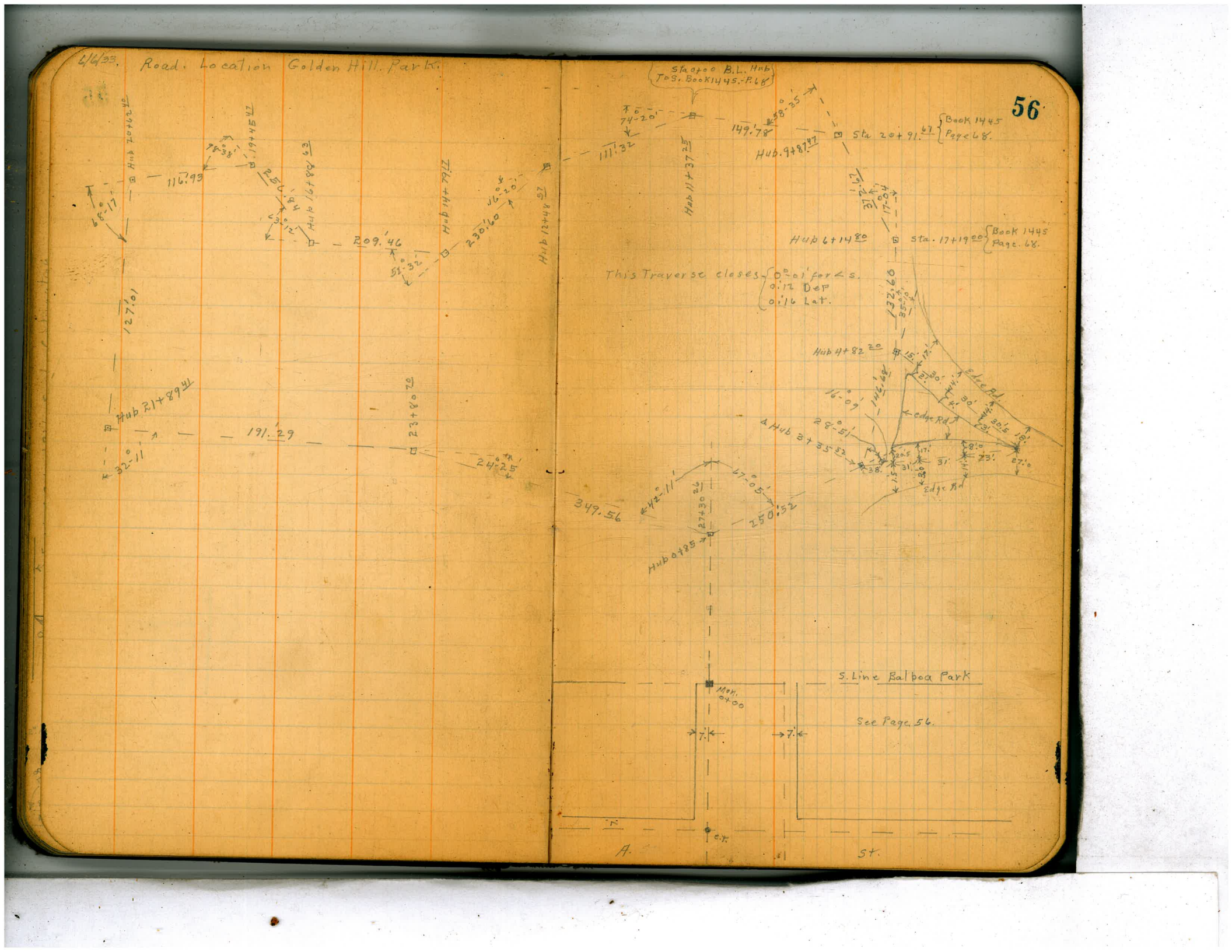

Hub 35+38
3.06'
Page 53
93+23.39
31+88.23
31+70.83
G.V.
G.V.
Δ Pipe
17.25'
4.4
93-04'
31+22 Hub on Pipe
45.0
End of 2"
5.7
30.' Pavmt
50-26'
110.0
113.7
62-57'
49-37'
92-30'
Δ in Pipe
2"
Park Blvd.
Δ Pipe
9'
90-00'
30+33
12-40'
29+76.48 Δ Base Line
Δ Pipe
39.0
90-00'
28+70.21 W. Edge Pavmt
30' Pavmt
Base Line
27+77.30 E. Edge 30' Pavmt.
G.V.
"T" in Pipe
G.V.
2"
Δ in Pipe
2.5
92'
Hub 27+16.90
24.5
30' Pavmt.
Δ in Pipe
E. Rail E. Track
Page 51
26.5
Base Line
Δ on Pipe


Page 54
Hub 42+98.10
Page 60.
G.V.
Girl Scout club
15.0
13.1
57-21
41+92.50
Δ Pipe
32.0
41+75
38.0
41+49
Base Line
61.4
40+81.27 Δ
Δ Pipe
Park Blvd
30' Pavmt
Page 62
See Page 62.
33.64
2+94.87
37.7
99.0
81.5.0
71.0
Main Entrance Naval Hospital
30' Pavmt.
2+14.64
2+17.3
20.0
Base Line
G.V.
Page 52.
Hub 35+38 Δ
Δ Pipe
113.7
119.3
36+39.6
G.V. Δ in Pipe
Base Line
145.3
37+78.82 Δ 1-08' Rt.
0+00 Base Line Sec. 14 East
73-52
1+00
43.1
39+30
39+54 on pipe
140.4
Δ Pipe


℄ Laurel St.
C.T. in Pavmt.
51+89 77
Book 1308-P79
51+37 77 ℄ Laurel
C.T. in Pavmt.
Pavmt.
50+39.7
9°-52'
4.3
50+00
4.6
48+00
Hub. 47+58 45 Δ 9° 52' Lt
on E. Edge Pavmt.
46+77 80
Edge Pavmt.
30' Pavmt
Park Blvd
P.O.T. Hub 45+16 59
80.5
00°-00'
Base Line
Hub 42+98 10


Front of School Bldg. Snyder Continuation
47.26
37.93
68.13
28.80
19+28
28.6
19+00
28.0
18+00
27.0
17+00
25.5
16+91
G.V.
16+00
25.1
15+00
27.6
14+00
27.3
13+00
27.5
12+00
27.5
Main
10+00
29.0
30' Pavm't
8+00
25.3
6+00
27.4
4+00
27.4
12 Ave.
E. Rail E. Track
Hub Baseline Page 51
Sta 18+64.37
2+00
28.0
60.0
0+00
25'
2" Meter Box
24'
213.13
45.5
17.10
G.V.
S. Line Balboa Park

4/6/33. Road. Location Golden Hill. Park.



Golden Hill Park Road location

	Base Line	
7+00	5' Lt = W. edge	16' Rt = E. edge
6+50	12' Lt = W. edge	9' Rt = E. edge
6+14.80 Hub Δ 17°04' Lt.		
6+10	16' Lt. W. edge	3' Rt. E. edge
5+70	11' Lt. W. edge	8' Rt E. edge
5+30	11' Lt. W. edge	12' Rt. = E. Edge
4+90	13' Lt = W. edge	17' Rt = E. edge
4+82.20 Hub Δ 35°10' Lt.		
4+70	12' Lt = W. edge	8' Rt. = E. edge
4+40	7' Lt = W. edge	12' Rt. = E. edge.
4+11	6' Lt = N. W. edge	13' Rt = S. E. edge
3+77	8' Lt N.W. edge	12' Rt = S. E. Edge
3+35.52 Hub Δ 28°51' Lt.		
3+30	15' Lt. = N. edge	8' Rt = S. edge
2+90	7' Lt = N. edge	12' Rt = S. edge
2+35	B. L. = N. edge	20' Rt = S. edge
1+85		3' Rt = N. edge Rd
		29' " = S. " "
1+60		3' Rt = N. Edge Rd.
		35' " = S. "
1+41	Base line = N. Edge	
1+15	12' 3 Lt. = N. Edge.	
0+90		
		5' Rt. = S. edge Rd.
0+85 Hub Δ 47°05' Rt.		
		13' Rt = W. edge Road
0+68		72' " = E " "
		13' Rt = W. side Road
0+20		71' Rt = E " "
		13' Rt = W. cmt. cb. N. End.
0+00 Mon		73' Rt. = E. cmt cb. N. End.

15+10	8' Lt = S. edge	12' Rt. = N. edge
14+79.17 Δ 52°32' Rt.	1' Lt = S. edge	19' Rt = N. edge ∠ split.
14+50	13' Lt = S. E. edge	8' Rt = N. W. edge
14+20	18' Lt = E. edge	2' Rt = W. edge
13+70	17' Lt = E. edge	3' Rt = W. edge
12+80	4' Lt = E. edge	14' Rt = W. edge.
12+48.57 Δ 16°20' Lt.		
12+40	B.L. = E. edge	20' Rt = W. edge. Rd.
12+10		2' Rt = S. E. edge 22' Rt = N. W. edge
11+87	B.L. = S. E. edge	18' Rt = N. W. Edge
11+60	11' Lt = S. E. 3' Lt = N. Edge	9' Rt = N. Edge
11+37.25 Hob. Δ 74°20' Lt	22' Lt = S. Edge	on split of ∠
11+15	11' Lt = S. edge	10' Rt = N. edge
10+90	B. L = S. edge	19' Rt = N. Edge.
10+70		5' Rt. = S. edge 25' Rt = N. Edge
10+45		6' Rt = S. edge 24' Rt = N. edge
10+20	B. L. = S. W. edge	19' Rt = N. E. edge
10+00	12' Lt = W. Edge	10' Rt = E. edge
9+87.47 Hob Δ 58°35' Lt.		
9+80	15' Lt = W. edge	3' Rt = E. Edge
9+60	18' Lt = W. edge	8' Rt = E. edge
9+30	3' Lt W. edge	15' Rt = E. edge Rd.
9+00	1' Lt = W. edge.	17' Rt = E. edge.
8+50	1' Lt = W. edge	17' Rt. = E. edge
8+00	2' Lt = W. edge	18' Rt. E. edge
7+50	2½ Lt. = W. Edge	18' Rt = E. edge

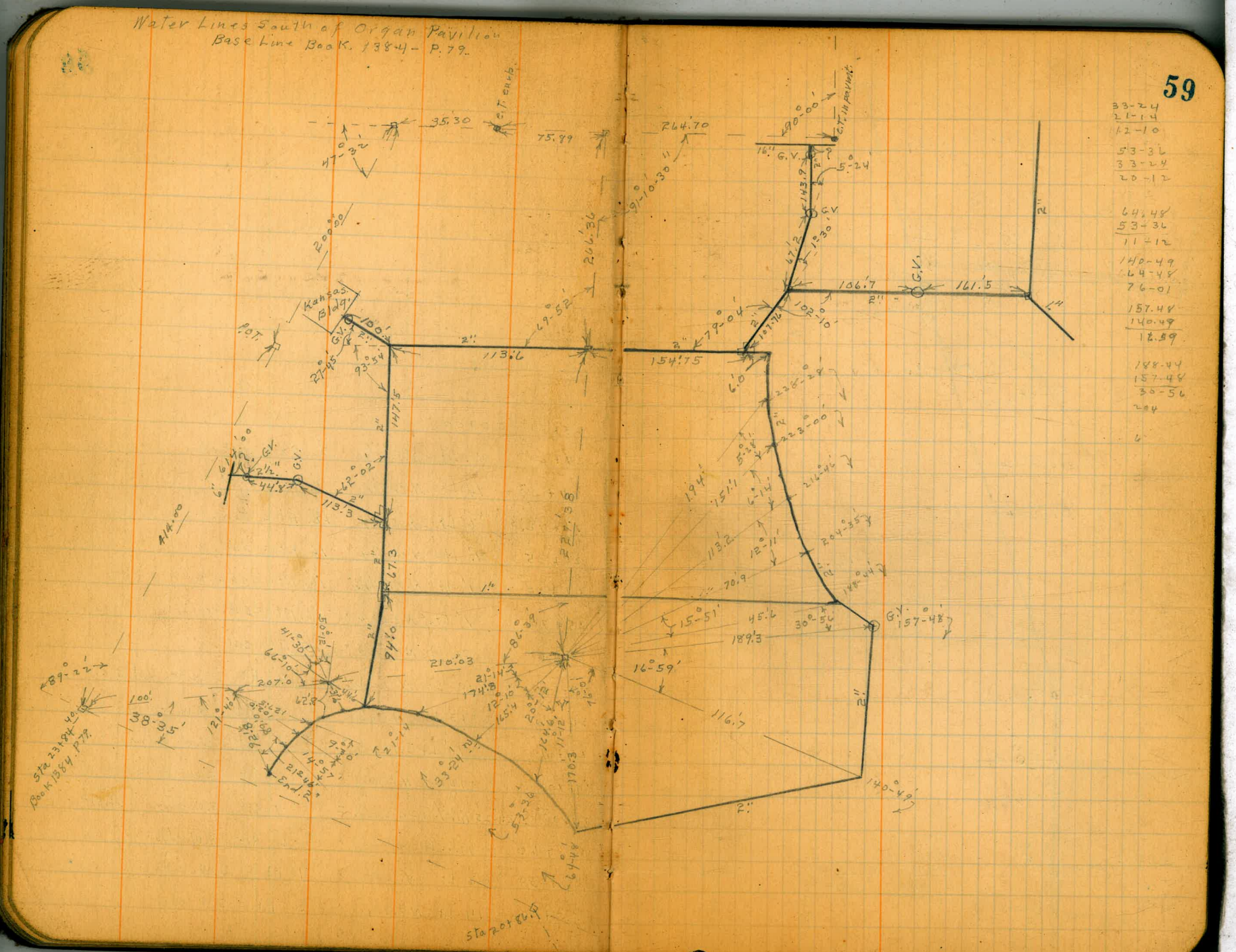
Golden Hill Park Road location

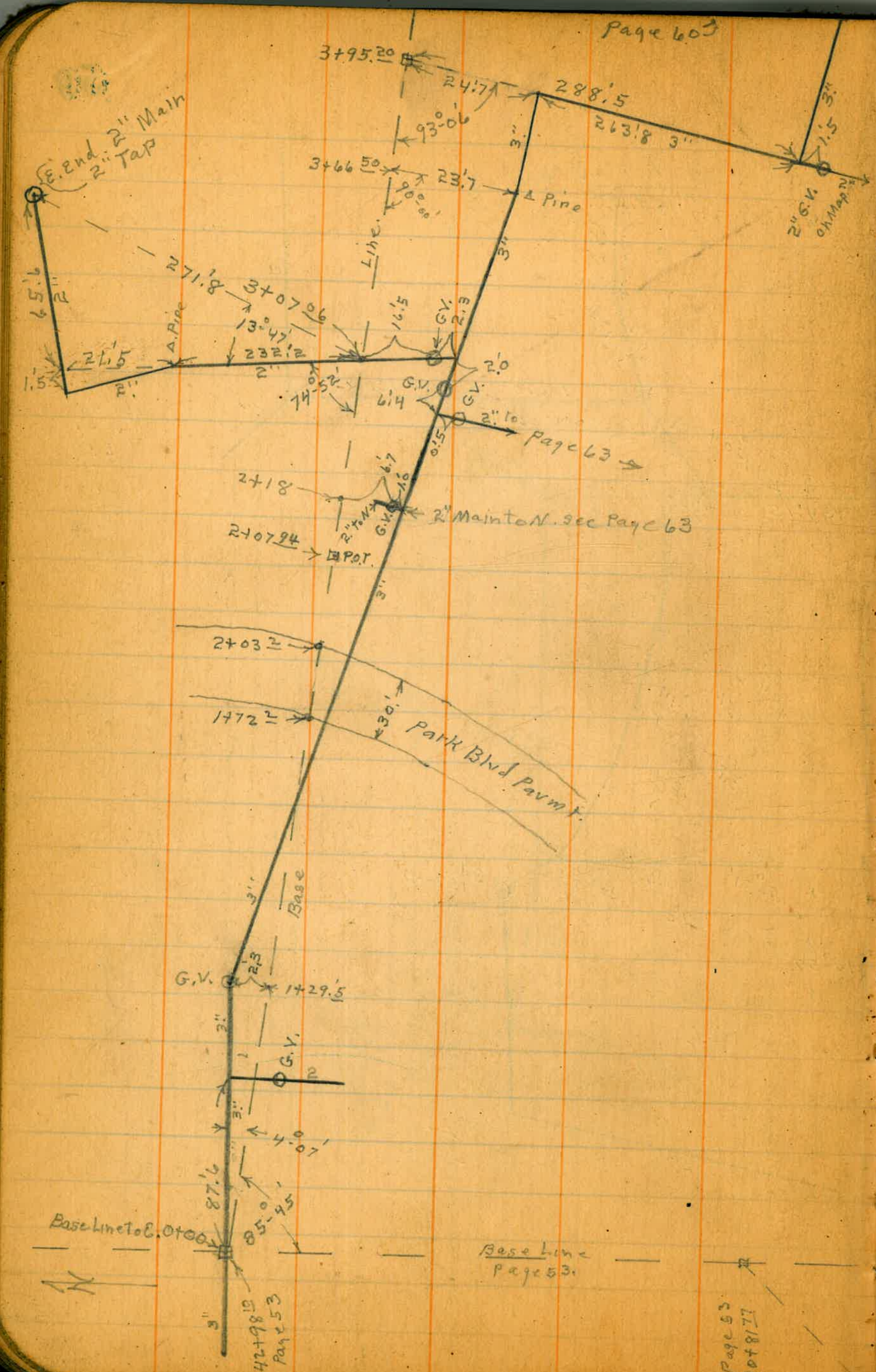
Baseline →

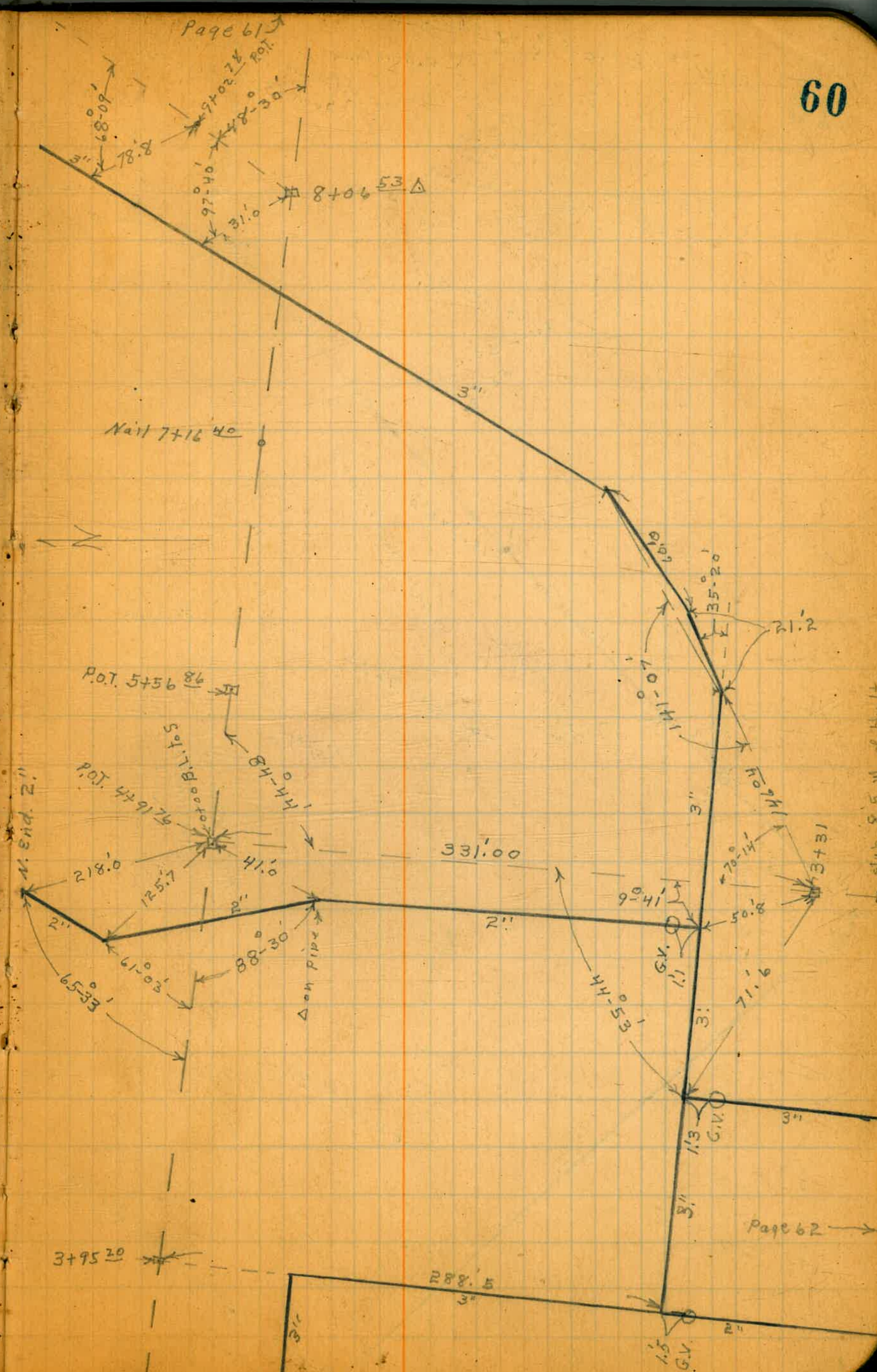
22+50	9' Lt = N.E. edge	8' Rt = S.W. edge
22+20	9' Lt = N.E. edge	9' Rt = S.W. edge
21+89.41	Δ 32°-11' Lt 15' Lt = N.E. edge	2' Rt = S.W. edge
21+70	10' Lt = N.E. edge	9' Rt = S.W. edge
21+50	4' Lt = E. edge	15' Rt = W. edge
21+20	1' Lt = E. edge	18' Rt = W. edge
20+90	7' Lt = E. Edge	13' Rt = W. edge
20+62.40	Δ 68°-17' Lt 19' Lt = E. edge	1' Rt = W. edge Rd. ∠ split
20+50	12' Lt = E. edge	11' Rt = W. edge
20+30	5' Lt = E. edge	16' Rt = W. edge
20+10	B.L. = E. edge	20' Rt = W. edge
19+90	1' Lt = S.E. edge	20' Rt = N.W. edge
19+70	7' Lt = S. edge	15' Rt = N. edge
19+74.42	Δ 98°-38' Lt {24' Lt = S. edge Rd; 4' Lt = N " " }	∠ split
19+10	2' Lt = SW. edge	15' Rt = N.E. edge
18+90	B.L. = S.W. edge	17' Rt = N.E. edge
18+60	3' Lt = SW. edge	14' Rt = N.E. edge
18+20	9' Lt = SW. edge	8' Rt = N.E. edge
17+80	14' Lt = SW. edge	2' Rt = N.E. edge
17+50	16' Lt = SW. edge	B.L. = N.E. edge
17+20	13' Lt = S.W. edge	4' Rt = N.E. edge
16+88.63	Δ 63°-12' Rt 1' Lt = S. edge	17' Rt = N. edge Rd split ∠
16+60	11' Lt = S. edge	7' Rt = N. edge
16+30	15' " = S. "	2' Rt = N. edge
16+00	15' Lt = S. edge	1' Rt = N. edge Rd
15+60	12' Lt = S. edge	4' Rt = N. edge

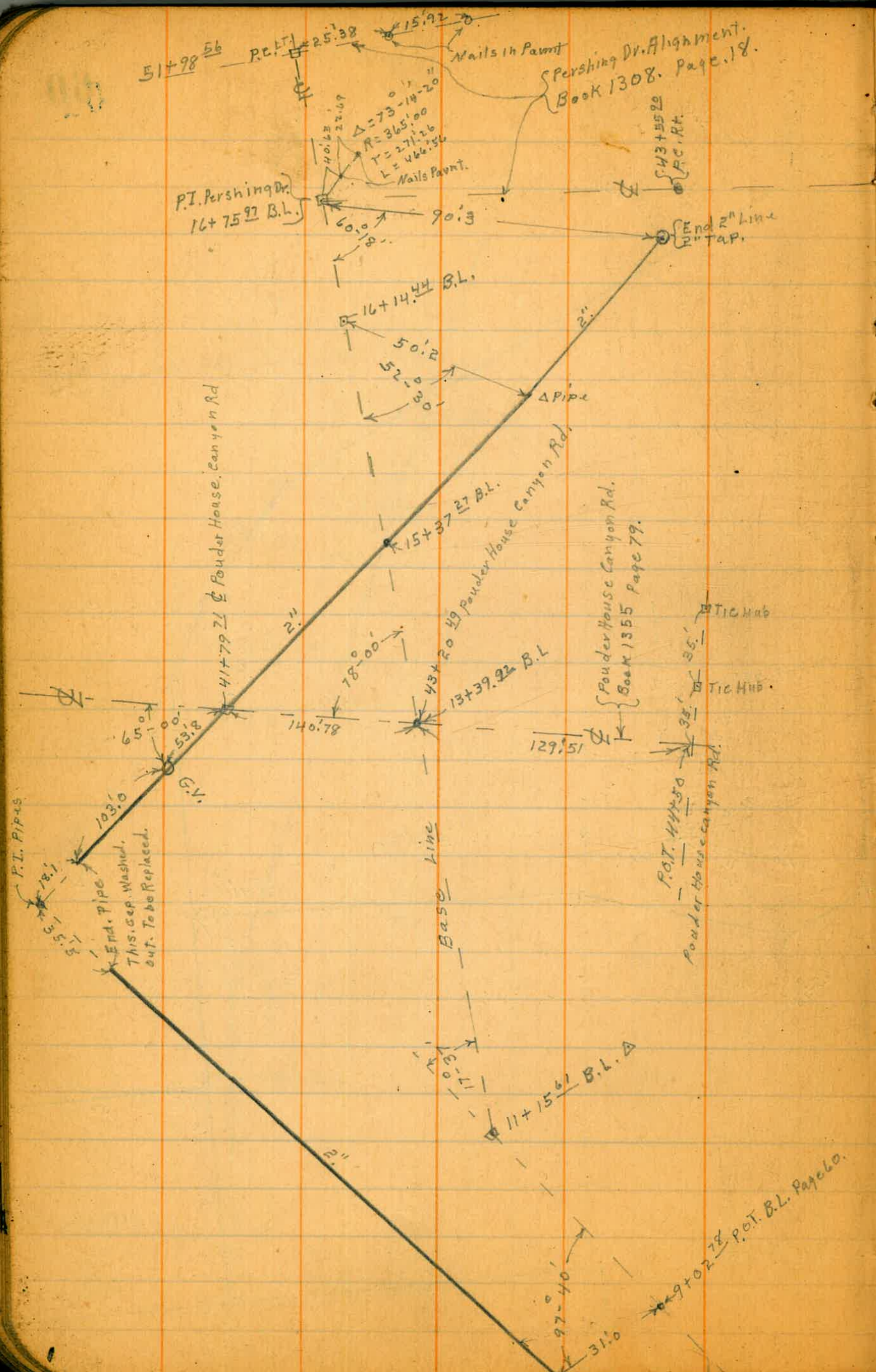
27+30.26 = 0+00		
27+20	25' Lt = N.E. edge	3' Rt = S.W. edge
27+00	14' Lt = N.E. edge	6' Rt = S.W. "
26+70	6' Lt = N.E. edge	12' Rt = S.W. "
26+35	1' Lt = N.E. edge	16' Rt = S.W. "
26+00	1' Lt = N.E. edge	16' Rt = S.W. "
25+70	1' Lt = N.E. edge	16' Rt = S.W. edge
25+40	7' Lt = N.E. edge	15' Rt = S.W. "
25+00	10' Lt = N.E. edge	9' Rt = S.W. edge
24+70	13' Lt = N.E. edge	5' Rt = S.W. edge
24+40	14' Lt = N.E. edge	3' Rt = S.W. edge
24+10	12' Lt = N.E. edge	3' Rt = S.W. edge
23+80.20	Δ 24°-25' Rt 9' Lt = N.E. Edge	9' Rt = S.W. edge split
23+60	12' Lt = N.E. edge	6' Rt = S.W. edge
23+30	16' Lt = N.E. edge	1' Rt = S.W. edge
23+00	14' Lt = N.E. Edge	3' Rt = S.W. edge

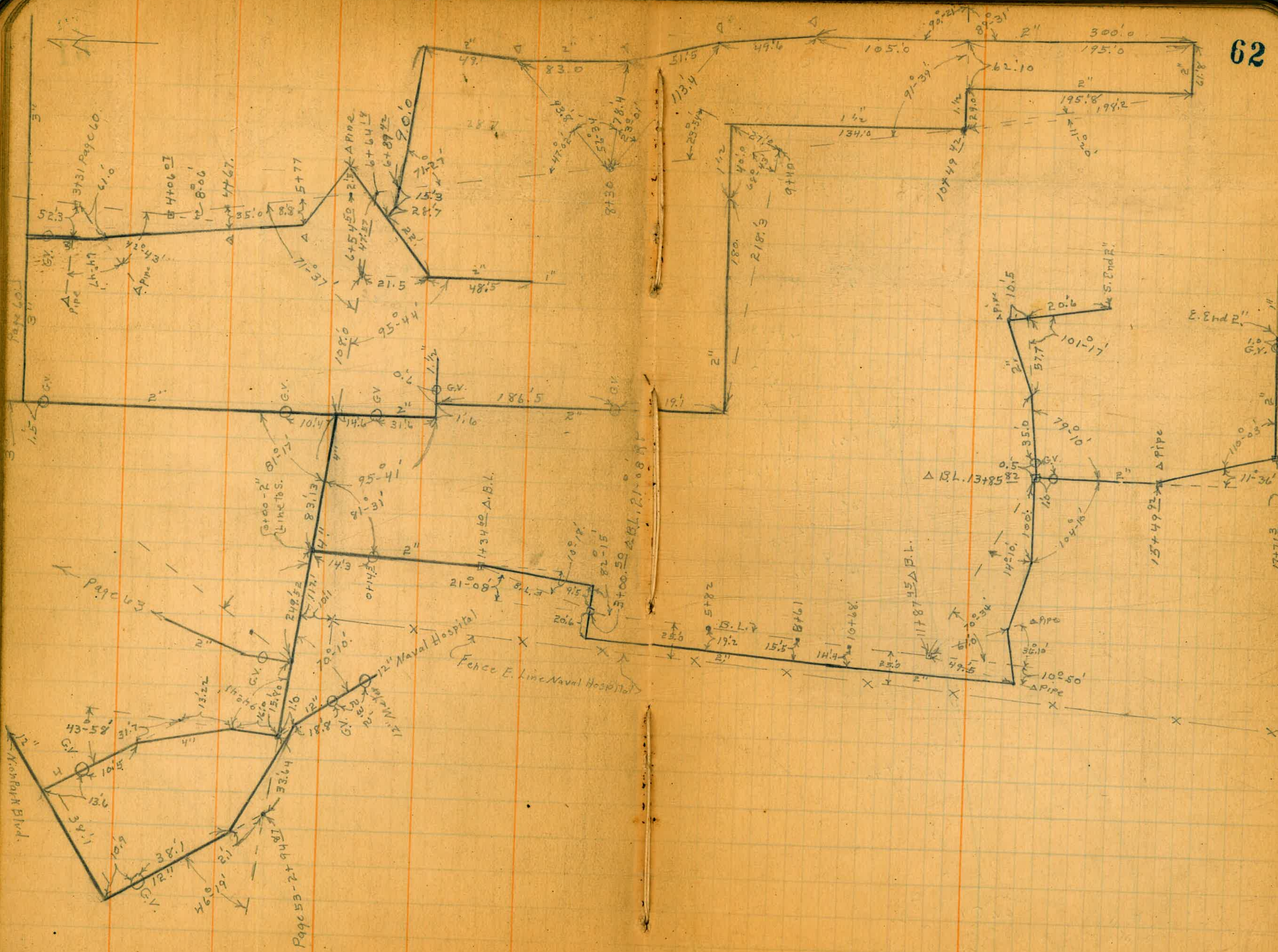
Water Lines South of Organ Pavilion
Base Line Book 1384 - P. 79.

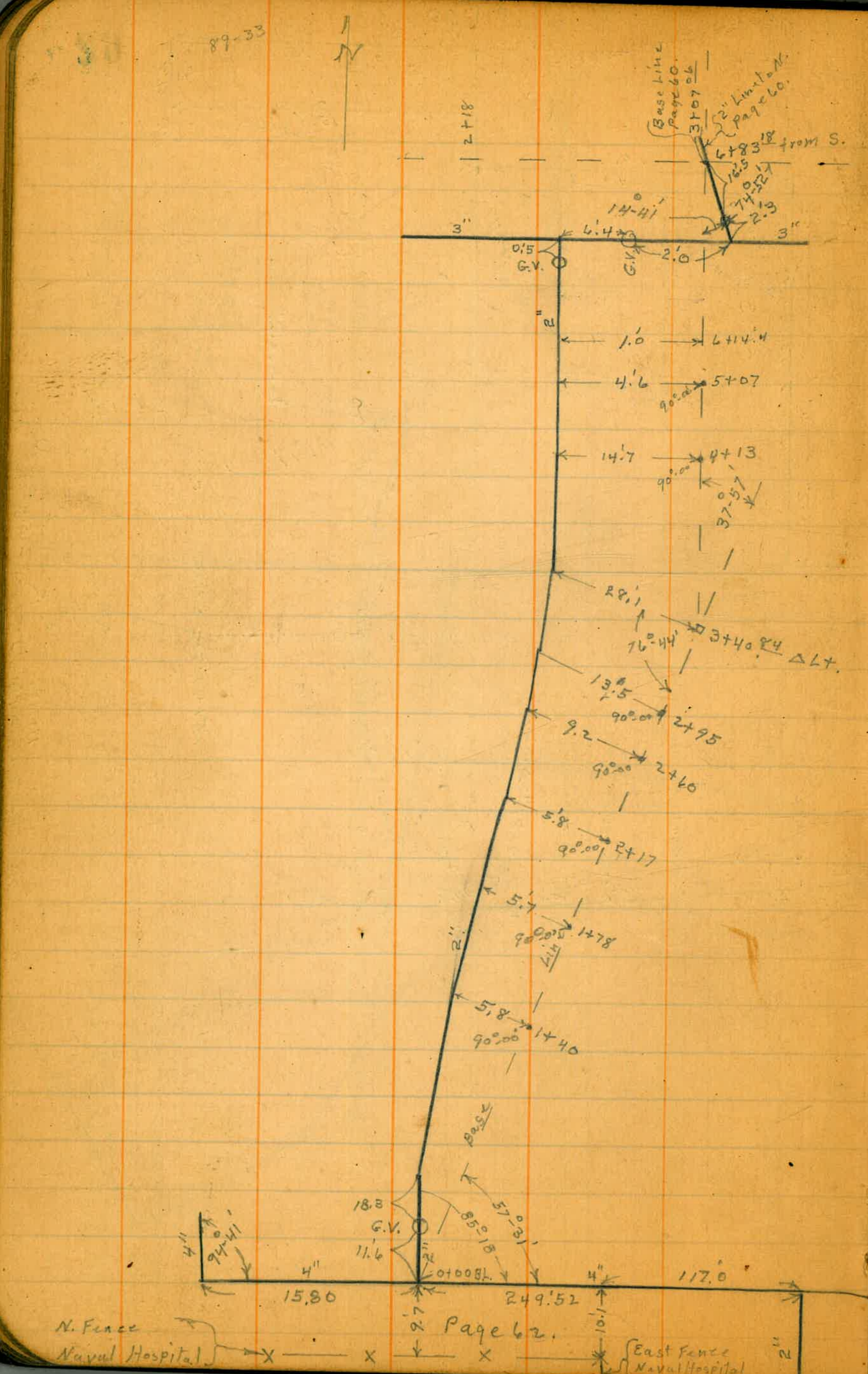


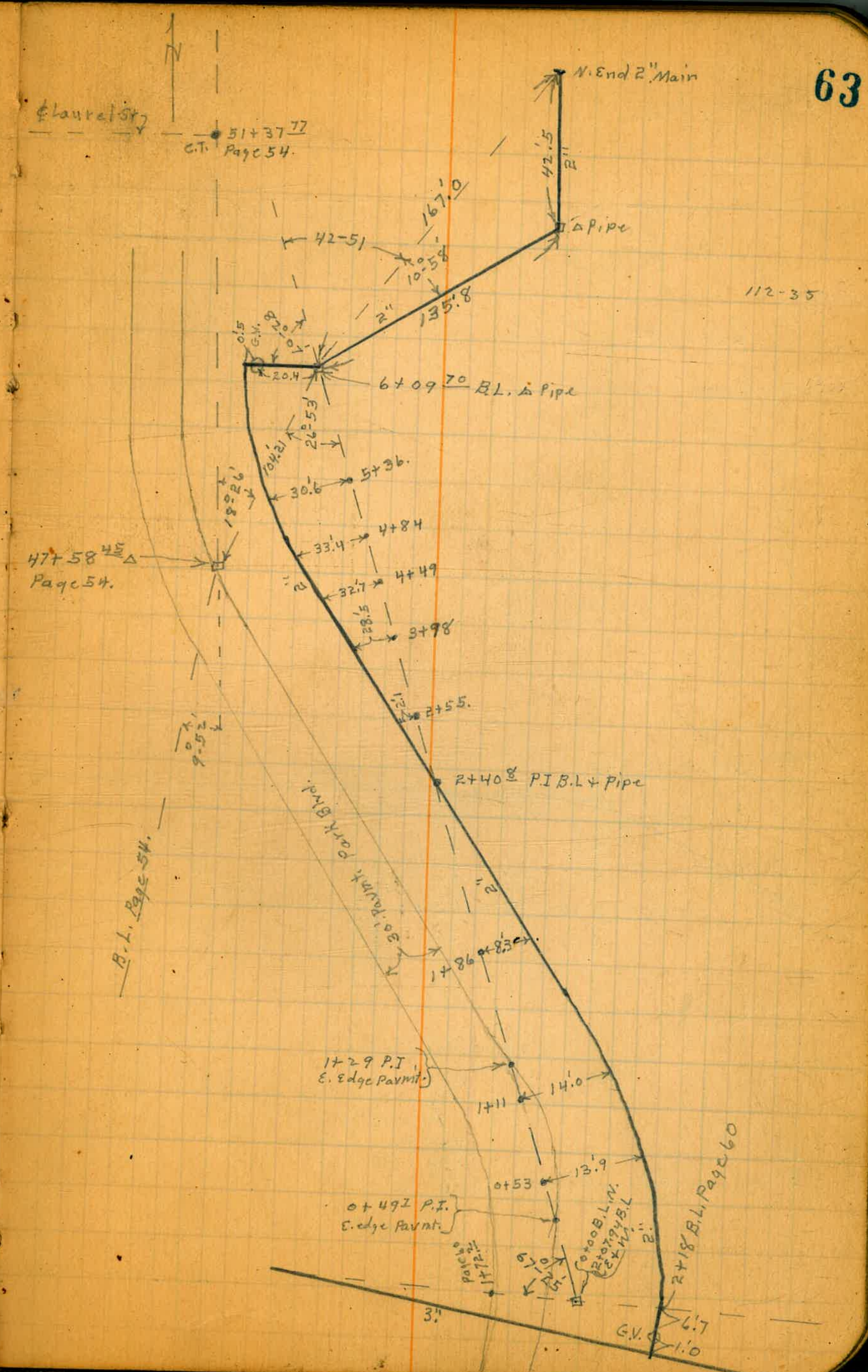

Page 60
3+95.20
E. End 2" Main
2" Tap
24.7
288.5
263.8 3"
93°-06'
3+66 50
23.7
Pine
2" G.V.
Line
271.8
3+07 06
13°47'
14.5
G.V.
21.5
Pipe
232.2
2"
74°52'
G.V.
2" 10
Page 63
2+18
2" Main to N. see Page 63
2+07 94
P.O.T.
2+03
1+72
Park Blvd Pavmt.
Base
G.V.
1+29.5
4°-07'
87.6
85°-45'
Base Line to E. 0+00
Base Line Page 53.
42+98.13 Page 53
Page 63 40+81.77

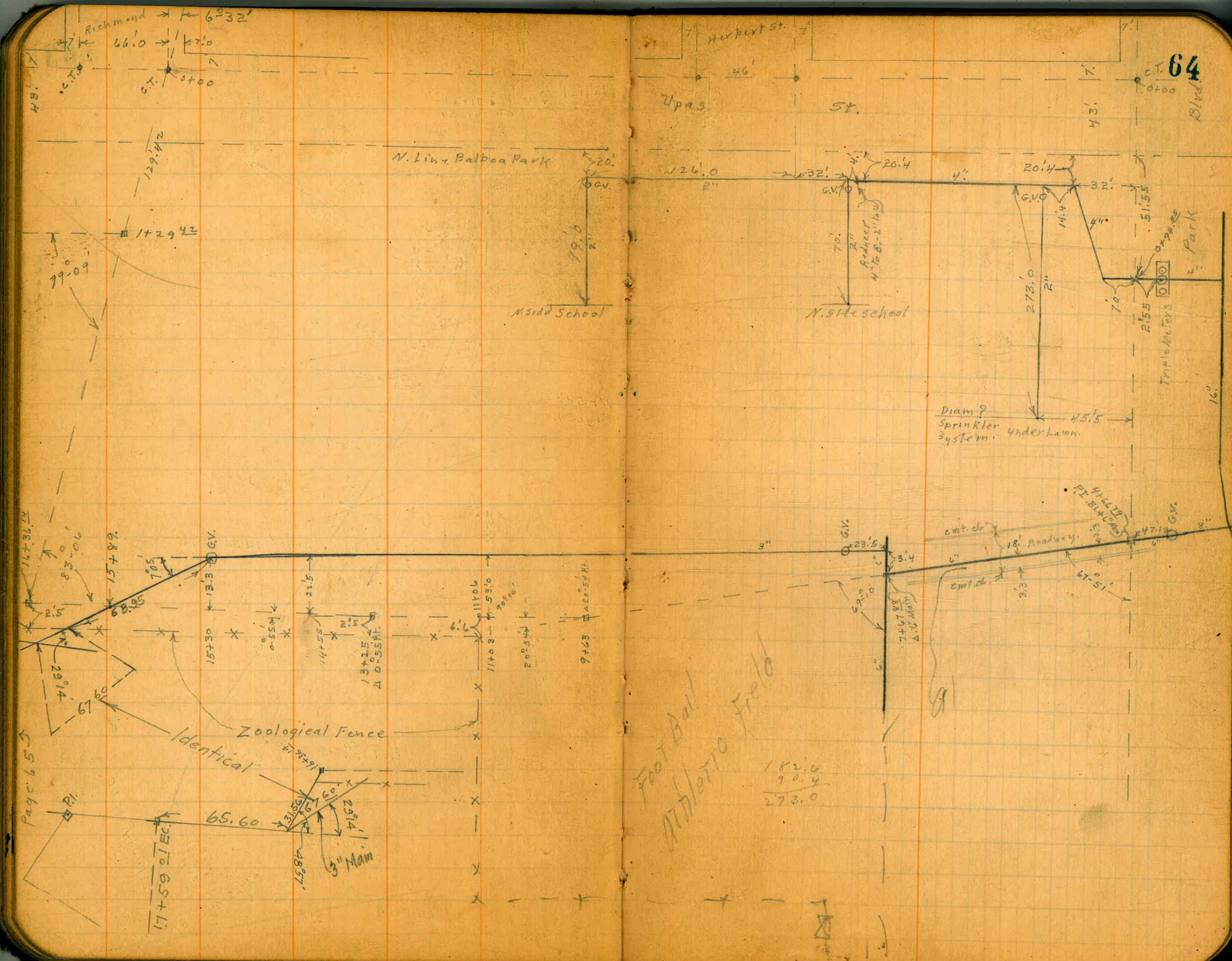

Page 61
68°-09'
78.8
8+06 53
31.0
3"
Nail 7+16 40
P.O.T. 5+56 86
44°-48'
P.O.T. 4+91.79
N. End 2"
218.0
125.7
41.0
331.00
2"
61°-03'
88°-30'
65°-33'
On Pipe
44°-53'
9°-41'
G.V.
50.8
71.6
3+31
21.2
35°-20'
3"
G.V.
Page 62
3+95 20
288.5
3"
2"
G.V.

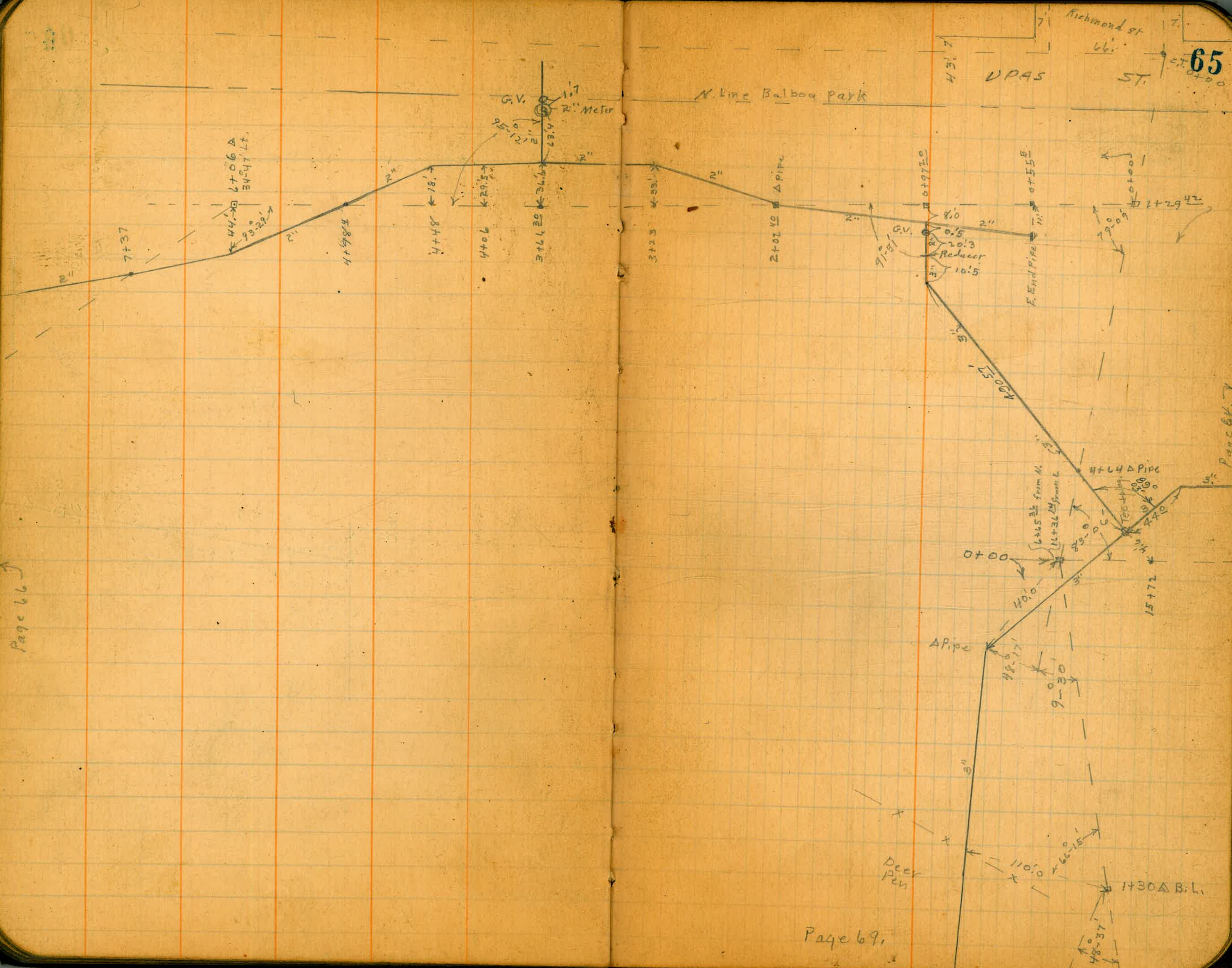

51+98 56
P.C.
25.38
15.92
Nails in Pavmt
Pershing Dr. Alignment.
Book 1308. Page 18.
Δ=73°-14'-20"
R=365.00
T=271.26
L=466.56
Nails Pavmt.
P.I. Pershing Dr.
16+75 97 B.L.
90.3
60°-18'
43+35 20
P.C. Rt.
End 2" Line
2" TAP.
16+14 44 B.L.
50.2
52°-30'
Δ Pipe
2"
15+37 27 B.L.
43+20 49 Pouder House Canyon Rd.
41+79 71 ℄ Pouder House Canyon Rd
Pouder House Canyon Rd.
Book 1355 Page 79.
Tie Hub
35.1
Tie Hub
35'
78°-00'
13+39 92 B.L.
140.78
129.51
65°-00'
53.8
G.V.
103.0
P.T. Pipes
18.1
35.5
End Pipe
This Sec. Washed out. To be Replaced.
Base Line
P.O.T. 44+50
Pouder House Canyon Rd.
17°-03'
11+15 61 B.L. Δ
2"
97°-40'
31.0
9+02 78 P.O.T. B.L. Page 60.

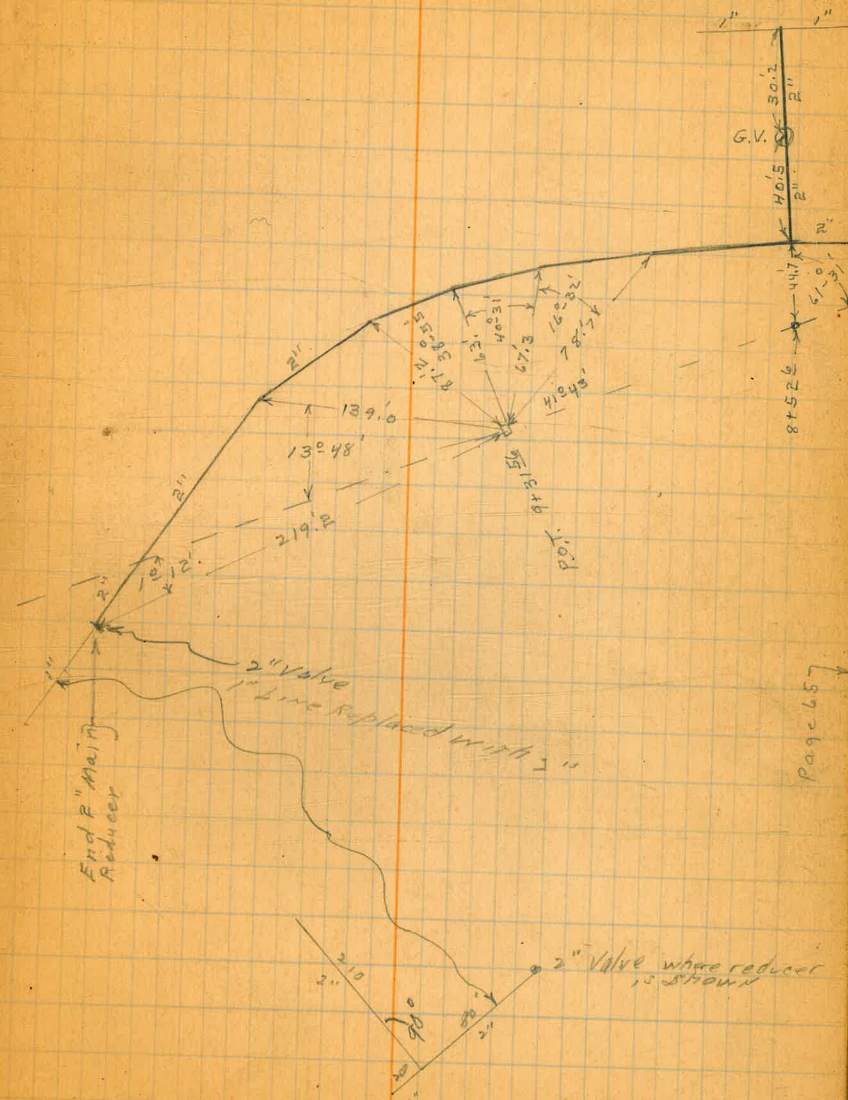

Page 60
Page 63
12" Naval Hospital
Fence E. Line Naval Hospital
Norfolk Blvd.
G.V.
Δ Pipe
Δ B.L. 13+85.82
E. End 2"
S. End 2"
300.0
195.0
105.0
186.5
218.3
134.0


89-33
N
Base Line Page 60.
3+07
2" Line to N. Page 60.
2+18
4+83 18 from S.
14-41'
0.5
G.V.
2.0
1.0
4+14.4
4.6
5+07
14.7
4+13
37-57'
28.1
76°44'
3+40 84 △ L+.
13.5
90°00' 2+95
9.2
2+60
5.8
2+17
5.7
1+78
5.8
1+40
Base
57°31'
85°18'
18.8
G.V.
11.6
0+00 B.L.
94°41'
15.80
249.52
117.0
Page 62.
N. Fence Naval Hospital
East Fence Naval Hospital


N
℄ Laurel St.
51+37 77
C.T. Page 54.
N. End 2" Main
42.5
167.0
△ Pipe
42-51
10.58
135.8
112-35
0.5
G.V.
20.4
6+09 70 B.L. △ Pipe
26°53'
10°21'
30.6
5+36
18°26'
47+58 45 △
Page 54.
33.4
4+84
32.7
4+49
28.5
3+98
2+55
2+40 8 P.I. B.L. + Pipe
Park Blvd.
30' Width
B.L. Page 54.
1+86
8.3
1+29 P.I.
E. Edge Pavmt.
1+11
14.0
0+53
13.9
0+49 2 P.I.
E. edge Pavmt.
0+00 B.L.N.
2+18 B.L. Page 60
G.V.
6.7
1.0

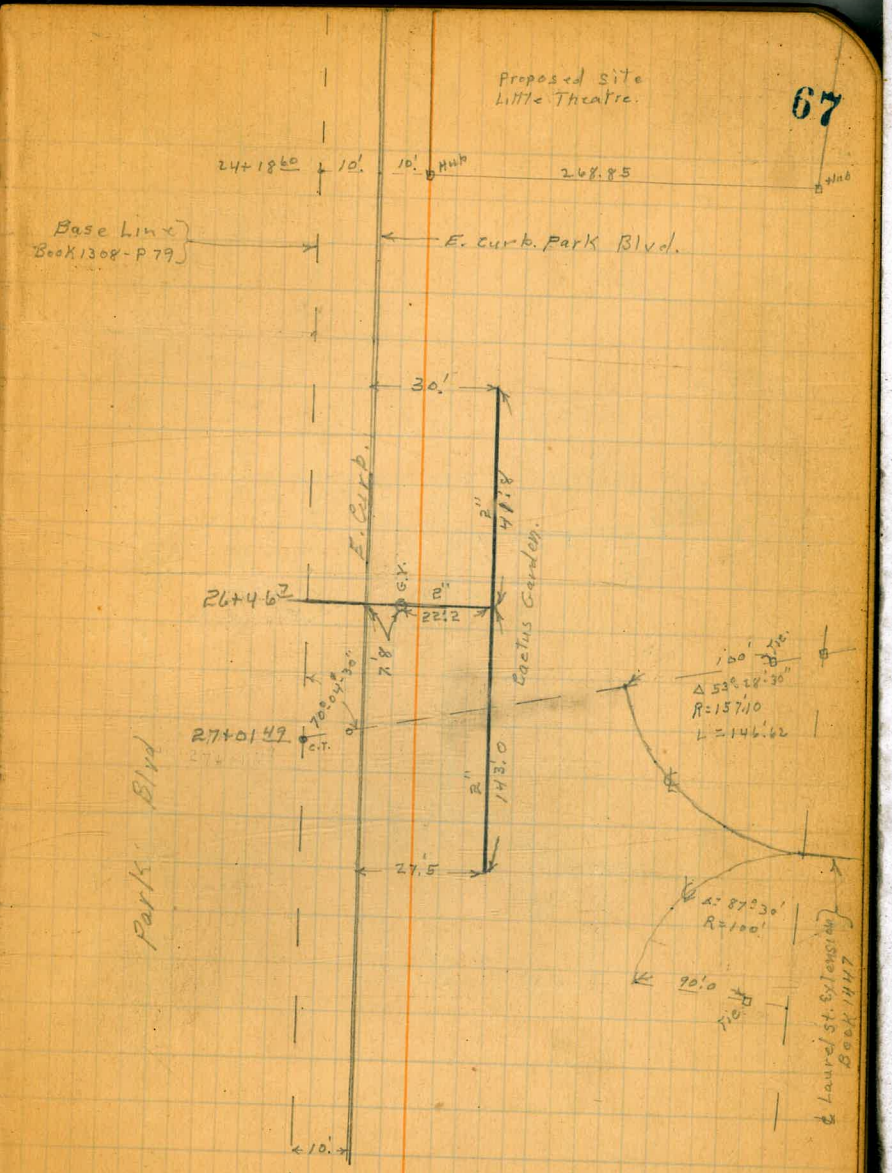

Richmond
6°32'
66.0
C.T.
0+00
Herbert St.
46'
Upas
St.
Blvd
N. Line Balboa Park
1+29.42
129.42
99.0
G.V.
N.Side School
20.4
G.V.
4"
273.0
N.Side School
32'
51.55
Park
Triple Meters
Diam?
Sprinkler
System.
Under Lawn.
45.5
16"
P.I.
Roadway
3"
G.V.
15+89
68.95
13.3
15+30
14+55
13+2.5
11+06
11+03
9+63
Zoological Fence
Identical
Page 65
65.60
17+59.01 E.C.
3" Main
Foot Ball
Athletic Field
182.6
90.4
273.0

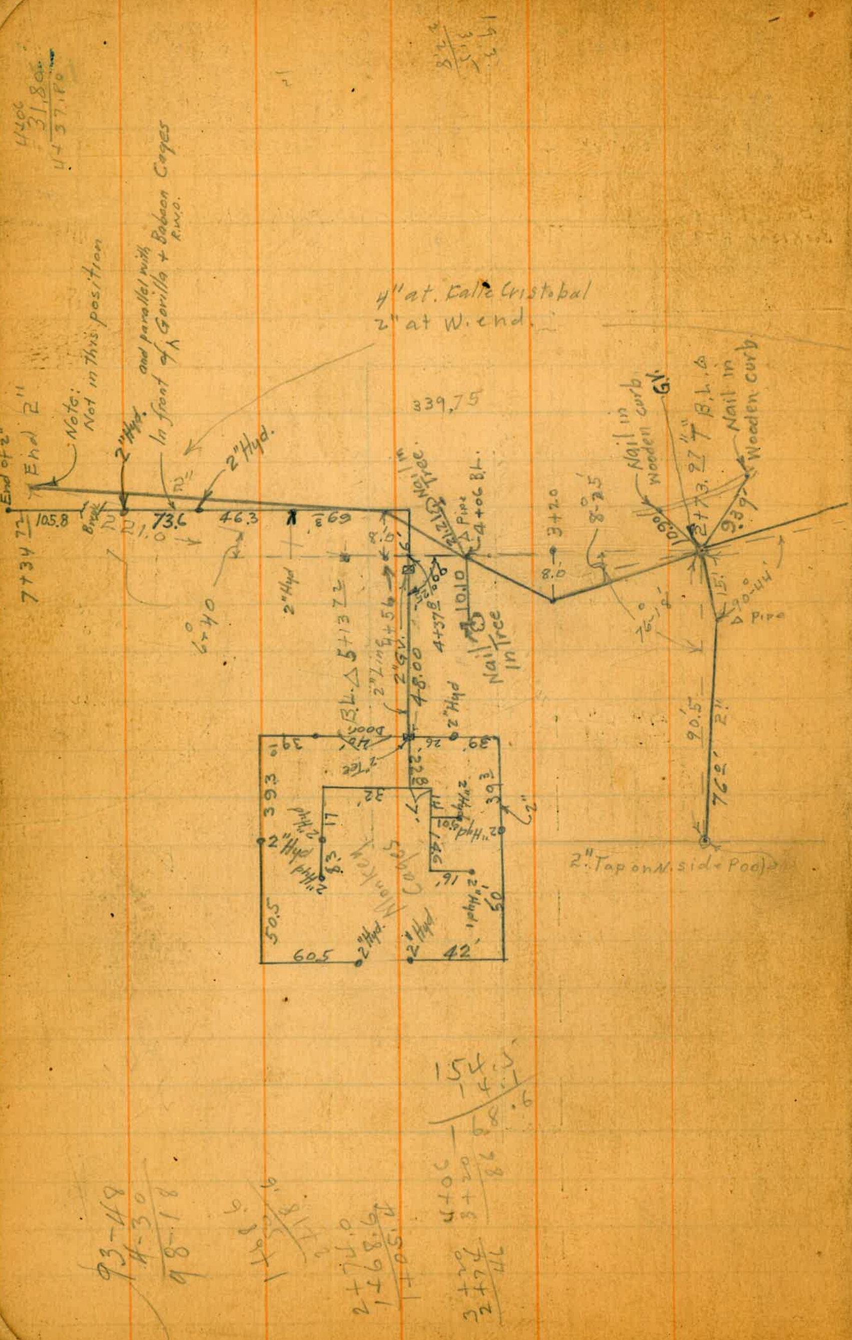

Richmond st
66'
UPAS ST.
N. Line Balboa park
G.V.
2" Meter
Δ Pipe
G.V.
Reducer
E. End Pipe
4+64 Δ Pipe
0+00
15+72
Δ Pipe
Deer Pen
1+30 Δ B.L.
Page 66
Page 68
Page 69

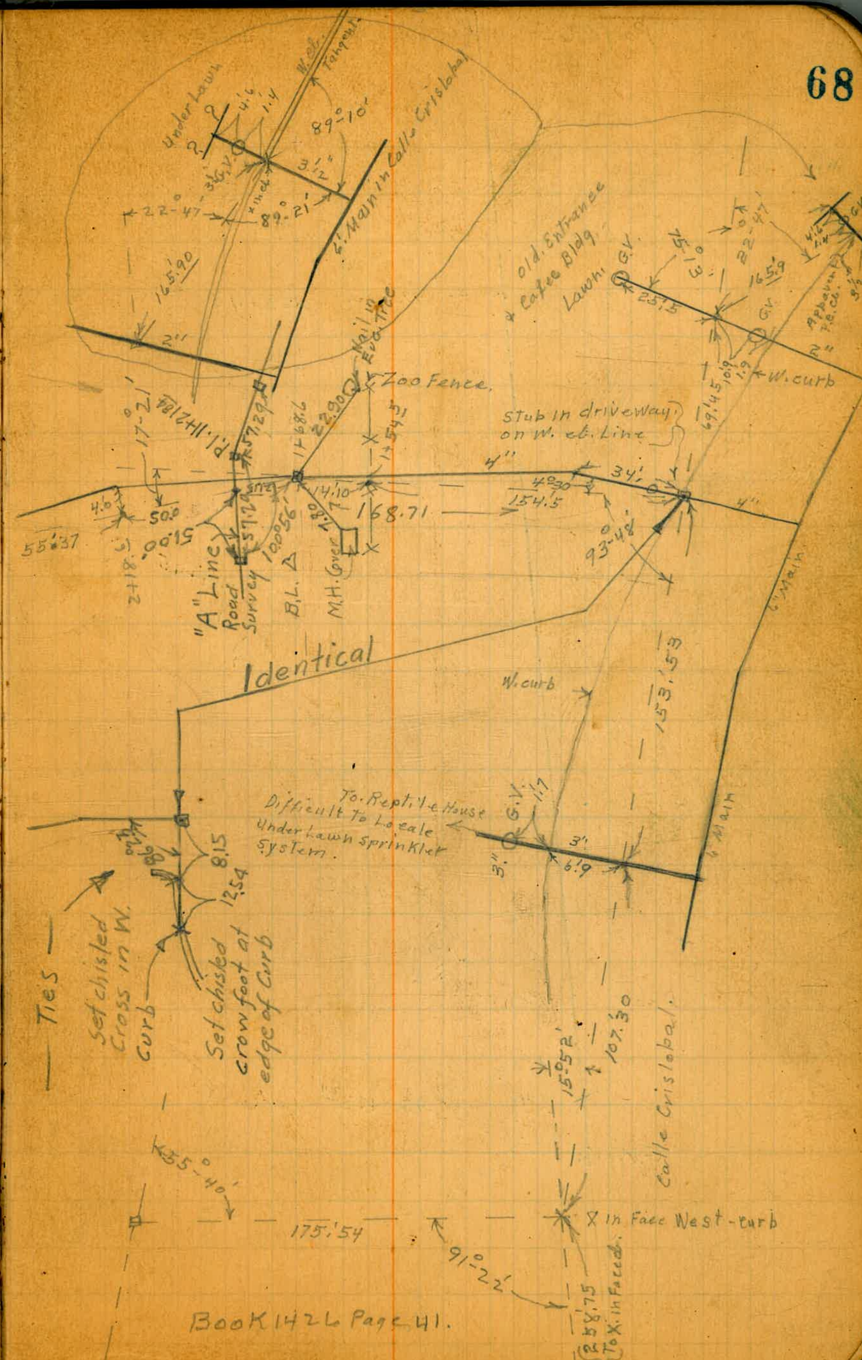

G.V.
30.2'
40.5'
139.0'
13°48'
219.2'
9+31.56
P.O.T.
8+52.6
2" Valve
1" Line Replaced with 2"
End 2" Main Reducer
2" Valve where reducer is shown
Page 65

29 02.66
35.66
28.51.00

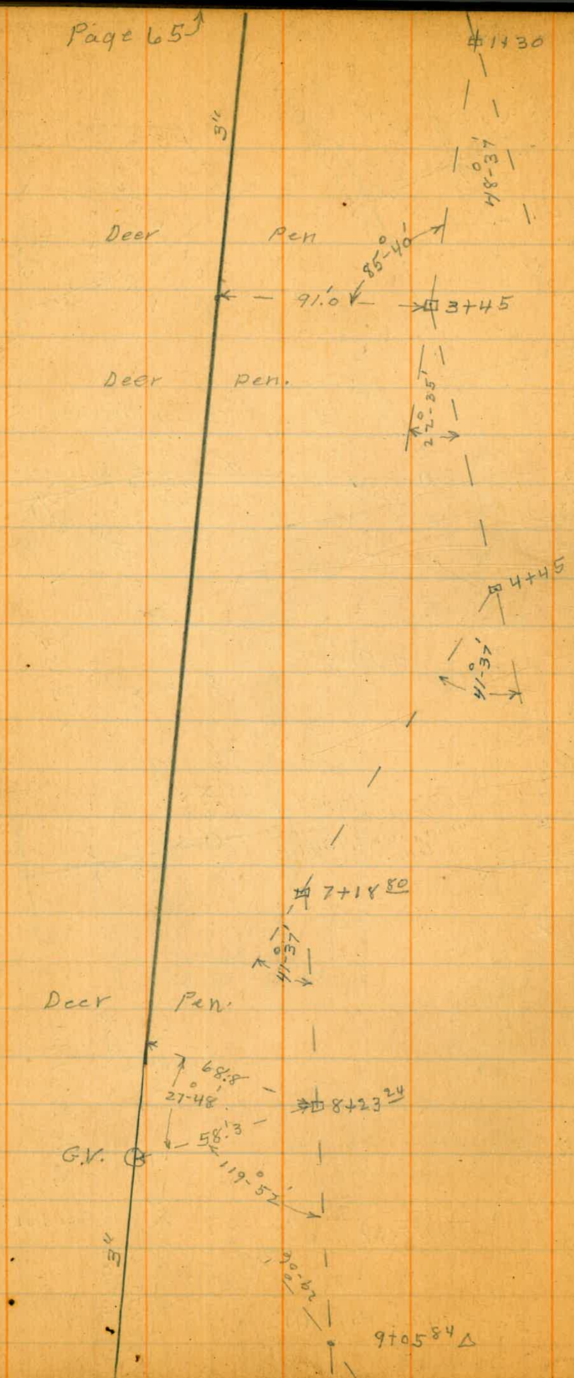
Proposed site
Little Theatre.




End of 2"
End 2"
Note: Not in this position
and parallel with
In front of Gorilla + Baboon Cages
2" Hyd.
4" at Calle Cristobal
2" at W. end.
339.75
7+34.72
105.8
221.0
73.6
46.3
.669
2" Hyd
B.L. △ 5+13.72
4+00 B.L.
Nail in Tree
3+20
8.0
Nail in wooden curb
G.V.
2+73.27 4"
B.L. △
Nail in Wooden curb
90.5'
76.2'
2"
△ Pipe
2" Tap on N. side Pool
Monkey Cages
393
50.5
60.5
42'
154.5'
14.1
168.6
93-48
1-30
98-18


Under Lawn
6" Main in Calle Cristobal
89°10'
89°21'
22-47
165.90
Zoo Fence
Nail in Euc. Tree
"A" Line Road Survey
B.L. △
M.H. Cover
168.71
55.37
Identical
Old Entrance + Coffee Bldg.
Lawn
G.V.
23.5
16.59
W. curb
Appar. P.E. Co.
Stub in driveway on W. eb. Line
154.5
93-48
4"
153.53
W. curb
6" Main
To Reptile House
Difficult to Locate
Under Lawn sprinkler System.
G.V.
6.9
8.15
12.54
Ties
Set chisled Cross in W. Curb
Set chisled crow foot at edge of Curb
15°52'
107.30
Calle Cristobal
55°40'
175.54
91°22'
X in Face West-curb
258.75 To X in Face of
Book 1426 Page 41.

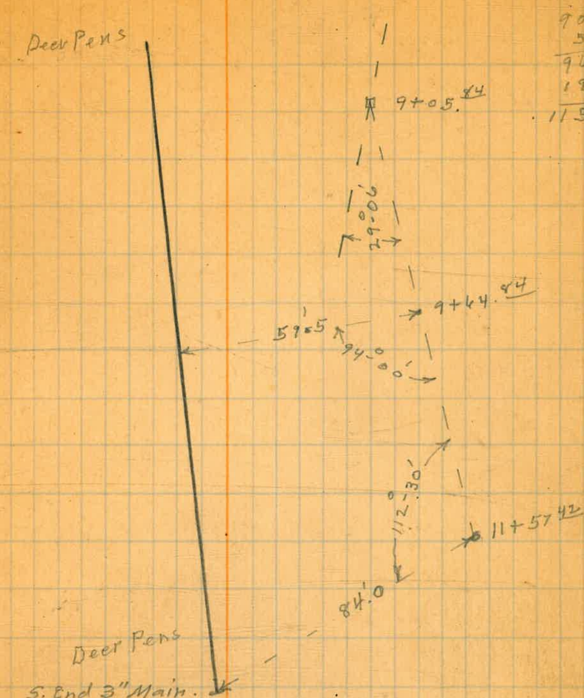
Page 65



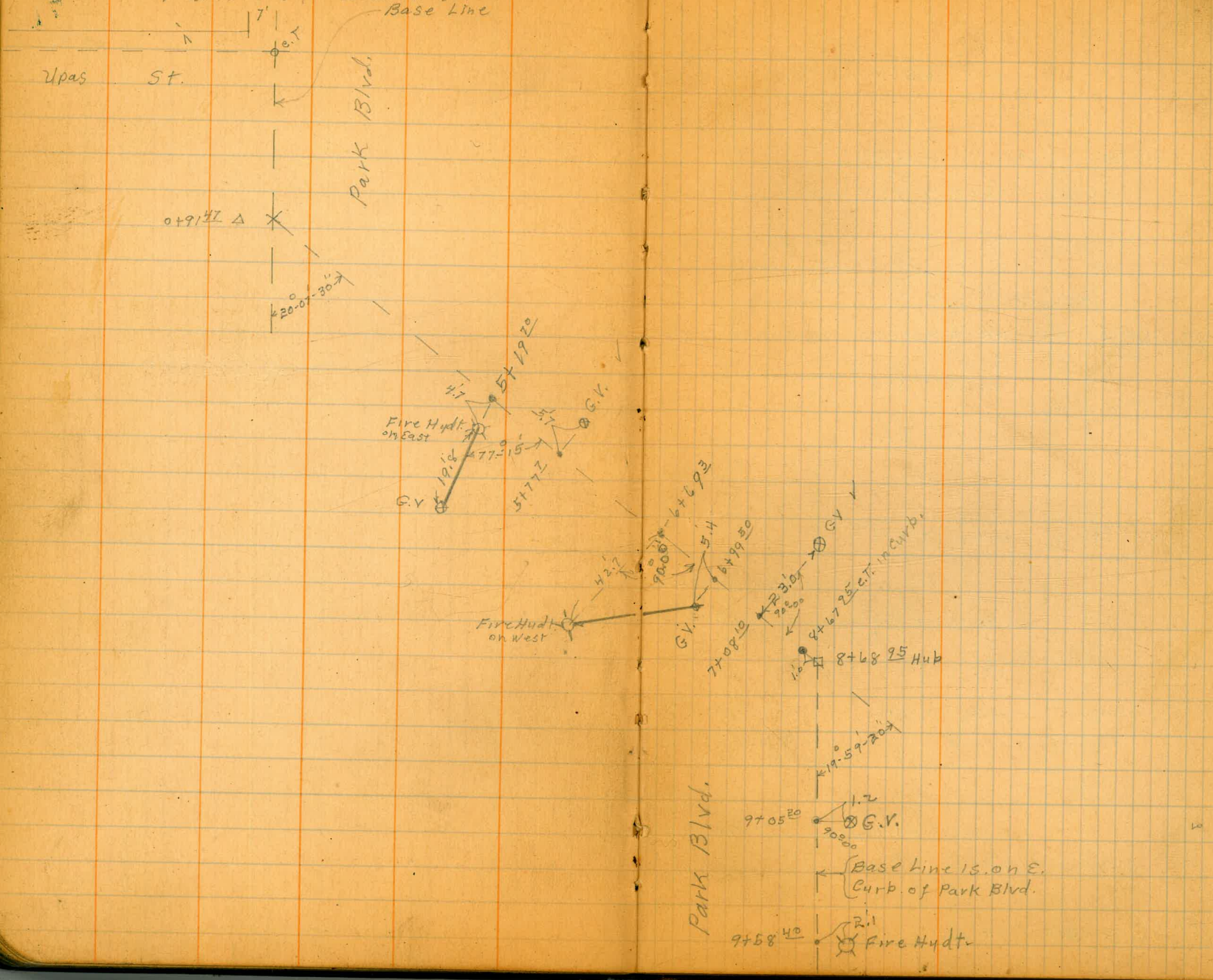
Plotted to here.
C.S.K.

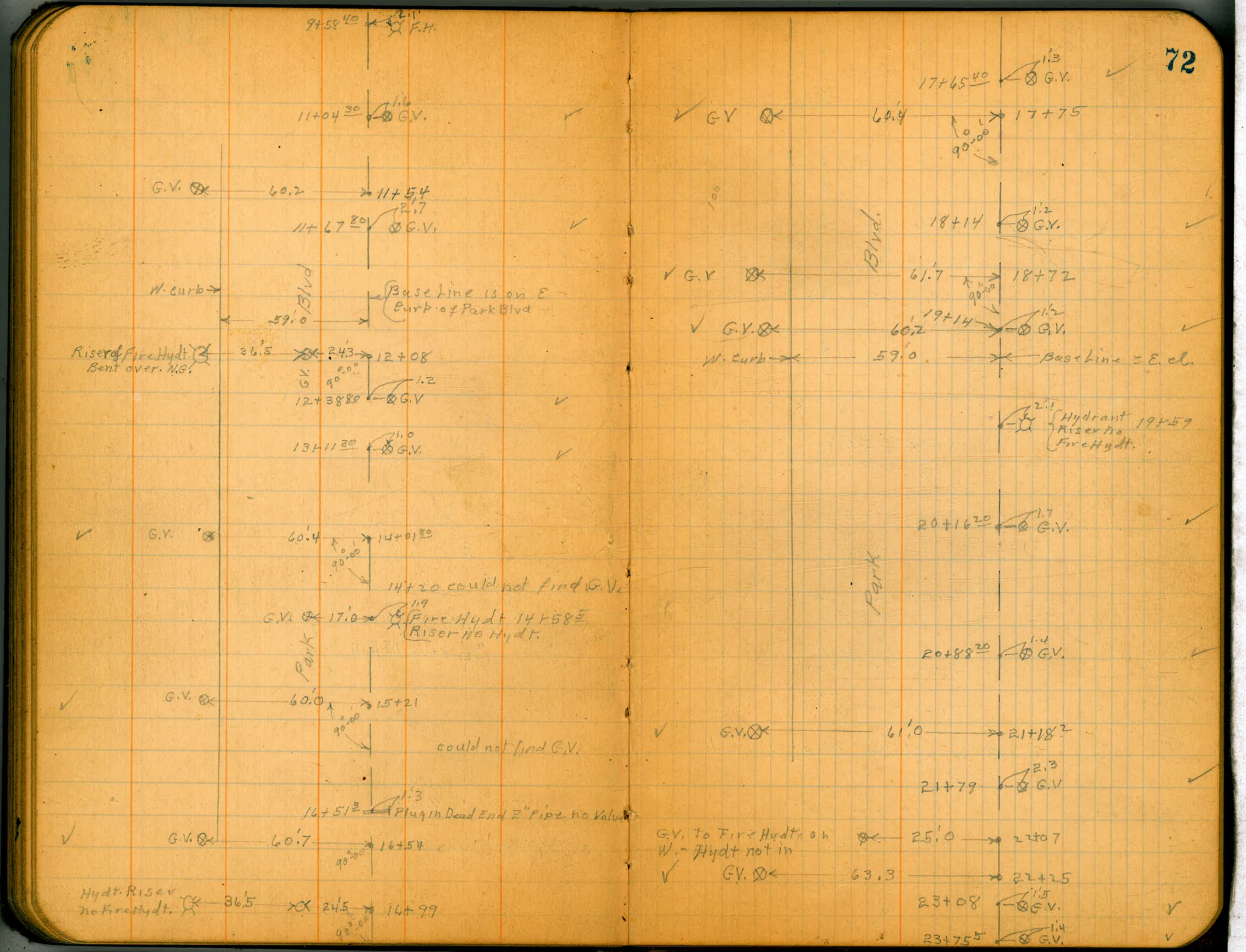
84
End. 3"

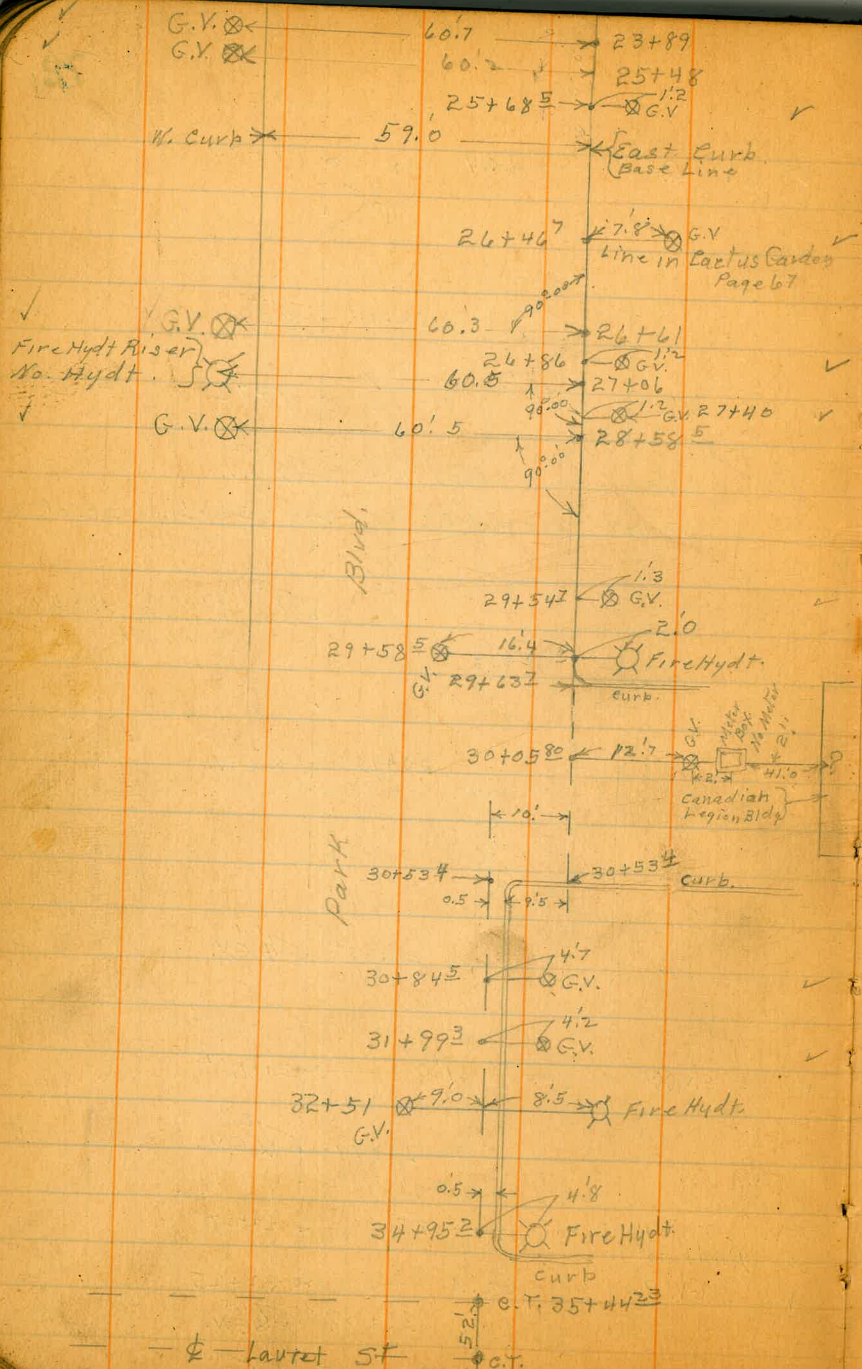
905.84
59
964.84
192.58
1157.42



Water Connections
Park Blvd Book 1308 - P. 79.




94+58 40
2.1
F.H.
11+04 30
1.6
G.V.
G.V.
60.2
11+54
11+67 80
2.7
G.V.
W. curb
59.0
Park Blvd
Base line is on E curb of Park Blvd
Riser of Fire Hydt. Bent over. N.G.
36.5
24.3
12+08
G.V.
90° 00'
12+38 80
1.2
G.V
13+11 30
1.0
G.V.
G.V.
60.4
90° 00'
14+01 80
14+20 could not find G.V.
G.V.
17.0
1.9
Fire Hydt 14+58 5
Riser no Hydt.
Park
G.V.
60.0
15+21
90° 00'
could not find G.V.
14+51 3
1.3
Plug in Dead End 2" Pipe no Valve
G.V.
60.7
16+54
90° 00'
Hydt. Riser no Fire Hydt.
36.5
24.5
16+99
90° 00'
17+65 40
1.3
G.V.
G.V
60.4
17+75
90° 00'
100
Park Blvd.
18+14
1.2
G.V.
G.V
61.7
18+72
90° 00'
G.V.
60.2
19+14
1.2
G.V.
W. curb
59.0
Base line = E. el.
2.1
Hydrant 19+59
Riser no
Fire Hydt.
20+16 20
1.7
G.V.
Park
20+88 20
1.4
G.V.
G.V.
61.0
21+18 2
21+79
2.3
G.V.
G.V. to Fire Hydt on W. - Hydt not in
25.0
22+07
G.V.
63.3
22+25
23+08
1.5
G.V.
23+75 5
1.4
G.V.

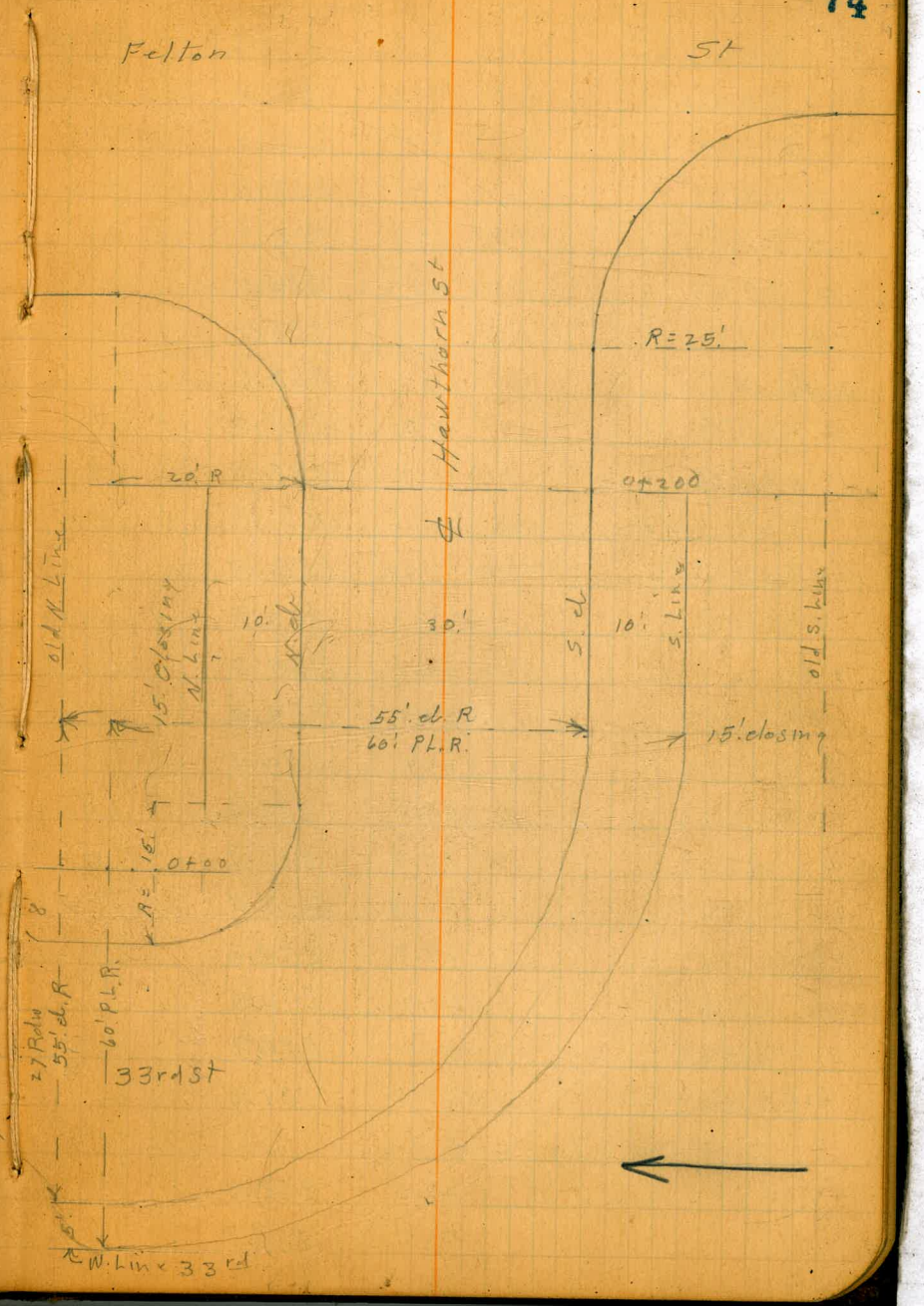

G.V.
G.V.
60.7
60.2
23+89
25+48
25+68 5
1.2
G.V
W. Curb
59.0
East Curb
Base Line
26+46 7
7.8
G.V
Line in Cactus Garden
Page 67
G.V.
60.3
26+61
Fire Hydt Riser
No. Hydt.
24+86
1.2
G.V.
60.5
27+06
1.2
G.V. 27+40
G.V.
60.5
28+58 5
90°00'
Park
Blvd.
29+54 7
1.3
G.V.
29+58 5
16.4
2.0
Fire Hydt
G.V.
29+63 7
curb
30+05 80
12.7
G.V.
Meter Box
2.1
41.0
Canadian Legion Bldg
10.
30+53 4
30+53 4
curb.
0.5
9.5
30+84 5
4.7
G.V.
31+99 3
4.2
G.V.
32+51
9.0
8.5
G.V.
Fire Hydt
0.5
4.8
34+95 2
Fire Hydt
Curb
C.T. 35+44 23
5.2
℄ Laurel St
C.T.

Hawthorn St. & Sec 33rd. to Felton

6-27-34 Miller Walker 13 Lins: S.W. 33rd & Juniper

Indexed C.S.R.

B.M. B.P. Top Wall	3.09	281.21		278.12
T.P.	0.37	268.67	12.91	268.30
set B.M. B.P.	S.W. { Highview Dr. & 33rd St.		0.29	268.38
T.P.	1.88	259.82	10.73	257.94
65' W. of E. Line 33rd = 25' W. of W. Line 33rd.				
old N. Line			17.1	242.7
15' S = N.			23.3	236.5
10' W. of above			24.6	235.2
25' S = N. el			29.0	230.8 ✓
10' W. of above			28.0	231.8
40' S = ℄			36.0	223.8 ✓
10' W of above			35.5	224.3
46' S.			44.2	215.6
10' W of above			37.8	222.0
49' S			36.3	223.5
2' W of above			45.2	214.6
8' W. " "			46.5	213.3
10' W " "			38.3	221.5
55' S. = S. el. Line			36.4	223.4 ✓
5' W. of 55 S.			39.1	220.7
7' W " "			45.6	214.2
15' W " "			47.4	212.4
21' W " "			42.0	217.8
T.P.	1.31	259.25	1.88	257.94
65' S = New S. Line			36.8	222.5
80" S. = old S. "			39.0	220.3



50' W. of E. Line 33rd = 10' W. of W. Line

80' S = old S. Line	30.7	228.6
65' S = New S. "	28.2	231.1
S. el.	28.0	231.3
+9.	26.1	233.2
+11	33.0	226.3
℄	34.2	225.1
+14	33.7	225.6
N. el.	20.7	238.6
N. Line	14.3	245.0
15' N = old N Line	4.3	253.0

40' W of E. Line = W. Line 33rd St.

-15 = old N. Line {S. End. W. side} ent. walk	1.08	258.17
N.	9.6	249.7
+3	10.8	248.5
+5	29.9	229.4
el.	29.9	229.4
+3	27.0	232.3
℄	27.0	232.3
+4	25.5	233.8
+5	19.9	239.4
el.	20.7	238.6
S.	22.6	236.7
+15 = old S. Line	27.4	231.9

5' E. of W. Line = W. el. Line

-15 = old S. Line	27.0	232.3
S	21.6	237.7

el	18.0	241.3
℄	17.6	241.7
+10	17.6	241.7
el.	11.1	248.2
N	15.3	244.0
+1.5' S. End. Outlet. 18' Cor. Iron Culvert.	12.1	247.2
+5	6.2	253.1
+15 {W. End. E. & W. el. at End of Pavt. S. End. ent. el.	1.09	258.16
+16. S. End grating el. Inlet	1.86	257.39
+16 N. End. F.L. Inlet of Pipe	7.5	251.8
+19.5 = N. End. grating	1.85	257.40
+24. gutter at N. End el. Inlet	1.15	258.10
+24. ent. el.	0.12	259.13

6.75' E. of W. el. = W. Ly

-25. on pav	0.83	258.42
-15. to S. End "	1.75	257.50
-15.0 E. & W. el.	1.07	258.18
N. Line	6.4	252.9
el.	10.1	249.2
+7	13.3	246.0
℄	12.0	247.3
S. el	14.5	244.8
S. Line	18.0	241.3
+15 = old S. Line	24.8	234.5

259.25

6.75' E. of W. l'y = ℄ 33rd St

-15 = old S. Line	22.3	237.0
S. Line	15.4	243.9
el	12.1	247.2
℄	9.6	249.7
el	6.5	252.8
N	3.5	255.8
+5	2.0	257.3
+15 E+W. el	1.13	258.12
+15.3 S. End Pav	1.72	257.53
+25 on "	0.72	258.53

6.75' E. of ℄ = E. l'y

-25 on Pav.	0.64	258.61
-15 S. End "	1.58	257.67
-15 E+W. el.	1.03	258.22
N	2.4	256.9
el.	3.9	255.4
+7	4.5	254.8
℄	6.8	252.5
el	10.8	248.5
S	13.5	245.8
+15	19.0	240.3

6.75' E. of E. l'y = E. el. 33rd.

-15 old S. Line	17.1	242.2
S.	11.9	247.4
el	9.8	249.5
℄	6.2	253.1

Hawthorn

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259.25

el.	4.1	255.2
N	2.7	256.6
+15 = {S. End. N+S. el. / E. End. E+W. el.	0.95	258.30
+15. S. End. pavmt.	1.31	257.94
+25 gutter	0.66	258.59
+25 cmt. el.	0.50	259.09

8' E. of el = E. l'y 33rd = 0+00

-15	1.0	258.3
N	3.2	256.1
el	4.7	254.6
℄	7.1	252.2
el	9.3	250.0
S	11.0	248.3
+15	12.5	246.8

0+25

-10.7' = N. side shed.	12.6	246.7
S.	10.6	248.7
el.	9.4	249.9
℄	8.2	251.1
el	7.0	252.3
N	6.6	252.7
+15	2.6	256.7

0+50

-15	3.8	255.5
-5	6.9	252.4
N	7.4	251.9

		259.25		
			0+50 (con)	
N. el	old S. line		8.2	251.1
℄			9.8	249.5
el			11.5	247.8
S			12.1	247.2
+15			14.3	245.0
			0+75	
-15			14.3	243.0
S			14.4	244.9
el			13.4	245.9
℄			11.7	247.6
el			10.3	249.0
N			9.1.	250.2
+6			7.8	251.5
+10			5.6	253.7
+15	old N. line		5.0	254.3
			0+90	
-15			6.9	252.4
N			10.7	248.6
el.			11.9	247.4
℄			12.9	246.4
T.P.	3.82	251.13	11.94	247.31
el			6.7	244.4
S			8.2	242.9
+15			10.5	240.6
			1+12	
-43			27.0	224.1

Hawthorn St.

		251.13		
-15	old S. line		21.6	229.5
S			20.8	230.3
el			20.4	230.7
℄			17.6	233.5
el			13.2	237.9
N			10.5	240.6
+15			6.6	244.5
+25			2.7	248.4
			1+20	
-20			2.8	248.3
-15			4.2	246.9
N.			10.7	240.4
el.			15.0	236.1
℄			18.9	232.2
el			23.7	227.4
S.			25.5	225.6
+15			26.9	224.2
+30			29.9	221.2
+50			29.9	221.2
			1+35	
-55			39.7	211.4
-30			33.7	217.4
-15			27.8	223.3
S			21.3	229.8
el.			15.9	235.2
℄			11.4	239.7

		251.13		
		1+35 (con)		
el			6.7	244.4
N			3.7	247.4
+7			1.7	249.4
+15			0.7	250.4
		1+47		
-15			+0.5	251.6
N			1.5	249.6
el.			3.1	248.0
℄			4.7	244.4
el			9.8	241.3
S.			14.3	236.8
+15			21.0	230.1
+33			25.7	225.4
+40			28.7	222.4
		1+75		
-30			16.1	235.0
-15			13.1	238.0
S			10.0	241.1
el			7.3	243.8
℄			3.7	247.4
el			1.3	249.8
TP	6.83	256.40	1.56	249.57
N.			5.1	251.3
+15			2.8	253.6

	256.40		
	1+97		
-15		1.2	255.2
N		3.4	253.0
el.		5.1	251.3
℄		5.9	250.5
el		8.9	247.5
S		10.7	245.7
+15		13.0	243.4
	2+00 = W. Line Felton		
-15		12.7	243.7
S		10.1	246.3
el		8.4	248.0
℄		5.2	251.2
+5.15 = W. End Ex. cmt. el.		5.20	251.20
+5.15 = gutter W. edge pav		5.80	250.60
el. " " "		5.44	250.96
N. " " "		5.25	251.15
+10.15 N. gutter " "		5.24	251.16
+10.15 N. cmt. el. W. end		4.61	251.79
+10' = old N. Line		4.3	252.1
	10' E.		
-15. old N. Line		4.7	251.7
-2.6' Ex. Cmt. el.		4.73	251.67
-2.6' gutter		5.29	251.11
N		5.33	251.07
el		5.54	250.86
+11.2 gutter		5.90	250.50

256.40

10' E. of W. Line Felton (con)

N cb + 11.2 = S. cmt. cb.	5.36	251.04
℄	5.4	251.0
cb	7.2	249.2
S	8.9	247.5
+15 old S. line	11.4	245.0

20' E. of W. Line

-15	10.5	245.9
S	8.1	248.3
cl	6.7	249.7
℄ = Ex. cmt. cb	5.53	250.87
℄ gutter pav.	6.16	250.24
cl "	5.73	250.67
N "	5.52	250.88
+15 "	5.36	251.04

35' E. of W. Line

-15 Pav.	5.20	251.20
N "	5.54	250.86
cl "	5.88	250.52
℄ "	6.58	249.82
+12.8 gutter "	7.27	249.13
+12.8 Ex. cmt. cl.	6.61	249.79
cb.	6.6	249.8
S	7.4	249.0
+15	9.1	247.3

256.40

45' E. of W. Line

-25 gutter Pav	11.67		244.73
-25 E. W. cmt. cb. Felton	11.17		245.23
-15 " " " "	9.81		246.59
-15 gutter Pavmt.	10.28		246.12
S	8.50		247.90
cl.	7.52		248.88
℄	6.55		249.85
cl	5.93		250.47
N	5.65		250.75
+15	5.31		251.09
B.M. T. C.T. H.	5.40	251.00	N.E. Felton & Hawthorn
T.P. 12.94	268.68	0.66	255.74
B.M. B.P. S.W. 33rd & Highview Dr.		0.30	268.38

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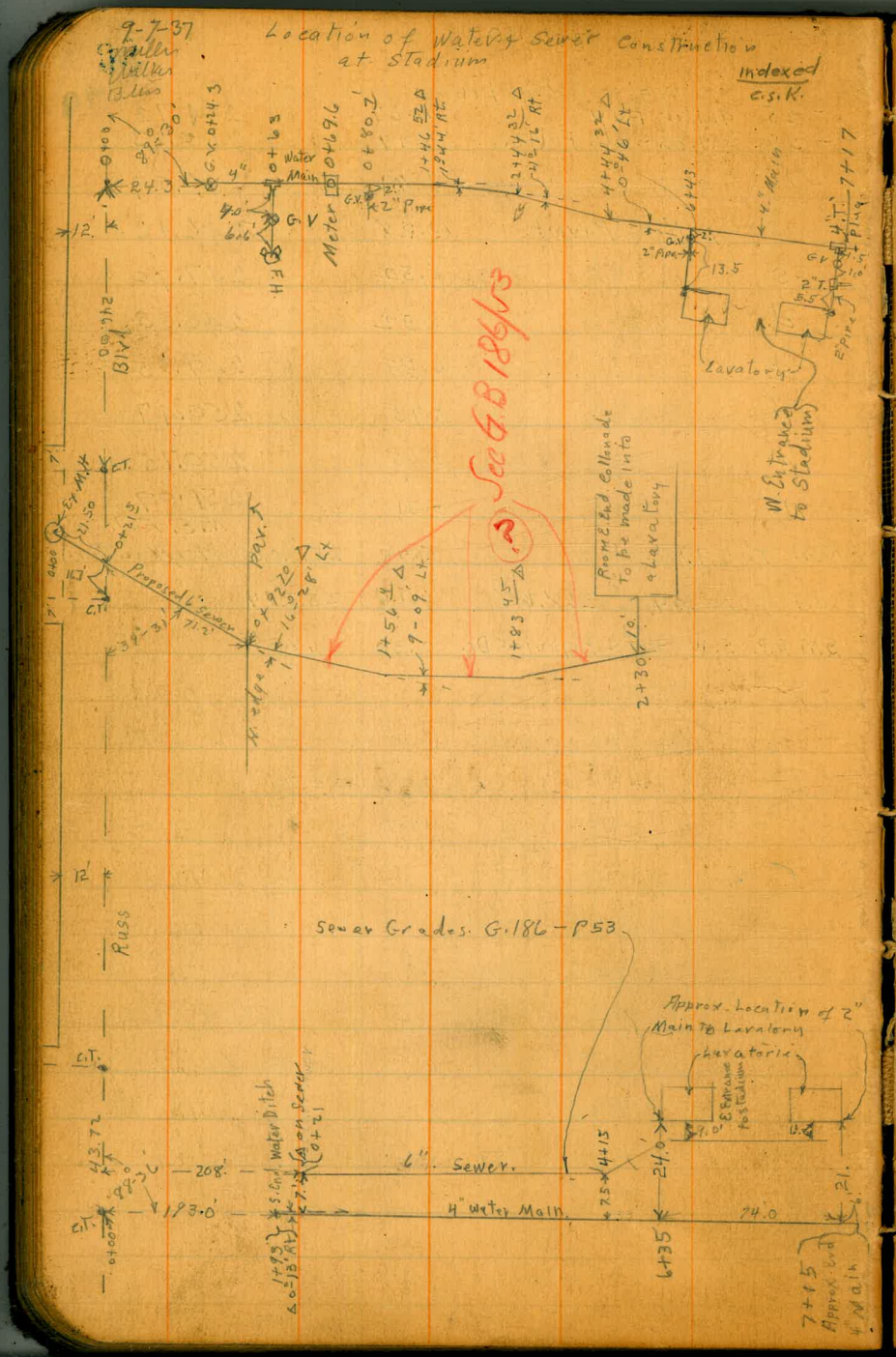

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IMPROVED TABLES AND INFORMATION

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 length divided by twice the radius.

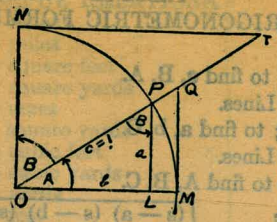


TABLE II

TRIGONOMETRIC FORMULÆ.

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

$R = OB = c = 1$

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

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

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

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

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

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

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

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

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

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

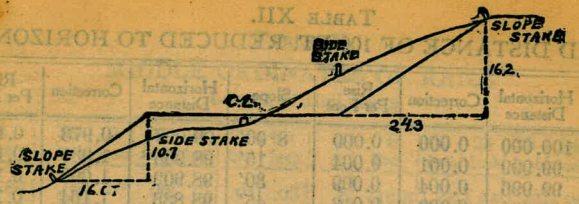
$$\sin \tfrac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}} \qquad \cos \tfrac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$$

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

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

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

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



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	20.25	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.

Balboa Park Books

1444 —
1445 —
1355
1384
1397
1426 —
1308 —

88°02'

178 2

156
25
13.1

60
92.2
39
64
295.2
9.2
246.0