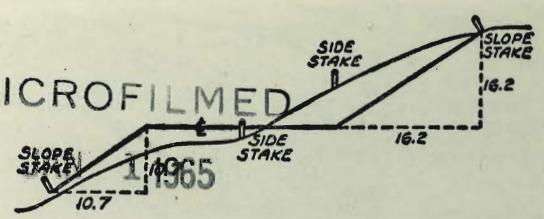
2240

STORM DRAINS



Distances from Side Stakes for Cross-Sectioning

Slope 1 to 1. Roadway of Any Width

	0	.1	.2	.3	.4	.5	.6	.7	.8	9	
0	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0
1	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	1
2	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	2
3	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	3
4	4.00	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90	4
5	5.00	5.10	5.20	5.30	5.40	5.50	5.60	5.70	5.80	5.90	5
6	6.00	6.10	6.20	6.30	6.40	6.50	6.60	6.70	6.80	6.90	6
7	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90	7
8	8.00	8.10	8.20	8.30	8.40	8.50	8.60	8.70	8.80	8.90	8
9	9.00	9.10	9.20	9.30	9.40	9.50	9.60	9.70	9.80	9.90	9
10	10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90	10
11	11.00	11.10	11.20	11.30	11.40	11.50	11.60	11.70	11.80	11.90	11
12	12.00	12.10	12.20	12.30	12.40	12.50	12.60	12.70	12.80	12.90	12
13	13.00	13.10	13.20	13.30	13.40	13.50	13.60	13.70	13.80	13.90	13
14	14.00	14.10	14.20	14.30	14.40	14.50	14.60	14.70	14.80	14.90	14
15	15.00	15.10	15.20	15.30	15.40	15.50	15.60	15.70	15.80	15.90	15
16	16.00	16.10	16.20	16.30	16.40	16.50	16.60	16.70	16.80	16.90	16
17	17.00	17.10	17.20	17.30	17.40	17.50	17.60	17.70	17.80	17.90	17
18	18.00	18.10	18.20	18.30	18.40	18.50	18.60	18.70	18.80	18.90	18
19	19.00	19.10	19.20	19.30	19.40	19.50	19.60	19.70	19.80	19.90	19
20	20.00	20.10	20.20	20.30	20.40	20.50	20.60	20.70	20.80	20.90	20
21	21.00	21.10	21.20	21.30	21.40	21.50	21.60	21.70	21.80	21.90	21
22	22.00	22.10	22.20	22.30	22.40	22.50	22.60	22.70	22.80	22.90	22
23	23.00	23.10	23.20	23.30	23.40	23.50	23.60	23.70	23.80	23.90	23
24	24.00	24.10	24.20	24.30	24.40	24.50	24.60	24.70	24.80	24.90	24
25	25.00	25.10	25.20	25.30	25.40	25.50	25.60	25.70	25.80	25.90	25
26	26.00	26.10	26.20	26.30	26.40	26.50	26.60	26.70	26.80	26.90	26
27	27.00	27.10	27.20	27.30	27.40	27.50	27.60	27.70	27.80	27.90	27
28	28.00	28.10	28.20	28.30	28.40	28.50	28.60	28.70	28.80	28.90	28
29	29.00	29.10	29.20	29.30	29.40	29.50	29.60	29.70	29.80	29.90	29
30	30.00	30.10	30.20	30.30	30.40	30.50	30.60	30.70	30.80	30.90	30
31	31.00	31.10	31.20	31.30	31.40	31.50	31.60	31.70	31.80	31.90	31
32	32.00	32.10	32.20	32.30	32.40	32.50	32.60	32.70	32.80	32.90	32
33	33.00	33.10	33.20	33.30	33.40	33.50	33.60	33.70	33.80	33.90	33
34	34.00	34.10	34.20	34.30	34.40	34.50	34.60	34.70	34.80	34.90	34
35	35.00	35.10	35.20	35.30	35.40	35.50	35.60	35.70	35.80	35.90	35
36	36.00	36.10	36.20	36.30	36.40	36.50	36.60	36.70	36.80	36.90	36
37	37.00	37.10	37.20	37.30	37.40	37.50	37.60	37.70	37.80	37.90	37
38	38.00	38.10	38.20	38.30	38.40	38.50	38.60	38.70	38.80	38.90	38
39	39.00	39.10	39.20	39.30	39.40	39.50	39.60	39.70	39.80	39.90	39
40	40.00	40.10	40.20	40.30	40.40	40.50	40.60	40.70	40.80	40.90	40
41	41.00	41.10	41.20	41.30	41.40	41.50	41.60	41.70	41.80	41.90	41
42	42.00	42.10	42.20	42.30	42.40	42.50	42.60	42.70	42.80	42.90	42
43	43.00	43.10	43.20	43.30	43.40	43.50	43.60	43.70	43.80	43.90	43
44	44.00	44.10	44.20	44.30	44.40	44.50	44.60	44.70	44.80	44.90	44
45	45.00	45.10	45.20	45.30	45.40	45.50	45.60	45.70	45.80	45.90	45
46	46.00	46.10	46.20	46.30	46.40	46.50	46.60	46.70	46.80	46.90	46
47	47.00	47.10	47.20	47.30	47.40	47.50	47.60	47.70	47.80	47.90	47
48	48.00	48.10	48.20	48.30	48.40	48.50	48.60	48.70	48.80	48.90	48
49	49.00	49.10	49.20	49.30	49.40	49.50	49.60	49.70	49.80	49.90	49
50	50.00	50.10	50.20	50.30	50.40	50.50	50.60	50.70	50.80	50.90	50

Distance of slope stake from side or shoulder stake for any width roadway, slope 1 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.

(6)

TABLE XIII—CORRECTIONS FOR TANGENTS AND EXTERNALS

These corrections are to be added to the approximate values, found by dividing the tangent, or external, for a 1° curve (Table VIII) by the degree of curve, in order to obtain the true tangents, or externals. Intermediate values may be obtained by interpolation.

FOR TANGENTS ADD

Central Angle	Degree of Curve													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	03	.06	09	13	16	19	.22	.25	.28	.31	34	38	42	.46
15°	04	10	14	19	24	.29	.34	.39	45	.51	.53	58	.63	.68
20°	06	.13	19	.26	.32	.39	.45	.51	.58	.65	.72	79	.84	.90
25°	.08	16	24	.33	40	49	.58	67	.75	.83	90	.99	1.06	1.14
30°	10	19	.29	39	49	.59	.69	79	.89	.99	1.09	1.20	1.29	1.39
35°	11	22	.34	47	.58	.69	.70	.81	.92	1.04	1.29	1.42	1.54	1.66
40°	13	.26	.40	.53	.67	.80	.93	1.06	1.20	1.34	1.49	1.64	1.79	1.94
45°	15	.30	44	60	76	91	1.06	1.21	1.37	1.52	1.70	1.87	2.04	2.21
50°	17	.34	.51	.68	.85	1.02	1.19	1.36	1.54	1.72	1.91	2.10	2.29	2.48
55°	19	38	.57	76	.95	1.14	1.32	1.52	1.72	1.92	2.14	2.35	2.56	2.77
60°	.21	42	.63	.84	1.05	1.27	1.49	1.71	1.94	2.17	2.38	2.60	2.83	3.07
65°	23	46	.69	.93	1.16	1 40	1.64	1.88	2.13	2.38	2.63	2.88	3.13	3.39
70°	25	.51	76	1.02	1.28	1.54	1.80	2.06	2.33	2.60	2.88	3.16	3.44	3.72
75°	.27	.56	.83	1.12	1.40	1.69	1.98	2.27	2.57	2.87	3.16	3.47	3.78	4.09
80°	30	.61	.91	1.22	1.53	1.84	2.15	2.46	2 78	3.10	3.44	3.78	4.12	4.46
85°	33	66	1.00	1.33	1.68	2.02	2.36	2 70	3.05	3.40	3.77	4.14	4.55	4 89
90°	36	.72	1.09	1.45	1.83	2.20	2.57	2.94	3.32	3.70	4 10	4.50	4.91	5.32
95°	39	79	1.19	1.55	2.00	2.40	2.80	3.20	3.61	4.02	4.40	4.98	5.38	5.83
100°	.43	.86	1.30	1.74	2.18	2.62	3.06	3.50	3.95	4.40	4.88	5.37	5.85	6.34
110°	51	1.03	1.56	2.08	2.61	3.14	3.67	4.21	4 76	5.31	5 86	6.43	7 01	7 60
120°	62	1.25	1 93	2.52	3.16	3.81	4 45	5.11	5.77	6 44	7 12	7.80	8.50	9 22

FOR EXTERNALS ADD

Central Angle	Degree of Curve													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	.001	.003	.004	.006	.007	.008	.009	.011	.012	.014	.015	.017	.018	.020
15°	.003	.007	.010	.014	.018	.023	.027	.029	.032	.035	.039	.043	.047	.051
20°	.006	.011	.017	.022	.028	.034	.038	.045	.051	.057	.063	.070	.076	.083
25°	.009	.018	.027	036	.046	.056	.065	.074	.083	.093	.106	120	127	135
30°	.013	.025	.038	.051	.065	.078	.090	.103	.116	.129	.149	.170	.179	.188
35°	.018	.035	.054	.072	.086	.109	.131	.153	.175	.197	.213	.230	.247	.264
40°	.023	.046	.070	.093	.117	.141	.172	.203	.234	.265	.277	.290	.315	.341
45°	.030	.060	.093	.119	.153	.184	.216	.254	.289	.325	.351	.378	.411	.445
50°	.037	.075	.116	.151	.189	.227	.266	.305	.345	.384	.425	.467	.508	.550
55°	.046	.093	.142	.188	.236	.283	.332	.381	.420	.479	.530	.582	.641	.700
60°	.056	.112	.168	.225	.283	.340	.398	.457	.516	.575	.636	.697	.774	.851
65°	.067	.135	.204	.273	.343	.412	.483	.554	.625	.697	.711	.845	.922	1.01
70°	.080	.159	.240	.321	.403	.485	.568	.652	.735	.819	.906	.994	1.08	1.17
75°	.095	.182	.286	.383	.480	.578	.678	.777	.877	.977	1.07	1.18	1.29	1.39
80°	.110	.220	.332	.445	.558	.671	.787	.903	1.02	1.13	1.25	1.38	1.50	1.62
85°	.128	.259	.391	.524	.657	.790	.926	1.06	1.20	1.34	1.47	1.62	1.76	1.91
90°	.149	.299	.450	.603	.756	.910	1.07	1.22	1.38	1.54	1.70	1.87	2.03	2.20
95°	.174	.350	.522	.706	.985	1.06	1.25	1.43	1.62	1.80	1.99	2.18	2.38	2.58
100°	.200	.401	.604	.809	1.01	1.22	1.43	1.64	1.85	2.06	2.28	2.50	2.73	2.96
110°	.268	.536	.806	1.08	1.35	1.63	1.91	2.20	2.48	2.76	3.05	3.35	3.66	3.96
120°	.360	.721	1.08	1.45	1.82	2.19	2.57	2.95	3.33	3.72	4.11	4.50	4.91	5.32

INDEX

Drain N. Ely. Cor. Olive + 3rd N. Wly. 2-3

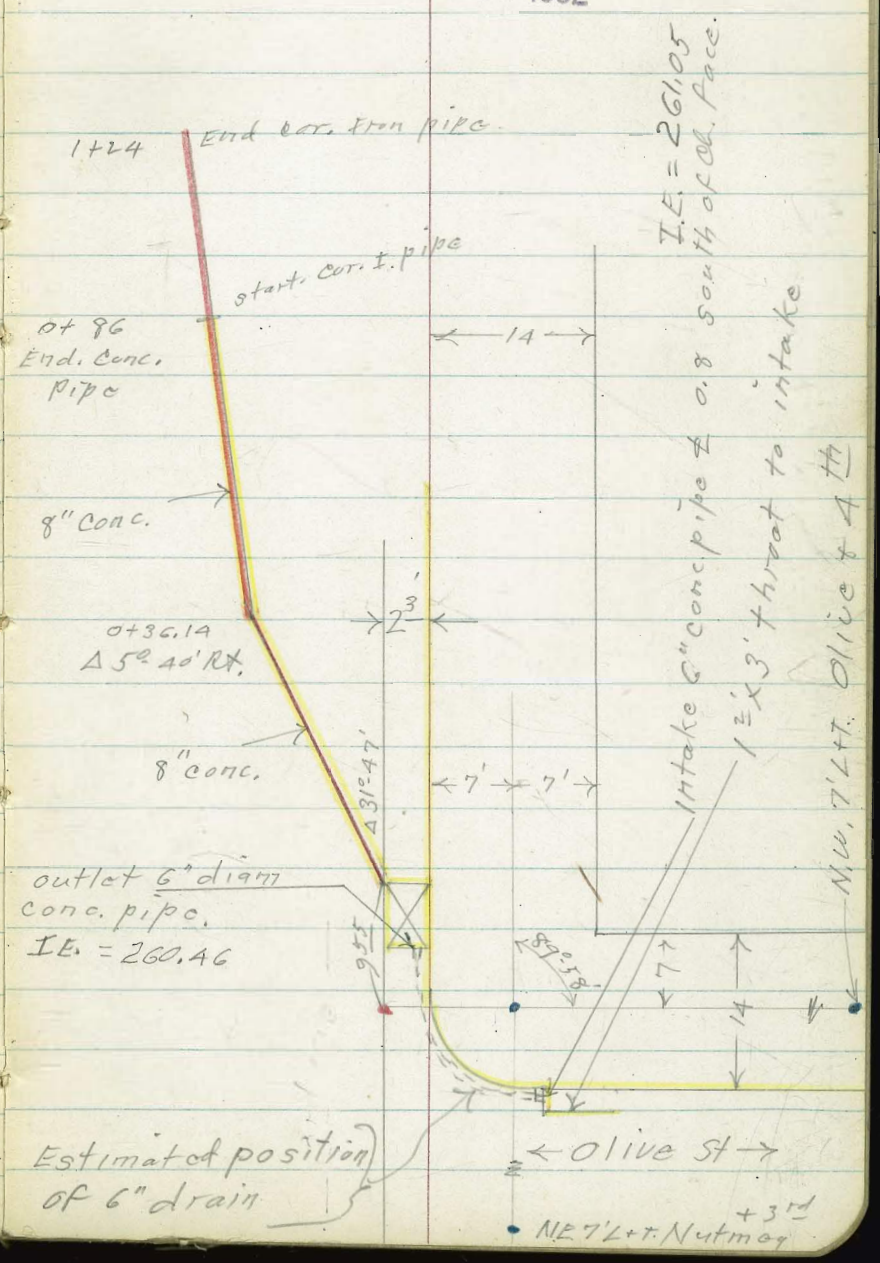
Location of drain

N.E. Cor. Olive & 3rd

W.O. 20008

C.H.S.
7-24-52

NEBP Olive & 3rd EL. = 261.94

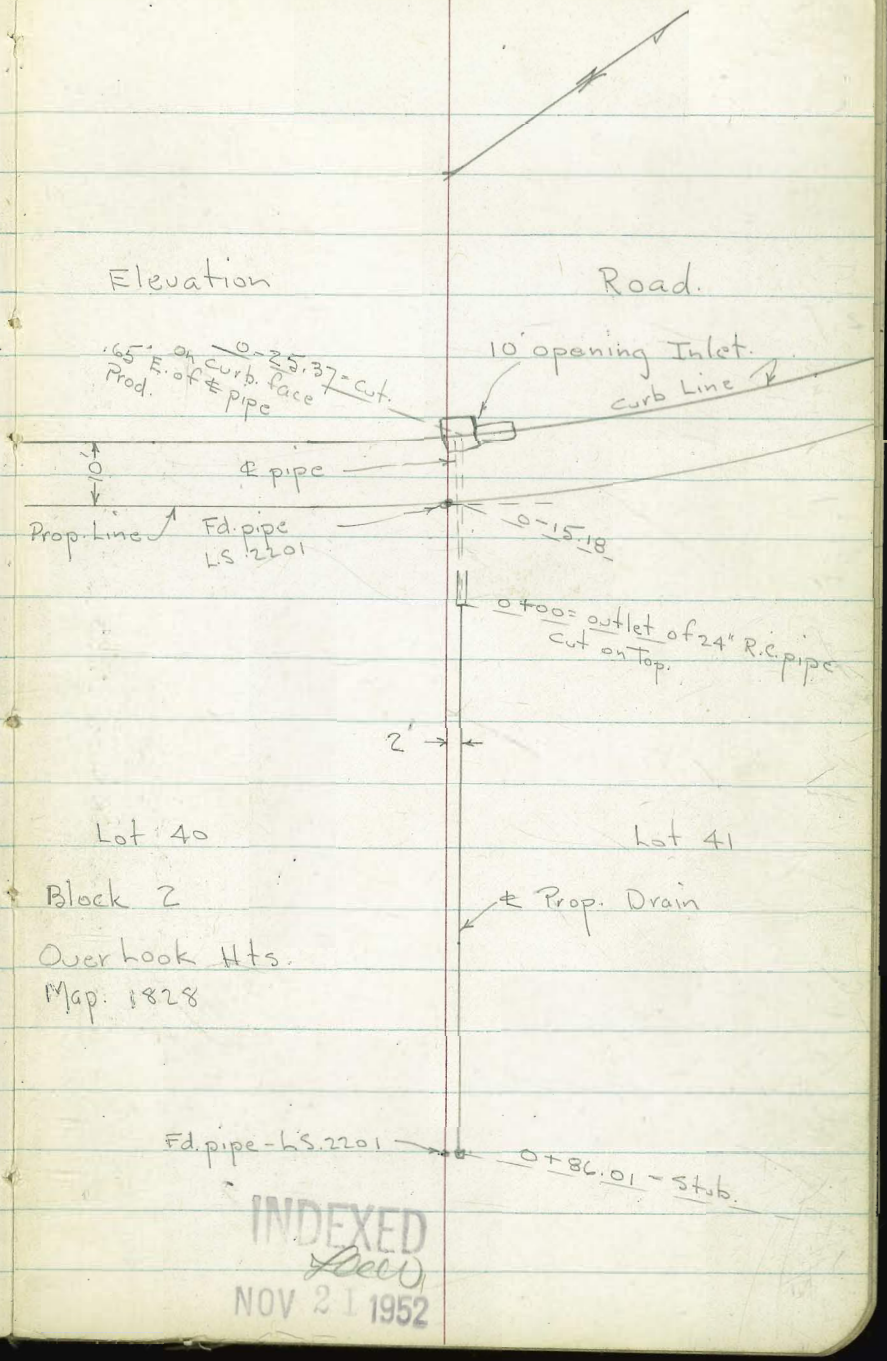


1+24' Ground	238.3 Gnd.
1+24 end " Cor. iron pipe	238.8
0+86 = end conc. pipe + start Cor. iron pipe	258.6 Top of pipe + Gnd.
0+78	263.3 Gnd
0+36.14 = Nail = Δ 5°-44' Rt	262.8 Gnd
0+00 Gnd.	261.6 Gnd
0+00 bottom of box I.E. 8" Conc. drain	260.09

Survey to Extend Drain in Lot 41
Block 2 - Overlook Hts.

#6592 11-20-52 F.O.

W.O. 21047



Levels along ℄ of Prop. Drain

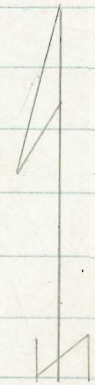
sketch - P. 4

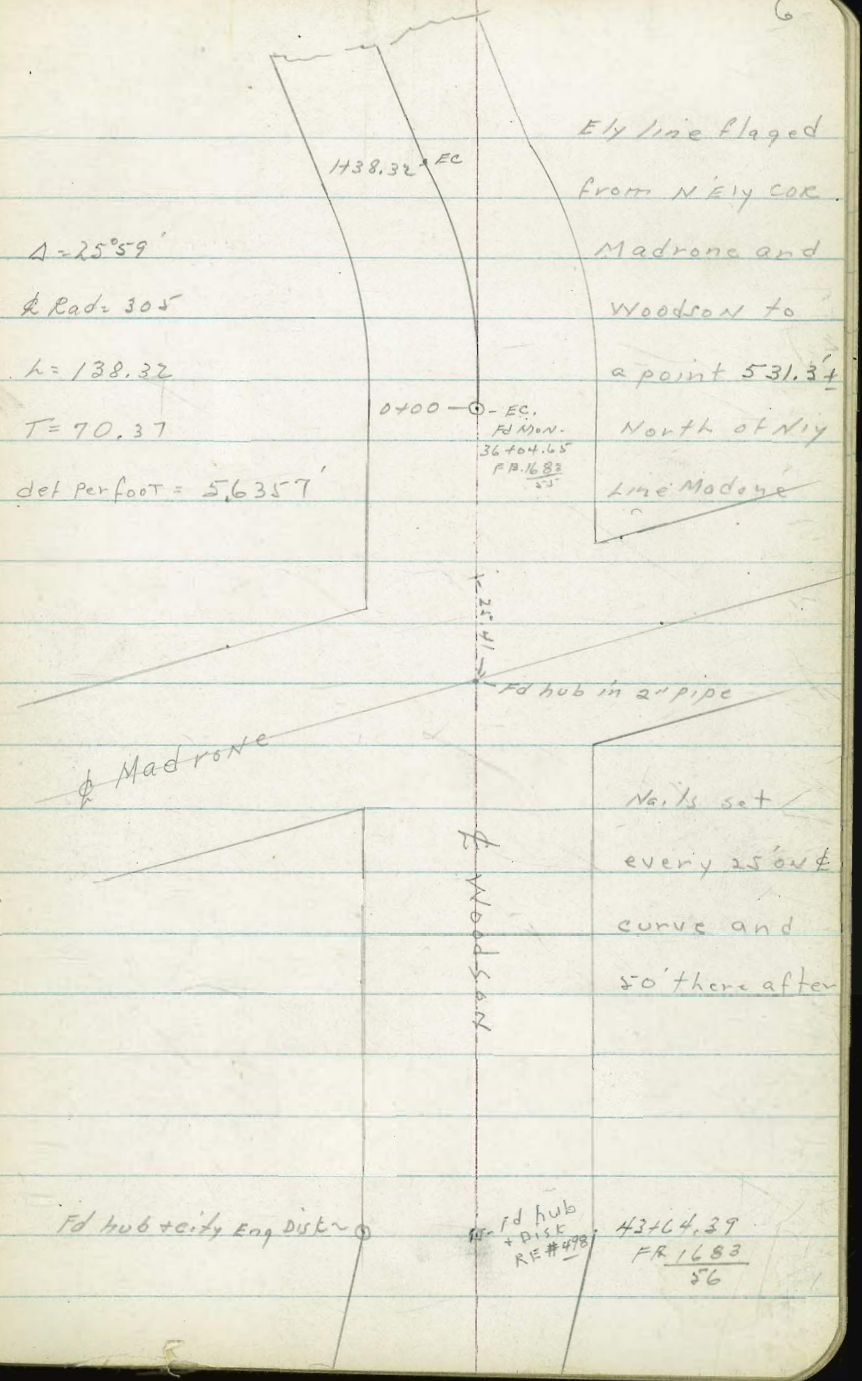
		Lt.	℄	Rt.
about 60' ahead to Bottom of Cross Wash (same Slope)				
0+86.01 = end at approx. Sub. Line		17.3 (40)	16.8 (2.8 ℄ Ditch) 19.7 (10)	20.3 21.0 (10)
0+60		23.3 (40)	24.5 (20 ℄ Ditch)	27.6 28.7 (10)
0+30		36.2 (20)	37.1 (5 ℄ Ditch)	38.0 39.0 (10)
Ditch is present waterway				
0+00 = outlet of 24" Culvert			48.2 (10)	46.82 = I.E. of pipe 48.6 (10)
0-00.3 - 6.7' Lt. = = Cor. House				
0-12- 2.9' Lt (East) = Cor. of New House				
0-25.57 = ℄ Prod. to curb face			49.37 I.E. of Box & Pipe	56.22 Top curb. 55.27 Top of Grate
B.M. = Ld. + ct. 5' Back - N. Side on P.C. - See B. 1544 - P. 1	156.88		Actual Elev. Shown.	

2-16-53
Wo# 20005

Encroachment Survey - Ely line
Woodman St for 500' North of
Madrone
Ref: FB 1683 - pp 55 and 56

Allen
D. Sisson
Powell





INDEXED
law
MAR 17 1953

7

Survey to extend drain National Ave Near 36th ST

W.O # 21092

3-12-53

C. Allen

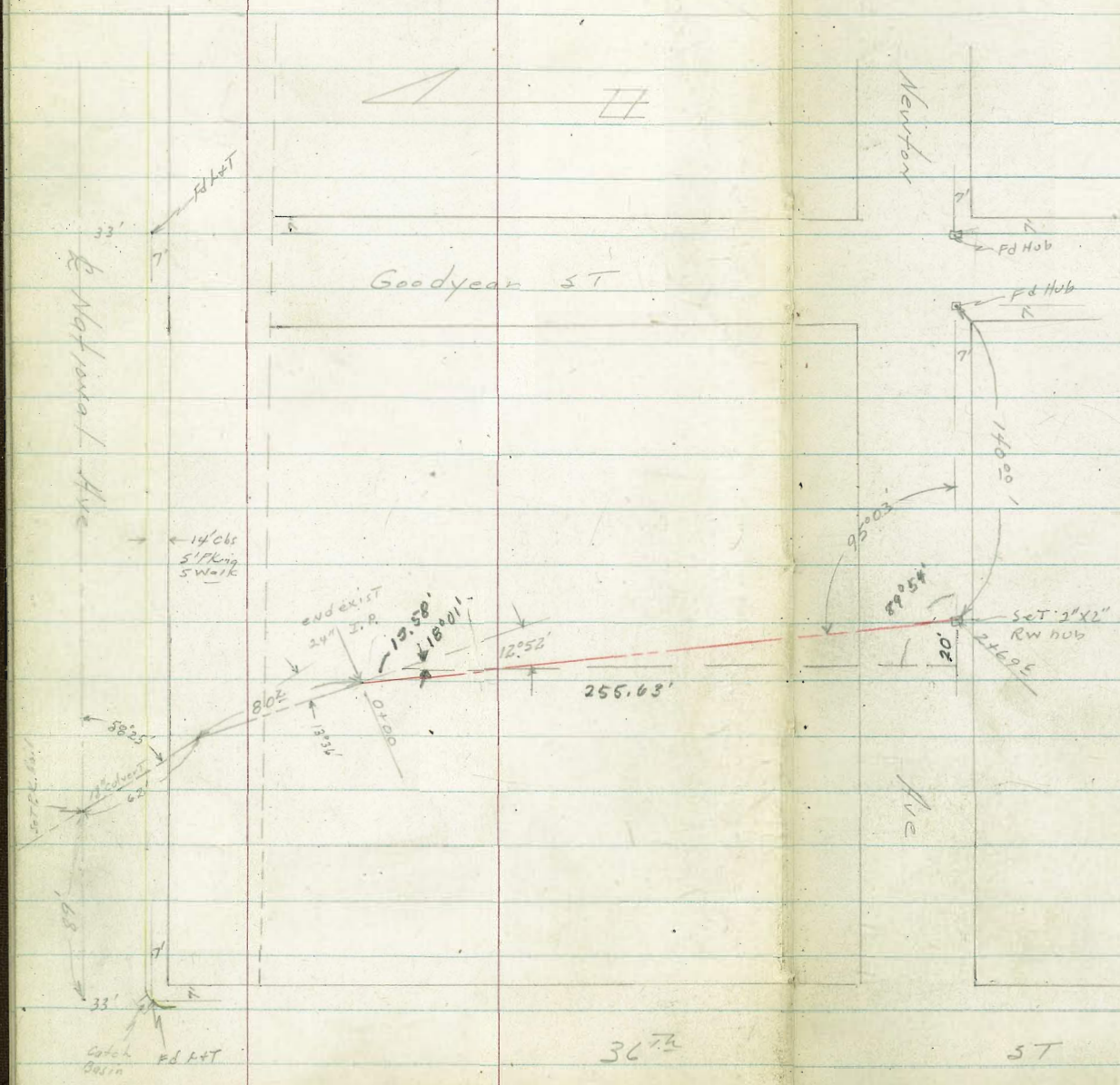
D. Sisson

C. Powell

Ref. Dwg. # 595 B.

TP sheet 386

UN-Numbered dwg. Pertaining to National Ave & Proposed drain thus:



See Pg 53 For Loc. NEW INLET

Extension of Drain National Ave
Near 26th ST

See Sketch Page 7-

0+61 - 9 3/ Rt = ℄ S.M.H. - Sewer line enters MH from the east - also N.+So. Sewer Line

0+50

0+00 = end 24" Iron pipe - This pipe connected to S.E. Catch basin - No evidence as to line of Pipe

Catch basin N.E. Cor 36th + Nat

Catch Basin S.E. Cor 36 National

BM. S.E. B.P. 36th + National - 36.98.

LT = ely		℄	Rt = wly
18 40 IE Nly enterance To M.H.		18 43 I.E. Ely enter. To M.H.	27 94 Rim
27 8/10		27 7	28 6/10
28 8/10	29 0 1 0 Gr	24.52 I.E.	29 0 1 0 Gr	28 9/10
34.63 I.E. N+S 18" Conc Pipe To S.E. Cor.		36.88 GUT	37.96 Cb	34.60 Bottom Box
33.57 I.E. 18" Conc N+S Pipe from N.E. Cor			
33.82 IE 18" Conc E+W. Pipe		35.90 Gutter	36.95 Curb	33.59 Bottom Box

Direct Rod used -

2+69.6 & intersects Sly 7' Line Newton Ave -

2+51. 26.1 Rt = & S.M.H. - Sewer runs No. 450.

2+35

2+25. & crosses Lateral ditch - Pipe Not yet installed

2+00

1+88. & crosses Lateral ditch - Pipe Not yet installed

1+50

1+44. & Crosses Lateral ditch - Pipe Not yet installed

1+00

0+97. & Crosses E & W. Sewer Lat. Ditch - Pipe Not yet installed

Lt = ely & Rt = wly.

21.0/40 21.1/20 20.7 22.6/20 25.6/40

24.20 RIM 16.18 IE

22.1

22.9/20 22.6 24.9/20

24.2/20 23.5 25.4/20

25.4/20 24.9 25.6/20

all elevations are true elev.

Clavic
Shephard
ONCIL

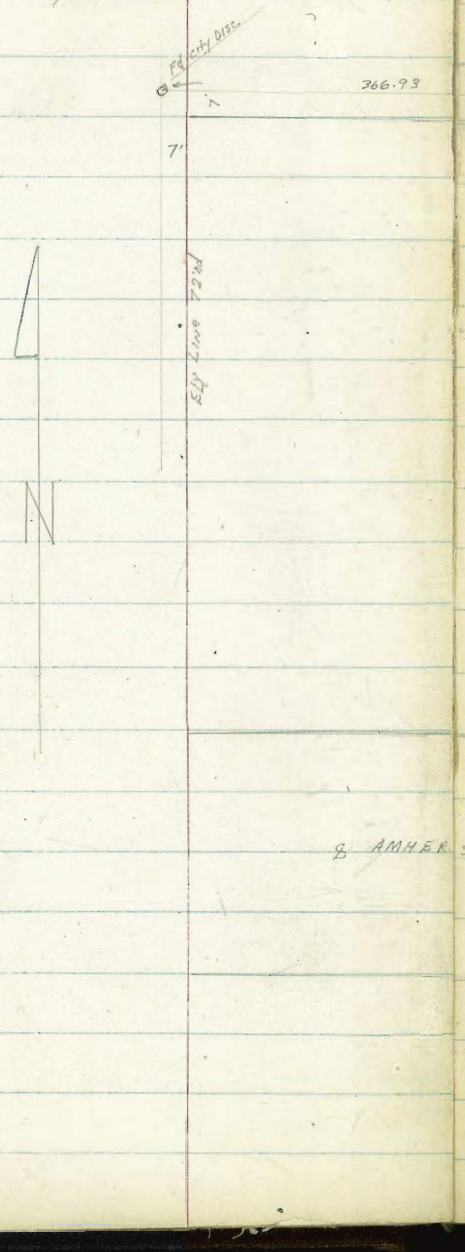
4-30-53

W.O. 21107

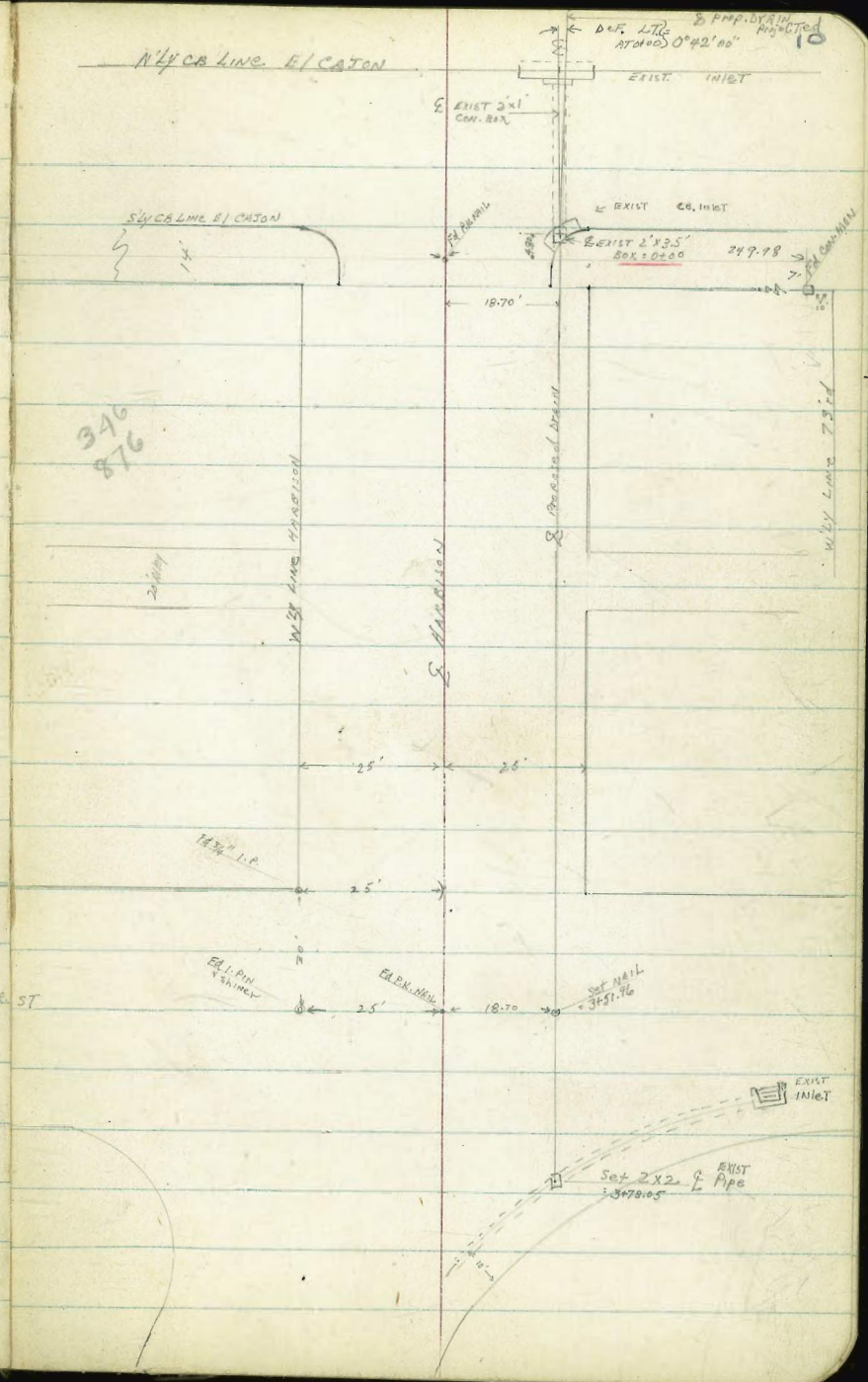
INDEXED
MAY 4 1953

PROPOSED DRAIN HARBISON
EL CAJON to AMHERST

Notes: Pg 11



N'ly CB Line El CAJON



PROPOSED DRAIN - HARBISON; EL CAJON to AMHERST

						LT.	℄	RT.
T.P.	0.46	470.40	11.21	469.94			470.40	
1+25					Brk	471.7 9.4 5	475.2 5.9	469.30 11.85 5 F.L GUTT
1+00						472.5 8.6 5	472.7 8.4	470.80 10.35 5 F.L GUTT; 471.59 9.56 9 Edge PAV.
0+87					{ 5 RT Beg 4' Cobbled Conc. GUT. Brk	472.9 8.2 5	473.7 7.4	471.43 9.72 5 F.L GUTT; 472.16 8.99 9.0 Edge PAV.
0+79					℄ END EXIST 2'x1' CONC. BOX - ℄ Prop. DRAIN		471.65 9.50 Flo. Line EX. Box Drain	473.05 8.10 TP. Box
0+70					END. Cold-Lay PKG		473.2 7.9 Edge Cold-Lay	
0+50						474.1 7.0 10 Cold-Lay	474.1 7.0 Cold. Lay	474.00 7.15 9.0 Edge PAV.
0+11.80					{ Beg. Cold-Lay PKG Area - Extends to Kly Pav. Edge; S. Line El Cajon; NO MRK - Cold-Lay		476.1 5.0 Cold-Lay	476.08 5.07 3.5 TP. EX. CB; 475.72 5.43 9.0 Edge EX. PAV.
0+00						476.33 4.82 TP. CB EXIST	472.58 8.57 Flo. Line EX. BOX	475.35 5.80 GUTT. inlet EXIST
B.M.	0.80	481.15		480.35	S.W.B.P. El Cajon & 73'rd		481.15	

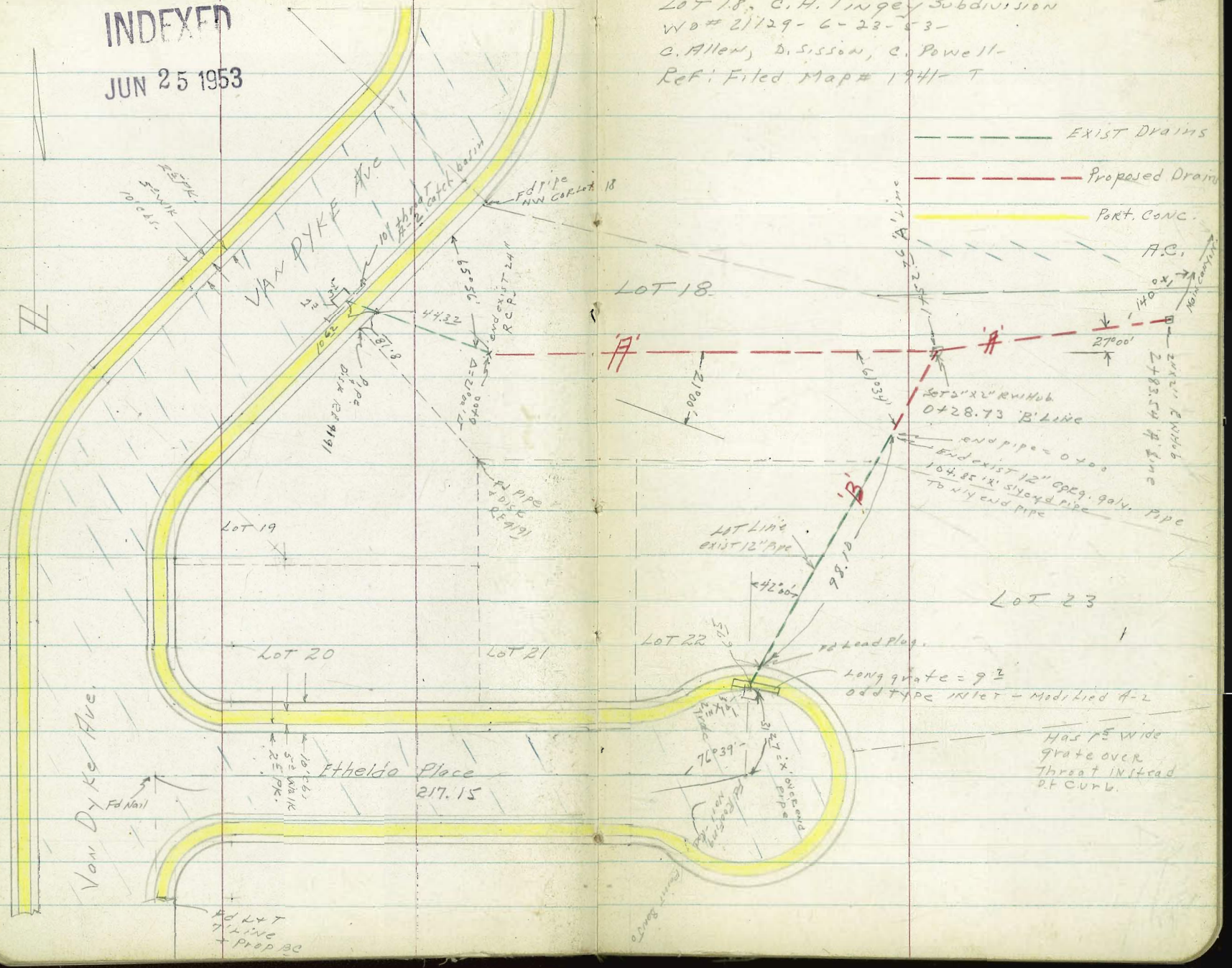
PROPOSED DRAIN HARBISON (CONT.)

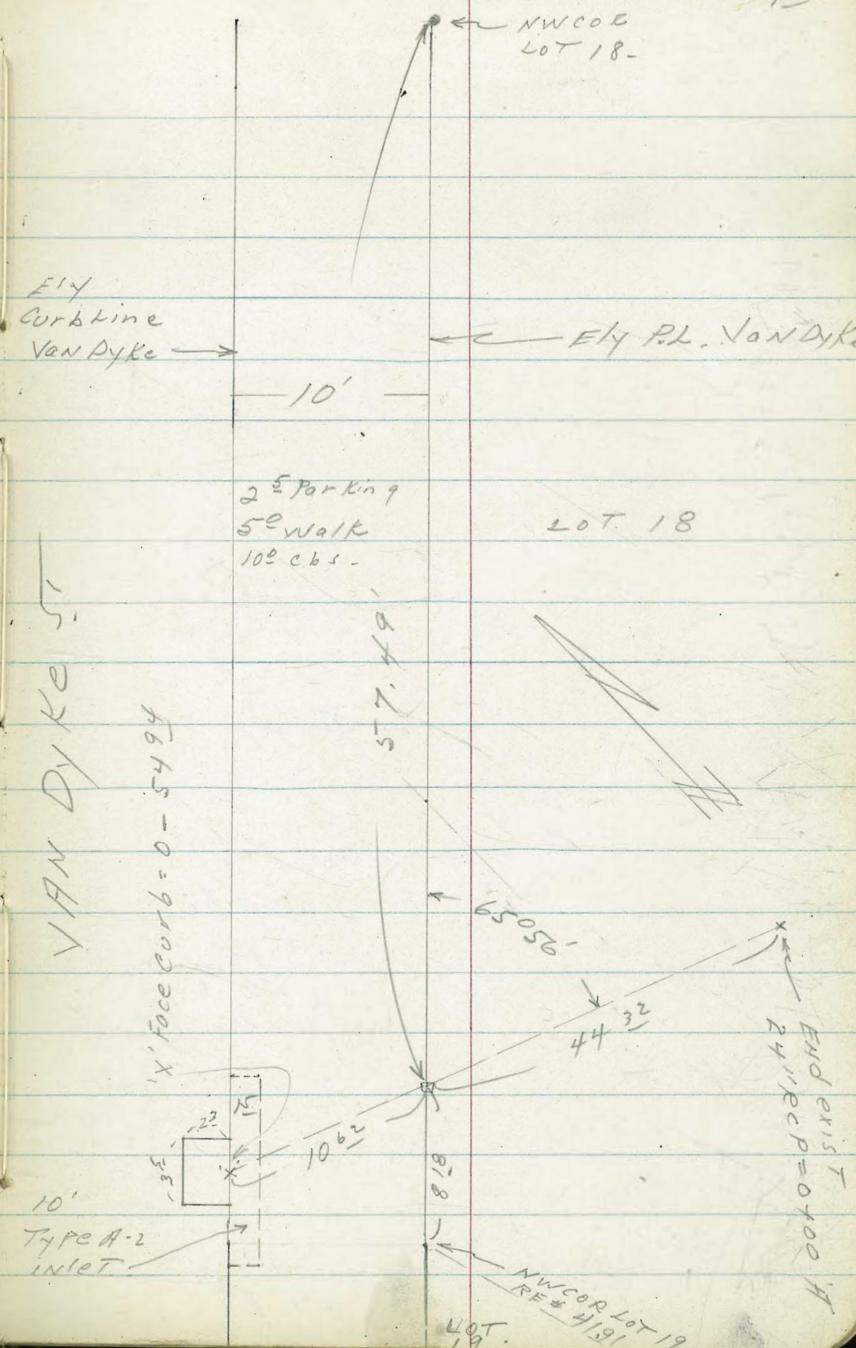
		LT.	℄	RT.
3+00		462.9 7.5 5	462.8 7.6	462.50 7.90 9 Edge PAV
2+50		464.6 5.8 5	464.8 5.6	464.71 5.69 9 Edge PAV.
2+22	6.5 LT END WALL	465.3 5.1 6.5 FTG WALL		
2+00		466.8 3.6 5	467.1 3.3	466.87 3.53 9 Edge PAV
1+72	6.4 LT Beg 3' CONC. BLK WALL	467.8 2.6 6.4 FTG WALL		
1+67	BRK		469.0 1.4	
1+61.80	= ℄ 20' Alley	468.6 1.8 10	468.4 2.0	468.34 2.06 9 Edge PAV
1+53	5 RT END Cobble GUTT.	468.5 1.9 5	468.5 1.9	468.00 2.40 5 F.L GUTT
1+51	BRK	470.2 0.2 5	469.70 0.70	469.3 1.0 3 468.01 2.39 5 FL GUTT
			470.40	

Prop. DRAIN - HARRISON (CONT.)

						LT.	℄	RT.
CHK:			0.76	480.35	= 480.35 (See B.M. Pg 11)			
T.P.	11.11	481.11	0.40	470.00				
								458.88
3+78.05	=	INTERSECT 24" Conc. Pipe						11.52 TR Con. Pipe
								459.86
3+68		BTK						10.54 Pav
								460.39 460.58 460.80
3+51.96		℄ AMHERST						10.01 9.82 9.60 5 5
								460.8 460.70 460.6
3+37		N'Ly Edge Pav. AMHERST						9.6 9.70 9.6 5 Pav Pav Diff
								461.6 461.5 461.20
3+30		BTK						8.8 8.9 9.20 5 6.5 Edge Pav
								470.40

Survey for Storm Drain in
Lot 18, C. H. Tingey Subdivision
WO # 21129-6-23-53-
C. Allen, D. Sisson, C. Powell-
Ref: Filed Map # 1941-T




NW COR
LOT 18-
Ely
Curb Line
Van Dyke
Ely P.L. Van Dyke
10'
2⁵ Parking
5⁰ Walk
10⁰ Cbs.
LOT 18
57.49'
VAN DYKE
'X' Face Curb = 0 - 54.94
65.056'
44.32
10.62
8.18
10'
Type A-2
inlet
NW COR LOT 19
RE # 4/91
LOT 19
End exist
24" RCP = 0 + 00

Levels for 'A' Line - See Sketch page 14 + 15 -

TP3	0.32	328.97	12.40	328.65
TP2	0.72	341.05	12.44	340.33
0-44- Top Fill- Sec. parallel to Van Dyke				
		Rod booted with Cloth tape.		
		IE is approx- grate sealed-		
		Mid point Type A-2 inlet		
0-54.94		Ely Curb Line Van Dyke		
TP1	0.15	352.77	13.30	352.62
BM	1.45	365.92		364.47

LT = N'ly. — ℄ Proposed Drain — Rt = S'y

328.97 ⊼

347.9? — 5.2 / 5-0 ; 346.3 — 6.5 ; 347.4 — 5.4 / 5-0

346.96 — 5.81 / 5-0 gut ; 347.53 — 5.24 / 5-0 cb

347.98 — 4.79 / 5-0 cb ; 347.31 — 5.46 / 5-0 gut ; 346.11 — 6.66 / Top Grate ; 347.07 — 5.70 / ℄ top cb ; 326.81 — 25.96 / Invert

352.77

NW BP - Meade + Copeland -

Levels 'A' Line

LT = N'ly ℄ 'A' Rt = S'ly

1+10					314.7 / 5.6 / 10 Bottom creek	317.7 / 2.6	320.5 / +0.2 / 10	
TP4	3.84	320.29	12.52	316.45		320.29 T		
1+00				322.8 / 6.2 / 20	315.2 / 13.7 / 10 Creek Bottom	319.3 / 11.8	321.4 / 7.6 / 10	
0+75				321.7 / 7.3 / 10	319.8 / 9.2 / 5	317.1 / 11.9 Bottom creek	319.2 / 9.8 / 10	325.1 / 3.9 / 20
0+50				325.9 / 3.1 / 15	320.8 / 8.2 / 5	321.0 / 8.0 Bottom creek	321.9 / 7.1 / 10	326.5 / 2.5 / 20
0+25				322.3 / 2.0 / 12	322.4 / 5.6 / 5	322.4 / 6.6	321.2 / 7.8 / 5.0 creek Bottom	323.4 / 5.6 / 10
0+00 = Ely end 24" RCP.				327.0 / 2.0 / 10	323.8 / 5.2 / 2	321.99 / 6.98 Invert	323.6 / 5.1 / 2	325.1 / 3.9 / 10

328.97 K

TP5 -	1.55	312.76	9.08	311.21
1+90				
1+83				
1+70 -				

Section on Bisector
'A' Line + 'B' Line

1+52 76 ∠ in 'A' Line - 27° 00' LT - Intersection

1+38 - 5° LT = ℄ 8" Elderberry Tree

LT		℄ 'A'	RT
		312.76 ⊼	
	310.1 10.2 / 7 Bottom Creek	311.8 8.5	
		310.3 10.0	
	318.0 2.3 / 10	311.0 9.3 Bottom creek	318.2 2.1 / 10
316.8 3.5 / 15	311.7 8.6 / 10 Bottom Creek	314.51 5.78 On Hub Groundsome	317.5 0.78 / 10
		320.29 ⊼	

2+53- 9° Rt - ℄ 36" Euc Tree

2+50

2+43- 6.5 Rt = ℄ 48" Euc tree - Large Roots.

2+25

These Large Euc trees have very Large Roots.

2+04- 6' Rt = ℄ 26" Euc Tree -

2+00

LT = N1/4		℄ 'H' Line		Rt = S1/4
306.6	305.4	303.0	305.8	305.6
6.2	7.4	9.8	7.0	7.2
10	4.0	Creek Bottom -	8	20
307.5	306.3	307.5	307.8	308.1
5.3	6.5	5.3	5.0	4.7
20	8 Creek Bottom.		10	20
307.8	311.0	311.3	311.6	312.6
5.0	1.8	1.5	1.2	0.2
10 Creek Bottom	3		5	10

312.76 ⊼

TP9	4.85	352.83✓	1.85	347.98✓
TP8	13.17	349.83✓	0.06	336.66✓
TP7	12.54	336.72✓	0.05	324.18✓
TP6	12.48	324.23✓	1.01	311.75✓

Section taken on Diagonal
Fairmont Ave
Creek along Wly side

2+83.5✓ 'A' intersects ℄ bottom Nly + Sly

2+65 – Ely bottom creek

2+63 – Top Nly + Sly Creek Bank

LT = Nly ℄ 'A' Rt = Sly

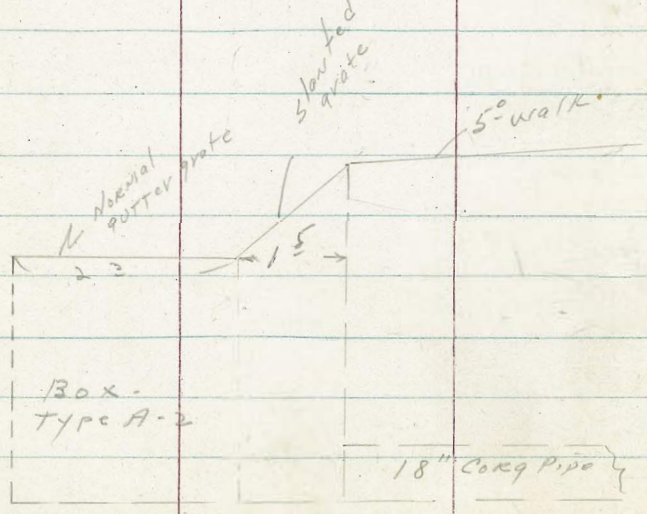
352.83 ⊼

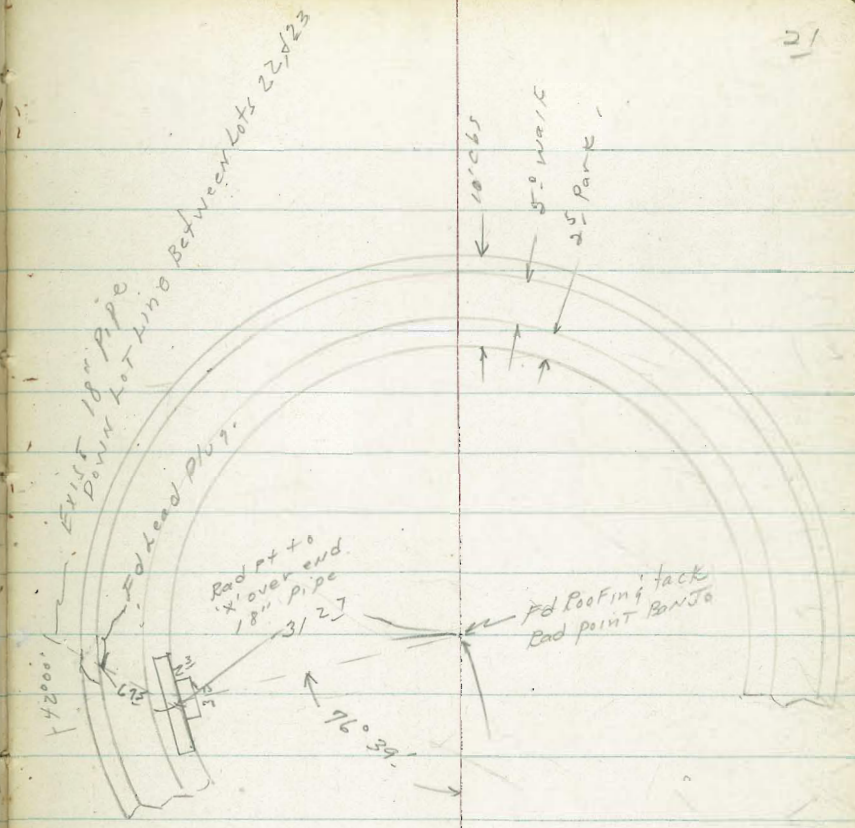
		℄		
299.4 / 13.4 / 25	299.6 / 13.2 / 10	299.87 / 12.89 Hub ground same	300.2 / 12.6 / 10	300.7 / 12.1 / 25
	300.5 / 12.3 / 10	300.6 / 12.2	300.8 / 12.0 / 10	
	304.6 / 8.2 / 10	303.7 / 9.1	303.6 / 9.2 / 10	

312.76✓ ⊼

See Page 22 for Levels.

This inlet is special designed for
This spot - instead of curb over
Box there is a 9' Long grate
The inlet is in Driveway and
interfers with use of Driveway.





Levels for 'B' Line
See Sketch Pages 14 & 21-

Washed out under pipe

0-03 - top Canyon Rim

0-07 3 · 3 5 Rt = ℄ Sewer Manhole

TP_{10}	1.98	341.48 ✓	13.33	339.50 ✓

0-104 85

H.I. broght forward from TP 9 Page 20

LT = w/y ℄ 'B' Rt = c/y

331 3 / 10 2 / 10 — 331 6 / 9 9 — 331 4 / 10 1 / 10

332 10 / 9 38 / 35 Rim

341.48 ✓ ⊼

347 85 / 4 98 / 25 gut — 348 34 / 4 49 / 25 cb

348 65 / 4 18 / 25 Cb — 348 19 / 4 64 / 25 gut — 347 83 / 5 00 / ℄ Top grate — 347 30 / 5 53 / ℄ gutter grate — 345 19 / 7 64 / invert (18)" pipe

12"?

352.83 ⊼

Levels for 'B' Line
Pages 14 + 21-

TP15 - Starting BM page 16 0.85 ⟨364.47⟩ 364.50

TP14 13.22 365.35 0.55 352.13

TP13 13.17 352.68 2.21 339.51

TP12 13.24 341.72 0.63 328.48

0+28.73 'B' = 1+52.76 'A' Line

0+14

TP11 0.63 329.11 13.00 328.48

0+00 = Nly end 18" Corg Metal pipe

314.5
14.6
ground

320.5 320.1 322.1 322.0
8.6 9.0 7.0 7.1
10 6.0 10

329.11

330.1 328.8 330.25 325.2 331.0 331.4
11.2 12.7 11.23 16.3 10.5 10.1
10 4 I.E. 4 ground 4 10

341.48

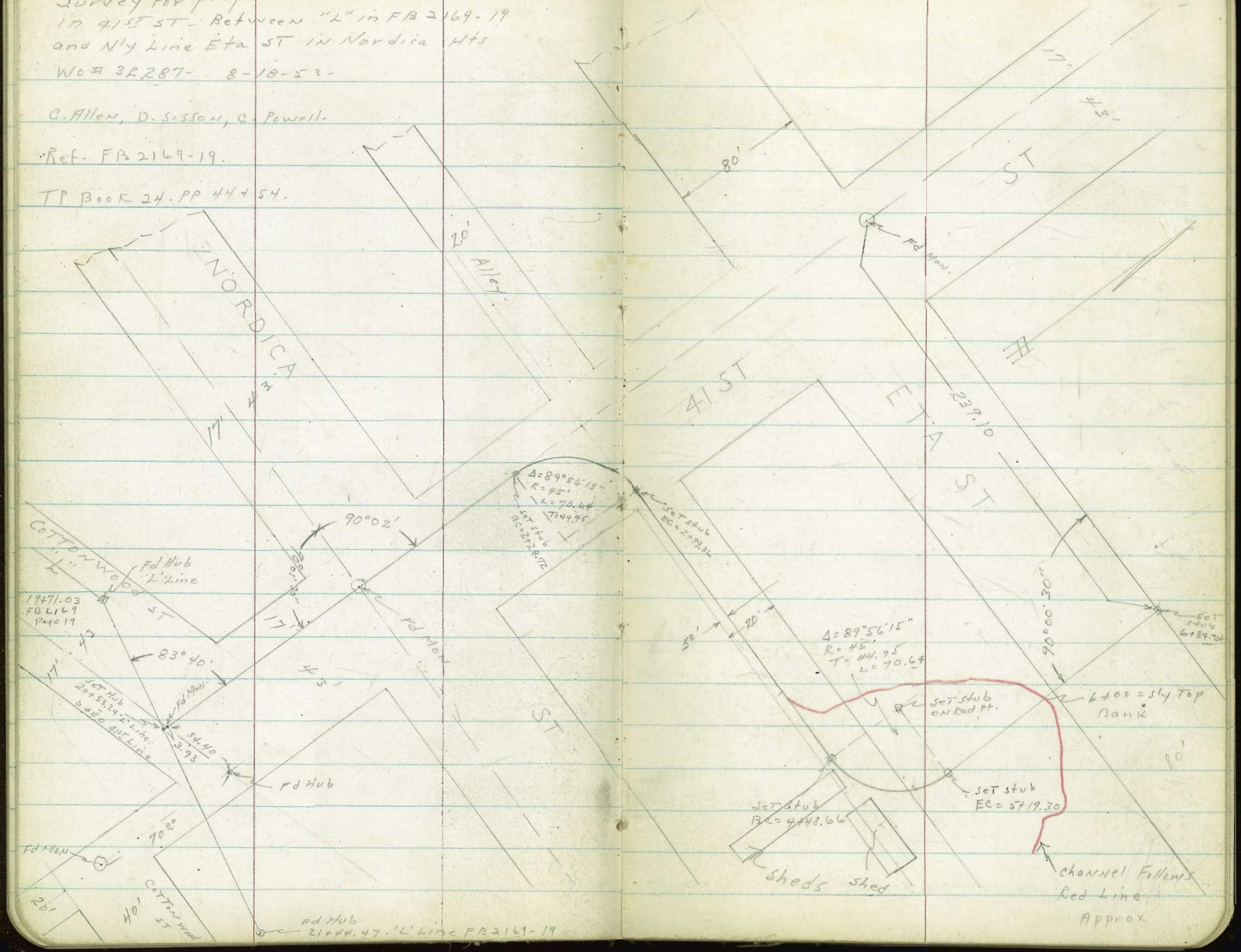
Survey for proposed Storm Drain
in 41st ST. Between "L" in FB 2169-19
and N'ly Line Eta ST in Nordica Hts

WO# 32287- 8-18-53-

C. Allen, D. Sisson, C. Powell.

Ref. FB 2169-19.

TP Book 24. PP 44+54.



Levels - Proposed Drain in 41ST ST. Cottonwood Nly to Nly Line E to ST
See sketch Page 24.

Reduced 8-24-53 Remington

LT = Wly ℄ Rt = Ely. 25

1+00				18.6 9° 15	18.5 9 1
0+93 6	17° LT = end 5' high Cyclone fence				
0+75					18.3 9 3
0+50				19.8 7 8 17	20.5 7 1
0+45	17° LT = Begin 5' high Cyclone Fence				
0+03 93	and Wly 17' Line 41ST St to Nly = Intersection Sly 17' Line Cottonwood to Wly				
0+00	on 41ST St Line = 20+53.24 "L" Line FB 2169-19				25.V 2 4 27.59 T
BM.	9.19	27.59	18.40	ON L. Ho 6 19+71.03 "L" Line FB 2169-19.	

20.4 7 2 43

Proposed Drain #1 ST - Cottonwood
To East ST - Nordica Hts

1+45

1+37

6" Line Comes in from North down # 1 ST & Nordica ST

8" Line flows from East to West down #

1+24 - 13°. Rt = ℄ Sewer MH -

1+10 6.6 = L. 0° 03' 30" Rt -

1+09

1+03 - 17.6 LT = ℄ 14" power pole # PH099 -

LT = Wly ℄ Rt = ely. 26

18.1 / 9.5 / 17

18.7 / 8.9

17.7 / 9.9 / 5

18.2 / 9.4 / 15

17.6 / 10°

12.85 / 14.7 / 13° / IE

18.33 / 9.26 / 13° / RIM?

17.8 / 9.8

18.6 / 9°

27.59 T

41ST ST Drain

LT = wly & Rt = ely

2+48 - Top Cut bank Road grading

2+37 = Top Nly bank Natural channel

channel goes ely to alley to east -

2+28 22 = BC - approx & Ely + Wly channel

2+24 = Bottom Sly bank channel

15' Rt = channel crosses Roadway 41ST ST

2+19 = top of Bank channel Eastly to Westerly

2+00

1+75

19.0	18.9	16.1	18.1	17.9	16.6	16.2
8 6/17	8 7/14	11 5/7 Bottom Channel	9 5/	9 7/5	11 0/7	11 4/15 Radial
			18.3			
			9 3/			
			16.3			
			11 3/			
19.1	19.0		16.3	16.3		
8 5/17	8 6/4		11 3/	11 3/15		
	19.0		19.2	16.6	16.0	
	8 6/17		8 4/	11 0/7	11 6/15	
	19.1		19.2	18.5	17.4	17.4
	8 5/17		8 4/	9 1/6	10 2/9	10 2/15
	19.1		19.1	18.7	18.1	18.4
	8 5/17		8 5/	8 9/7	9 5/9	9 2/15

27.59 ↑

Proposed drain in 41ST ST

3+17- top bank E+W channel-

Section taken 90° to Forward tangent

2+99.36 - EC #5 radius curve

2+89. 5° Rt = ℄ 12" power pole # 1949-

6" Line from alley to East

6" N+S Line

2+73- 17° LT on Radial = ℄ Manhole in 41ST ST

			SNEC Hub	2+99.36
TP,	9.12	27.68 x	9.03	18.56

Section taken Radial

2+63 - approx ℄ graded roadway

2+49 = bottom cutbank Road grading

LT = wly ℄ Rt = ely - 28

19.6	19.2	16.2	18.4
8 1/5	8 5/5	11 5/5	9 3/5
		17 L BOTTOM Channel	30° Top/y Bank

19.7	18.6	17.2	18.2	16.4
8 0/5	9 1/5	8 5/5	9 5/5	11 3/5
	ON Hub ground Sonte		34° Top Bank E+W channel	41 BOTTOM E+W channel

18.76	13.41
8 9/5	14 27/5
17° Rim SMH	17° IE SMH

27.68 π

18.8	17.5	17.6	17.2	19.4	15.9
8 8/5	10 1/5	10 0	10 4/5	8 2/5	11 7/5
11	10		13	30 Top E+W Channel	42 BOTTOM E+W channel

16.8

10 8/5

27 59/5 π

Proposed Drain in 41st St

4+31 - Top Ely Bank

angles approx 80° to Foward Tangent

4+18 - Channel angles to N'ly

4+00 -

3+98 - 7$\frac{5}{}$ Rt = end 3$\frac{5}{}$ high Cyclone Fence

3+75

3+50

3+48 - 7° Rt = begin 3$\frac{5}{}$ high Cyclone Fence

3+40 - ℄ intersects bottom E to W channel

Lt = N'ly ℄ Rt = S'ly

29

15.9	19.0	19.1		
11 8/ 23°	8 7	8 6/ 15		
Bottom Channel				
19.1	15.8	19.1	19.1	
8 6/ 15	11 9/	8 6/	8 6/ 15	
Top N'ly Bank	Bottom Channel	8 Top S'ly Bank		
19.3	19.2	15.9	18.2	19.7
8 4/ 15	8 5/ 12	11 8/	9 5/ 6	8 0/ 7
Top N'ly Bank		Bottom Channel		Top S'ly Bank
19.6	19.5	16.3	18.1	19.9
8 1/ 15	8 2/ 12	11 4/	9 6/ 6	7 8/ 7
Top N'ly Bank		Bottom Channel		Top S'ly Bank
19.7	19.6	16.6	18.0	19.8
8 0/ 15	9 1/ 12	11 1/	9 7/ 6	7 9/ 7
Top N'ly Bank		Bottom of Channel		Top S'ly Bank
19.7	19.6	16.1	18.3	18.7
8 0/ 15	8 1/ 9 0/	11 6/	9 4/ 8 0/	9 0/ 15 !
	Top N'ly Bank		Top S'ly Bank	

27.68 T

Proposed drain in 41st ST

LT = N'ly | ℄ | Rt = S'ly.

5ᵈ Rt = 5' high N+S Lath Fence
5+19.30 = EC - Section taken 90° to forward tang.

19.6	16.2	19.1	19.8	19.8
8.1	11.5	8.6	7.9	7.9
83°	68	45		3
Top Bank	Bottom channel	Top Bank N+S channel		

5+01 - 23° LT Radialy = ℄ 24" pepper tree

5+00 - ℄ intersects chicken sheds - easy to Move

20.0
7.7

20.2
7.5

4+64 - 4° Rt = NW'ly Cor shed

4+51 - 3° Rt = NW'ly Cor chicken shed
℄ intersects 6' high chicken wire fence

Section taken 90° to back tangent
4+48.66 = BC. 45' Radius curve to Left

19.7	19.5	19.5	19.5
8.0	8.2	8.2	8.2
15		5	15

27.68 π

Proposed Drain in 41st St.

TP2	8.39	34.27 ⊼	1.80	25.88

6+50

6+30 - Top bank only side Channel

6+11 = ℄ intersects ℄ channel

6+00 = top bank channel in 'U' shaped channel

5+75

5+50

Lt = W'ly ℄ Rt = Ely 31

34.27 ⊼

24.5 / 3.2 / 15 — 24.4 / 3.3 — 23.8 / 3.9 / 15

22.6 / 5.1 / 15 — 22.7 / 5.0 — 22.9 / 4.8 / 15

19.3 / 8.4 / 40 Top Channel — 16.0 / 11.2 / 25 Bottom channel — 17.2 / 10.5 — 21.3 / 6.4 / 15 Top Bank

24.2 / 3.5 / 92 Top Bank — 16.2 / 11.5 / 75 Bottom channel — 20.3 / 7.4 / 57 Top Bank — 20.6 / 7.1 — 17.5 / 10.2 / 11.0 Bottom Channel — 20.9 / 6.8 / 23 Top Bank

22.7 / 5.0 / 87 Top Chan. — 16.9 / 10.8 / 64 Bottom Channel — 19.7 / 8.0 / 55 Top Bank — 19.7 / 8.0 / 42 — 20.2 / 7.5 — 20.3 / 7.4 / 19 Top Bank — 17.7 / 10.0 / 24 Bottom chan. — 21.2 / 6.5 / 31 Top Bank

20.0 / 7.7

27.68 ⊼

Proposed Drain in 41st St

			(18.40)
TP4 Starting BM Page 25		9.10	18.39
TP3 6.50	27.49	13.28	20.99
8+00			
7+50			
6+84.24 = Nly Line Eta ST			

Lt = Wly ℄ Rt = Ely

8+00:

35.0	35.9	34.7	33.3	35.4
+ 0 7	+ 1 6	+ 0 4	1 0	+ 1 1
100	50		50	100

7+50:

31.5	31.0	28.7	28.2	29.3	30.3	33.0
2 8	3 3	5 6	6 1	5 0	4 0	1 3
100	50		50	75	100	150

6+84.24:

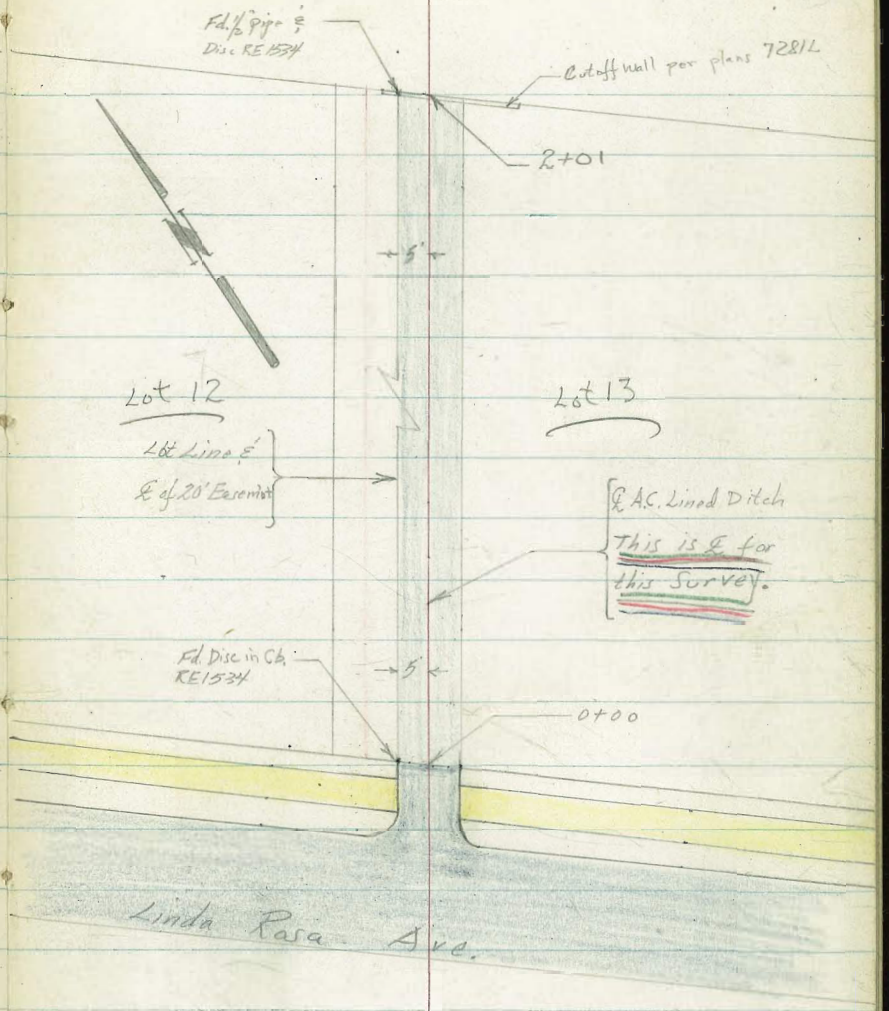
28.5	26.7	25.4	24.6	24.5	24.9	28.3
5 8	7 6	8 92	9 7	9 8	9 4	6 0
100	50	on stub ground same	50	(72 Low spot in street)	100	150

34.27 π

Roberts
Cota
Moore
Nuñalez
10-20-53
W.O. # 21191

Survey For Proposed Storm Drain
Between Lots 12 & 13 Lomas De La Jolla #1

Map 2578



Cont'd From Page 33

					Lt.	℄	Rt.
T.P.	11.73	171.86 ✓	0.55	160.13 ✓			
0+00	End Paving begin thin coat A.C. Lined Ditch Prop. Line				155-60 4.7 15	155-28 5.10 5 cb	155-29 5.39 5 Gut	155-25 5.33	155-26 5.32 5 Gut	155-62 5.06 5 Cb	155-63 5.2 15
0-01.2	Street Barricade										
0-03	Walk Edge				155-61 5.07 15 Walk Edge	155-24 5.14 5 Cb	155-24 5.44 5 Gut	155-27 5.45	155-26 5.42 5 Gut	155-26 5.12 5 Cb	155-27 5.21 15 Walk Edge
0-06	E.C. Curb Return & Walk Edge				155-57 5.09 15 Walk Edge	155-46 5.19 5 Cb	155-11 5.57 5 Gut	155-08 5.66	155-08 5.60 5 Gut	155-47 5.21 5 Cb	155-20 5.28 15 Walk Edge
0-10	Curb Line Linda Rosa				155-29 ~~4.89~~ ~~4.89~~ 50 Cb	155-30 5.38 50 Gut	155-13 5.25 9 Cb	154-63 5.73 9 Gut	154-64 5.74	154-67 5.81 9 Gut	155-34 5.34 9 Cb	154-52 6.15 50 Gut	155-04 5.64 50 Cb
T.P.	5.10	160.68 ✓	2.81	155.58 ✓ ON Disc					160.68				
T.P.	12.53	158.39 ✓	0.20	145.86 ✓									
T.P.	12.96	146.06 ✓	0.20	133.10 ✓									
BM	13.30	133.30 ✓		120.00 NWBP Midway & Bellvue									

Contd From Page 34

				Lt.	℄	Rt.
T.P.	9.73	180.91 ⊼ 0.68	171.18			
1+22	6.4 Lt	Begin Lattice fence		172.1 +2.0 15	173.2 +1.8 6	172.4 +0.5 5
1+21	5.3 Lt	End board fence		169.8 2.0 15	171.8 0.1 8	172.2 +0.3 5
1+00					170.4 1.5 15	170.0 1.9 4
0+74	5.2 Lt	to ℄ in fence		168.2 3.2 15	168.6 3.3 6	167.6 4.3 4
0+57	9.2 Lt	Shrubs alongside inside fence. Begin board fence				
0+30				167.2 4.2 15	167.7 4.2 13	163.0 8.9 4
0+06					154.3 12.6 15	154.3 12.6 5
		171.86 ⊼				

	Lt.	℄	Rt.
1+22	169.5 2.4	169.3 2.6 1	171.4 0.5 6
1+21	169.5 2.4	169.2 2.7 1	171.8 0.5 6
1+00	167.7 4.2	167.4 4.5 1	169.2 2.2 6
0+74	165.5 6.2	165.4 6.4 1	167.3 4.4 6
0+57			
0+30	161.1 10.8	160.8 11.1 1	163.2 8.7 6
0+06	158.8 15.0	160.0 11.9 5	161.8 10.1 7
			171.86 ⊼

	Lt.	℄	Rt.
1+22	171.1 +2.0 15	173.2 +1.8 6	172.4 +0.5 5
1+21	169.8 2.0 15	171.8 0.1 8	172.2 +0.3 5
1+00		170.4 1.5 15	170.0 1.9 4
0+74	168.2 3.2 15	168.6 3.3 6	167.6 4.3 4
0+57			
0+30	167.2 4.2 15	167.7 4.2 13	163.0 8.9 4
0+06		154.3 12.6 15	154.3 12.6 5
			171.86 ⊼

	Lt.	℄	Rt.
1+22	172.1 +2.0 15	173.2 +1.8 6	172.4 +0.5 5
1+21	169.8 2.0 15	171.8 0.1 8	172.2 +0.3 5
1+00		170.4 1.5 15	170.0 1.9 4
0+74	168.2 3.2 15	168.6 3.3 6	167.6 4.3 4
0+57			
0+30	167.2 4.2 15	167.7 4.2 13	163.0 8.9 4
0+06		154.3 12.6 15	154.3 12.6 5
			171.86 ⊼

	Lt.	℄	Rt.
1+22	169.5 2.4	169.3 2.6 1	171.4 0.5 6
1+21	169.5 2.4	169.2 2.7 1	171.8 0.5 6
1+00	167.7 4.2	167.4 4.5 1	169.2 2.2 6
0+74	165.5 6.2	165.4 6.4 1	167.3 4.4 6
0+57			
0+30	161.1 10.8	160.8 11.1 1	163.2 8.7 6
0+06	158.8 15.0	160.0 11.9 5	161.8 10.1 7
			171.86 ⊼

Cont'd From Page 35

Check		11.60	120.01	= 120.00
T.P.	0.18	131.61 ✓	12.83	131.43 ✓
T.P.	0.54	144.26 ✓	12.48	143.72 ✓
T.P.	0.21	156.20 ✓	12.55	155.99 ✓
T.P.	0.42	168.54 ✓	12.79	168.12 ✓
2+30	Bottom Ditch			
2+00.6	{Section parallel to Subd Line. {Ely or Upstream face of Cutoff Wall			
1+57				
1+51	6^{2} Lt End Lattice fence			

180.91 ⊼

Lt | ℄ | Rt

REDUCED BY LOCHHEAD 10-22-53

2+30: ℄ 174± / 6.5

2+00.6:

180^{5}	180^{1}	176^{61}	176^{59}	173^{20}	173^{26}	176^{61}	176^{63}
0.4	0.8	4.30	4.32	7.21	7.65	4.30	4.28
15	13	7 End Wall	5	℄	0.9	6.7	14.7 End Wall

1+57:

176^{4}	175^{9}	174^{4}	171^{8}	171^{6}	173^{6}	174^{4}	174^{4}
4.5	5.0	6.7	9.1	7.3	7.3	6.5	6.5
15	8	5	℄	1	6	10	15

1+51:

174^{5}	174^{6}	173^{8}	171^{4}	171^{2}	173^{1}	173^{9}	173^{8}
6.4	6.3	7.1	9.5	9.7	7.8	7.0	7.1
15	7	5	℄	1	5	10	15

180.91 ⊼ ✓

D. Smith
J. Rorer
R. Taylor
B. Fish

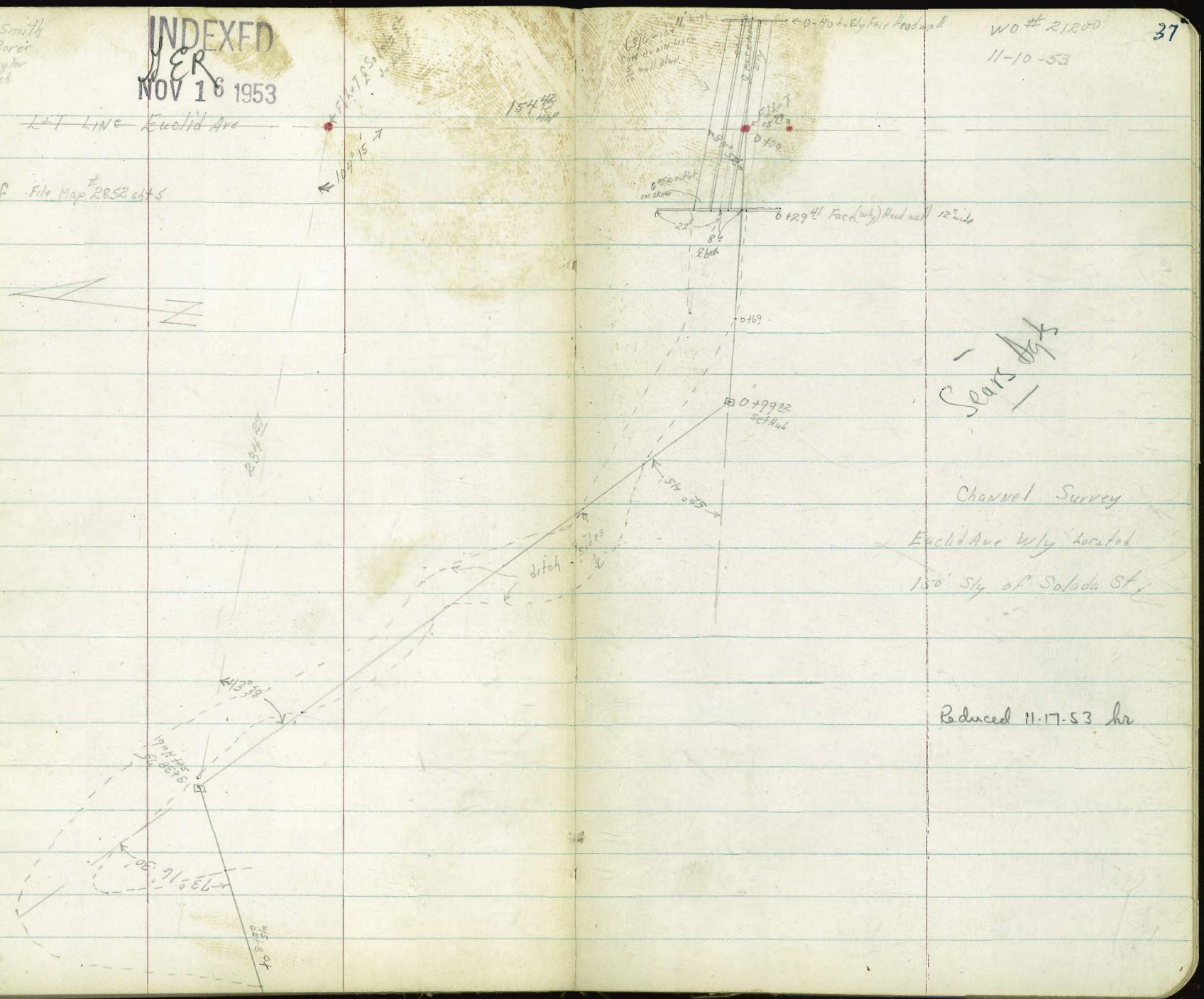
INDEXED
JER
NOV 16 1953

WO # 21250
11-10-53

37

L & T LINE Euclid Ave

Ref. File Map # 2852 sht 5



Lt = Sly Base Line Rt = Nly

1+75

114.6 111.6 104.8 104.3 108.1 108.4 108.4 108.4
+1.0 2.0 8.2 9.3 5.5 5.2 5.3 5.2
30 23 14 10 4 10 20

1+50

109.0 108.8 108.6 105.5 104.5 104.5 108.5 108.5
4.6 4.8 5.0 8.1 9.1 9.1 5.1 3.1
20 15 9 4 6 8 20

1+25

109.3 109.3 109.4 104.8 104.6 108.8 108.9
4.3 4.3 4.2 8.8 9.0 4.8 4.7
10 4 10 18 23 33

0+99.02 Lt Rt 52° 45' ON Split

111.8 110.2 110.0 110.3 104.9 105.5 107.9 107.8 109.0
1.8 3.4 3.6 3.5 8.7 8.1 5.7 5.8 4.6
17 8 12 18 20 25 28 33

0+75

111.6 109.6 105.6 107.2 109.0 109.6
2.0 4.0 8.0 6.4 4.6 4.0
10 5 22 26 35

0+75

113.6 111.8 105.4 109.0 109.3
0.0 1.8 8.2 4.6 4.3
22 10 12 20

0+29.41

111.6 113.06 108.2 105.86 105.98 105.93 106.7 111.7
2.0 0.50 3.4 7.72 7.60 7.65 6.2 1.2
10 top Headwall 20 ie 8.6 ie Culvert 14.8 ie 15 36 33

BM 7.60 113.58

105.22 je Center Pipe w/y outlet.

π 113.58

Lt = Sly Base Line Rt = Nly

3+38 75 L.Lt 73°16'30" on split

105.5 105.7 106.1 106.1 100.7 101.6 102.5 105.6 105.8
8 2 7 9 7 5 7 5 12 9 12 0 11 2 8 0 7 8
20 10 1 6 15 20 25 35

3+20

107.3 106.3 106.5 106.2 101.5 101.0 106.0 106.4
6 3 7 3 7 1 7 4 12 1 12 6 7 6 7 2
20 10 10 17 28 31 41

3+00

110.6 108.3 107.4 105.8 102.8 101.4 101.4 106.6 106.6
3 0 5 3 6 2 7 8 10 8 12 2 12 2 7 0 7 0
17 7 9 14 17 22 31 41

2+75

108.5 107.1 101.9 101.5 103.0 106.7 106.9
5 2 6 5 11 7 12 1 10 6 6 9 6 2
25 14 2 3 7 20

2+50

108.2 107.4 103.0 102.9 102.1 107.4 107.5
5 4 6 2 10 6 10 7 11 5 6 2 6 1
35 10 3 5 10 20

2+25

108.1 107.9 103.0 103.5 107.9 108.2
5 5 5 7 10 6 10 1 5 7 5 4
23 4 10 15 25

2+00

114.4 110.9 104.0 104.1 105.4 106.0 108.4 108.3
10 8 2 7 9 6 9 5 8 2 7 6 5 2 5 3
37 27 20 12 9 17 25

T 113 5.8

Lt = Sly   Base Line   Rt = Nly

5+40

108.0 105.6 98.0 97.7 98.5 99.6 101.4 101.8 101.5

0^{9} 3^{3} 10^{9} 11^{2} 10^{4} 9^{3} 7^{5} 7^{1} 7^{4}

60 50 41 30 29 15 20 30

5+00

108.9 107.5 98.6 97.7 102.0 102.5 102.3

0^{0} 1^{4} 10^{3} 11^{2} 6^{9} 6 4 6^{6}

50 40 33 27 18 20

4+65

113.9 98.4 98.2 101.2 102.9 103.3 103.2

15^{0} 10^{5} 10^{3} 7^{2} 6^{0} 5^{6} 5^{2}

55 40 32 28 17 20

4+30

106.8 100.3 97.9 97.9 102.9 103.7 103.9

2^{1} 8^{6} 11^{0} 11^{0} 6^{0} 5^{2} 5^{0}

31 21 18 16 8 20

3+95

107.9 104.4 99.3 99.5 100.8 103.1 104.6 104.6 104.5

1^{0} 4^{5} 9^{6} 9^{4} 8^{1} 5^{8} 4^{3} 4^{3} 4^{4}

27 13 9 13 14 34 50 75

TP1 4^{47} 108^{93} 9^{12} 104^{46}

π 108^{93}

3+80

106.3 104.6 101.2 100.5 99.4 99.0 100.5 104.8 104.5

7^{3} 9^{0} 12^{4} 13^{1} 14^{2} 14^{6} 13^{1} 8^{8} 9^{1}

20 8 15 25 44 57 64 75

3+70

106.2 104.9 105.1 105.2 104.1 100.6 100.4 105.9 106.0

7^{4} 8^{7} 8^{5} 8^{4} 9^{5} 13^{0} 13^{2} 7^{2} 7^{6}

20 10 18 43 48 58 70 86

π 113^{58}

BM. start. p38		7 35	105 99
TP2	7 20	113 34	2 79	106 14
7+00			
6+65			
6+30			
6+00			
5+75			
5+57			

Lt = Sly Base Line Rt = Nly

104.4 99.8 98.9 95.5 95.5 98.9 98.8 98.2
45 9L 10° 13 4 13 4 10° 10 L 10 2
60 50 44 40 33 26 25

99.7 99.6 95.4 95.5 99.5 99.6 99.7
9 2 9 3 13 5 13 4 9 4 9 3 9 2
40 27 24 21 14 20

100.4 100.6 96.2 95.6 95.8 100.5 100.4
8 5 8 3 12 7 13 3 13 L 8 4 8 2
30 10 5 4 7 30

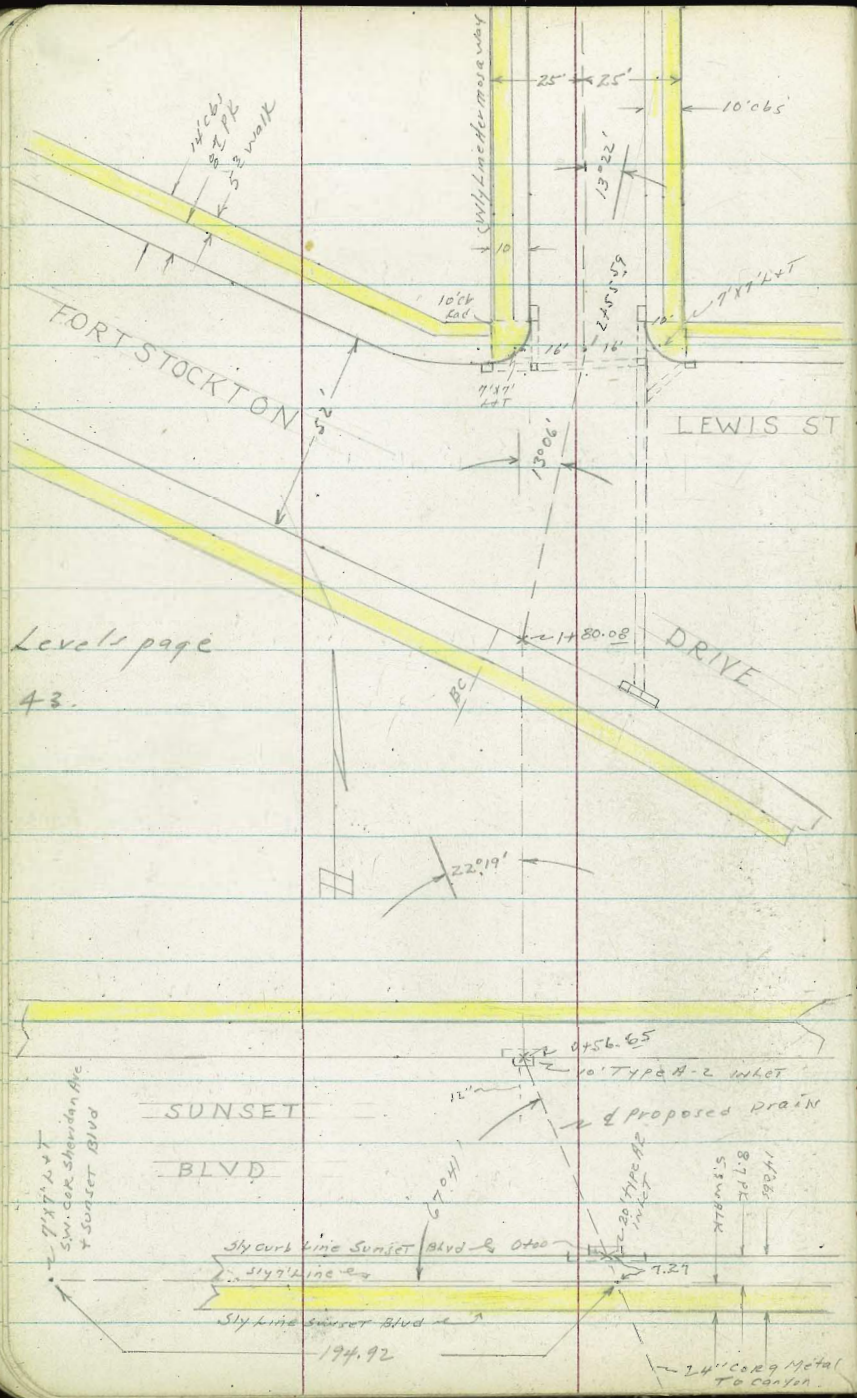
100.8 100.8 95.7 96.9 100.7 100.8
8 L 8 L 13 2 12 0 8 3 8 L
20 2 15 19 30

101.9 101.4 101.5 101.5 96.3 96.7 101.2 101.4
7 0 7 5 7 4 7 4 12 6 12 2 7 2 7 5
40 30 7 10 16 20 30

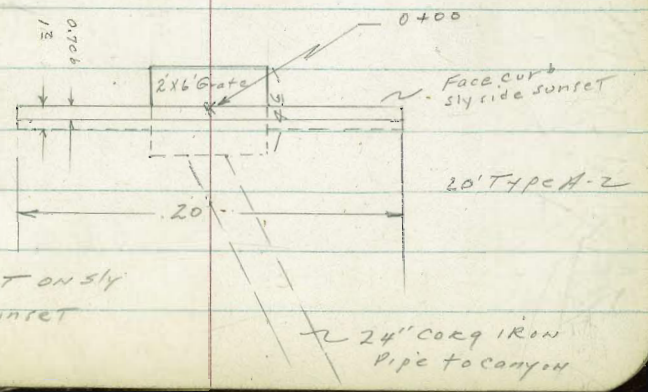
106.3 105.0 97.3 98.1 96.7 95.9 101.5 101.8
2 6 3 2 11 6 10 8 12 3 13 0 7 4 7 1
60 57 40 27 14 18 28

T 108 23

Drain Survey Area Ft Stockton Or,
Lewis ST & Hermosa Way
WO # 21207
12-5-53.
C. Allen, D. Sisson, E. Powell.
Ref. 533-L, TP Sheets 474, 505, 470 -
See pages.



NOTE! Box on N'ly side Sunset and box on S'ly NOT connected.



Detail inlet on S'ly Curbline Sunset

Levels proposed drain
Near Ft Stockton Drive, Lewis St,
Hermosa Way, Sunset Blvd.
See page 42.

LT = Wly ℄ Prop Drain RT = Ely

257.92

0+65 3 = Sly edge Nly Walk Sunset S 3.2

12" pipe goes Sly does not connect to Sly side inlet grate is 2'x2'-

0+56.6S = face Nly curb Sunset + ℄ 10' Type A-2

259.55	258.22	258.02	257.22	254.25	257.22	258.05	257.29	258.12	258.26	258.98
3.81	4.52	5.22	6.02	8.49	6.02	5.19	5.95	5.12	4.98	4.25
5.0 Top Cb	5.0 Gut	5 Top Cb	5 Gut	℄ I.E. Box	℄ grate	℄ Top Cb	5.0 Gut	5.0 Top Cb	5.0 Gut	5.0 Cb

257.82

0+28 3 = ℄ Sunset Blvd. S 8.2

Main Line is 20'± below Rim.
Several laterals enter this M.H

0+25 5 - 6° Rt = ℄ Sewer Manhole - Drop MH.

257.58

S 7.2 Rim 12.09 I.E. 6" Lat Front West 8.75 I.E. 6" Lat Front West = highest Lateral

Sly curb Line Sunset Blvd

0+00 = Chisel 'x' on top curb over Catch basin

257.00

258.22	257.85	257.00	255.67	252.67	257.00	255.20	255.78	257.05	257.21	257.96
5.02	5.39	6.24	7.57	10.57	6.24	7.54	7.45	6.19	6.03	5.30
5.5 Top Cb	5.5 Gut	10 Top Cb	10 Gut	I.E. Box	Top Cb	℄ grate	10 Gut	10 Top Cb	5.0 Gut	5.0 Top Cb

TP	2.02	263.24 ✓	9.16	261.22 ✓	263.24 ✓
BM	2.94	268.38 ✓		265.44	SEBP Ft Stockton Dr & Lewis St

Connected -.
Store Room - garage + Store Room are

0+91.6 5.5 LT = NE cor garage + S.E. cor

0+86.6 - 17.0 RT = SW cor Large Frame house

TP2 5.06 267.32 0.98 262.26

0+75.2 } 11.3 LT = ℄ garage door opens to South
5.5 LT = S.E. cor Single garage And apron Conc floor

0+73

0+72.5 = ℄ E+W Cypress hedge

0+71

0+71 - Sly face low brick wall - Shallow footing

0+70.6 = Nly edge Nly walk

LT = Sly ℄ RT = Nly -

4.23 (263.09) 5.5 Store Room Floor Wood
8.73 (258.59) 5.5 gar floor
5.7 (261.6) 5.5 ground

267.32

4.65 (258.67) 11.3 ℄ garage Conc Floor
3.4 (259.9) 5.5 ground

2.9 (260.3)

3.4 (259.8)

2.2 (258.0) gr
3.4 (259.8) Top wall

1.8 (258.06)

263.24

Proposed Drain

LT = Sly ℄ RT = Nly

1+22 - 5.5 LT = ℄ 10" Anchor pole #450761H

7.3 LT = Ely of 2' Ribbon at drive
garage opens to Nly
1+16 - 5.6 LT = NE COR garage Conc floor

4.22 / 263.10 — ℄ Door Conc Floor 10.8

4.3 / 263.0 — 5.6 ground

1+10 - 4.5 LT = ℄ 10" Boganvilla

1+08.5 - 3.7 RT = COR Jog in Frame House

5.1 / 262.2 — 3.7 ground

3.40 / 263.92 — 3.7 Floor House

(conc floor)
SE COR Ajoining garage
1+00.8 5.5 LT = NE COR Store Room +

4.20 / 263.12 — 5.5 Floors

5.4 / 261.9 — 5.5

1+00 - 4.6 LT = ℄ Dead Man -

5.4 / 261.9

0+99.5 - 8.5 RT = COR Jog in Frame house

267.32

Proposed drain

TP3	5.27	269.32	3.27	264.05 ✓

1+62 - ℄ Proposed Drain intersects 4" hedge cypress

1+61 - 6.5 RT = Wly end 9' Wide conc parking strip

1+57 - 0.5 LT = ℄ 12" Palm tree 16' high -

cypress hedge -

1+56 - 4.5 RT = ℄ begin 3.5 high + 3' wide

1+50 -

1+47 - 2' LT ℄ 3' India Date palm - Not high

1+46 - 5.5 LT = ℄ cypress hedge begin 8' high + 3' wide

1+39 - 2.5 LT = ℄ end 4x3 hedge

1+32 - 2.0 LT = ℄ 5" Loquot tree -

1+26 ℄ - 6.0 RT = Wly edge 9' Conc parking strip - RUNS N+S

4.0 RT = NW COR. Frame house

1+24 - 2.0 LT = ℄ 4' high + 3' wide hedge (Th. N)

LT = 514 ℄ RT = 614.

269.32 ✓

264.08

3.24

6.5 conc

264.4

3.1

263.4

3.9

4.0 ground

263.8

3.4.0

4.0 Floor

263.2

3.6.0

4.0 Conc

267.32 ✓

TP4 3.88 269.31 3.89 265.43

1.2 LT = BC Ft Stockton Dr.
section taken along Wly curb Ft Stock-
Catch basin

Curb in Poor condition
26.0 along curb to RT = Wly edge
7.0 LT = NE COR 9' conc drive
7.0 RT = NW COR 9' conc drive
Ft Stockton Drive
1+80.08 = ∠ 13°06' RT - also face sly curb

1+79-1.3 LT = ℄ Fire Hydrant

1+78 - 5.0 LT = ℄ 12" power pole #P1801

1+71 = Nly edge Sly Walk

1+65.2 = Sly edge sly walk

See detail page
1+65 - 30.8 RT = ℄ special catch basin

LT = Wly ℄ RT = Ely

269.31

263.76	263.14
5.56	6.18
26.0 Top cb	26.0 gut

264.72	265.32	263.60	264.12	263.83	263.50	263.89	263.34
4.60	4.00	5.72	5.20	5.39	5.82	5.43	5.98
50 gut	50 Top cb	7.0 gut	7.0 Top cb	Top cb	℄ gut	7.0 Top cb	7.0

264.12
5.20

264.17
5.15

269.32

Proposed drain Ft Stockton

Culvert connecting cleanouts
Page 50

2+49- ℄ Proposed Crosses 2'x2' combox

2+45- 12± LT = ℄ 2'x2' Cleanout See detail page 50
NW cor Ft Stock + Hermosa Way - see detail

2+41- 25° LT = ℄ Scoop type grate inlet

Most Likely Not Sewer)

2+39- 9° LT = ℄ Sealed Manhole

2+24 ± = ℄ Lewis ST to ELY-

Main Line, 31 20 ± below Rim
Shot taken on Lateral entering from WLY-
Laterals enter this MH-

2+21- 8° RT = ℄ Sewer Manhole

2+06 ± = ℄ Ft Stockton Dr to WLY.

2+00

LT = WLY ℄ RT = ELY

266.78
2 5.3
℄ Top Culvert

265.80 266.61
3 5.1 2 5.0
25.0 12" Rim Cleanout
IE intake

266.78
2 5.2
9.0
Rim

266.61
2 6.2

266.38 265.38
2 7.3 10.3.8
Rim IE = Lateral from WLY-

265.26
3 3.5

265.28
3 88

269.31

Proposed Drain

		Starting BM
TP5	3.87	265.44 ✓

3+55.59 On Hermosa Way

Scoop type inlets See inlet Detail

2+63.6 - 15.0 LT & 15.0 RT = face curbs over

Lewis

2+55.59 - ℄ Proposed drain intersects Nly 7' Line

NE COR Hermosa Way & Lewis

2+53 - 27.0 RT = ℄ Scoop type inlet

See Detail page 50

2+52 - 14.6 RT = ℄ 2'x2' Cleanout

LT = Wly ℄ RT = Ely

0.32 / 15.0 Top cb / 268.99	0.38 / 15.0 gut / 268.93	0.07 / 269.24	0.40 / 15.0 gut / 268.91	0.26 / 15.0 cb / 269.05
2.50 / 15.0 Top cb / 266.81	3.55 / 15.0 intake / 265.76	2.33 / 266.98	3.57 / 15.0 intake / 265.74	2.42 / 15.0 Top cb / 266.89

3.75 / 27.0 IE intake See Detail / 265.56

2.64 / 14.6 Rim cleanout / 266.67

269.31 HI

Hermosa way

N.W. COR Hermosa way and FT Stockton dr.

Top Cb = 266.83

intake 266.27
Grate: 266.42
IE = 265.77
Grate = 266.81

10' rad

2-6" CMP

Rim = 266.83

IE = 265.65

30'

Intake = 266.26

Grate = 221.72

IE = 265.82

Grate = 266.93

FT Stockton dr

These drains are in place as shown on S33-L

sty curb line

sty line FT Stockton

50'

intake 266.27
Grate = 266.48
Top Cb = 266.88

Grate = 266.81
IE = 265.73

10' rad

Intake = 265.89
Grate = 266.23

Rim = 266.67
IE = 265.21

IE = 265.55
Grate 266.66

Lewis ST

Topcone Box = 263.18

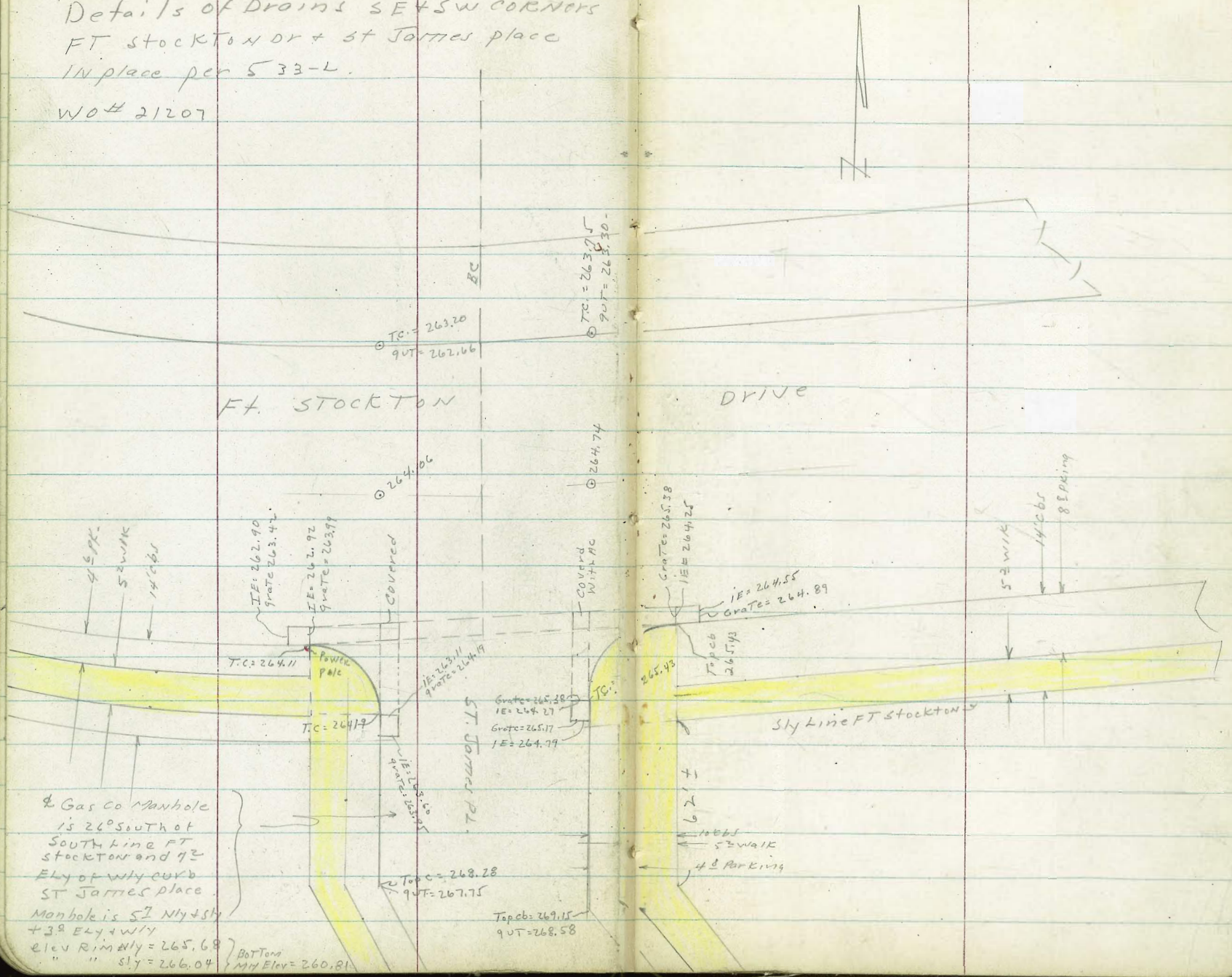
N

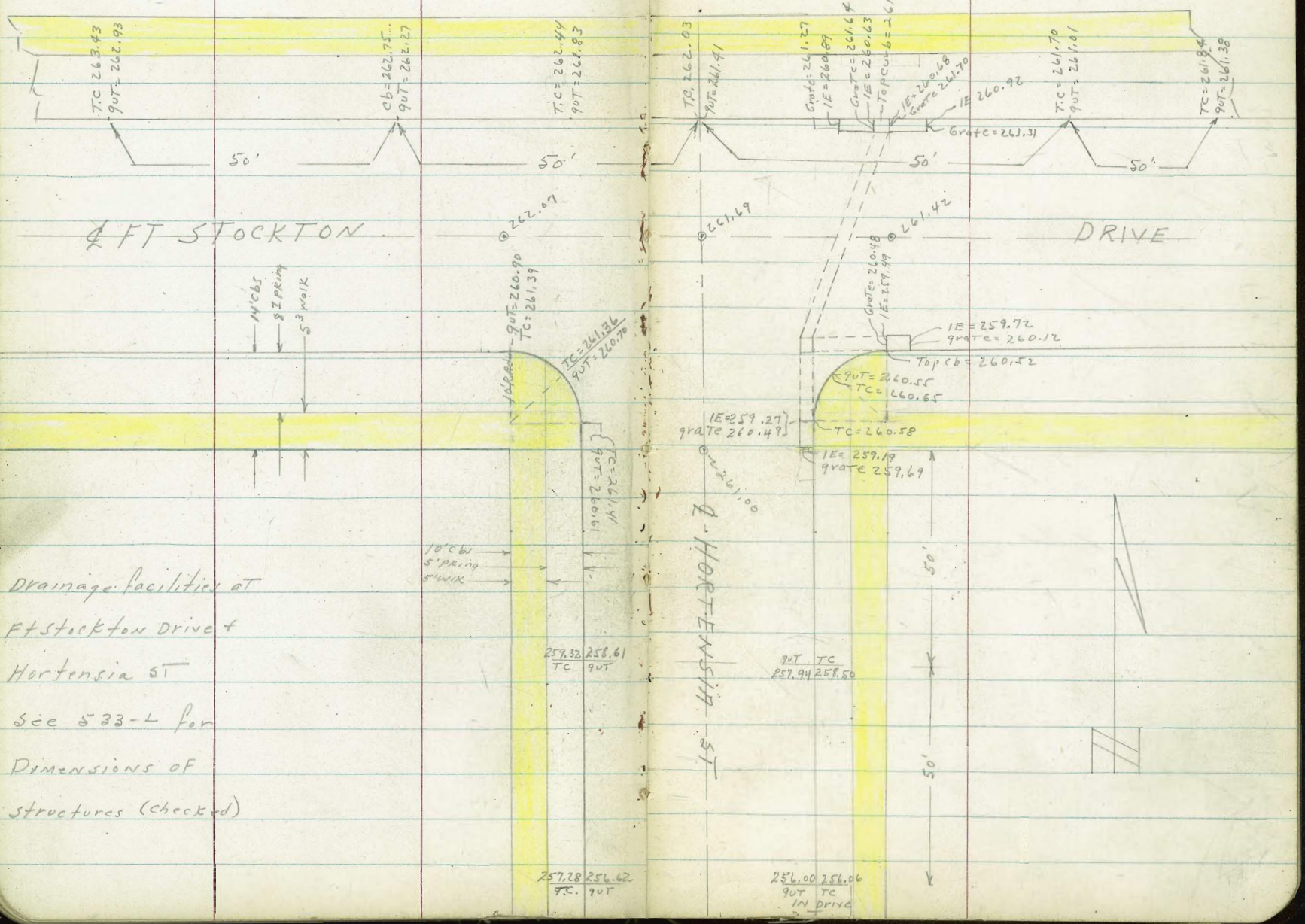
Outlet = 262.44
Grate = 263.03

Grate = 263.56
Outl = 262.98
Inlet = 263.15

This curb in poor condition.

Details of Drains SE + SW corners
FT stockton or + St James place
IN place per S 33-L.
WO # 21207





Drainage facilities at Ft Stockton Drive & Hortensia St

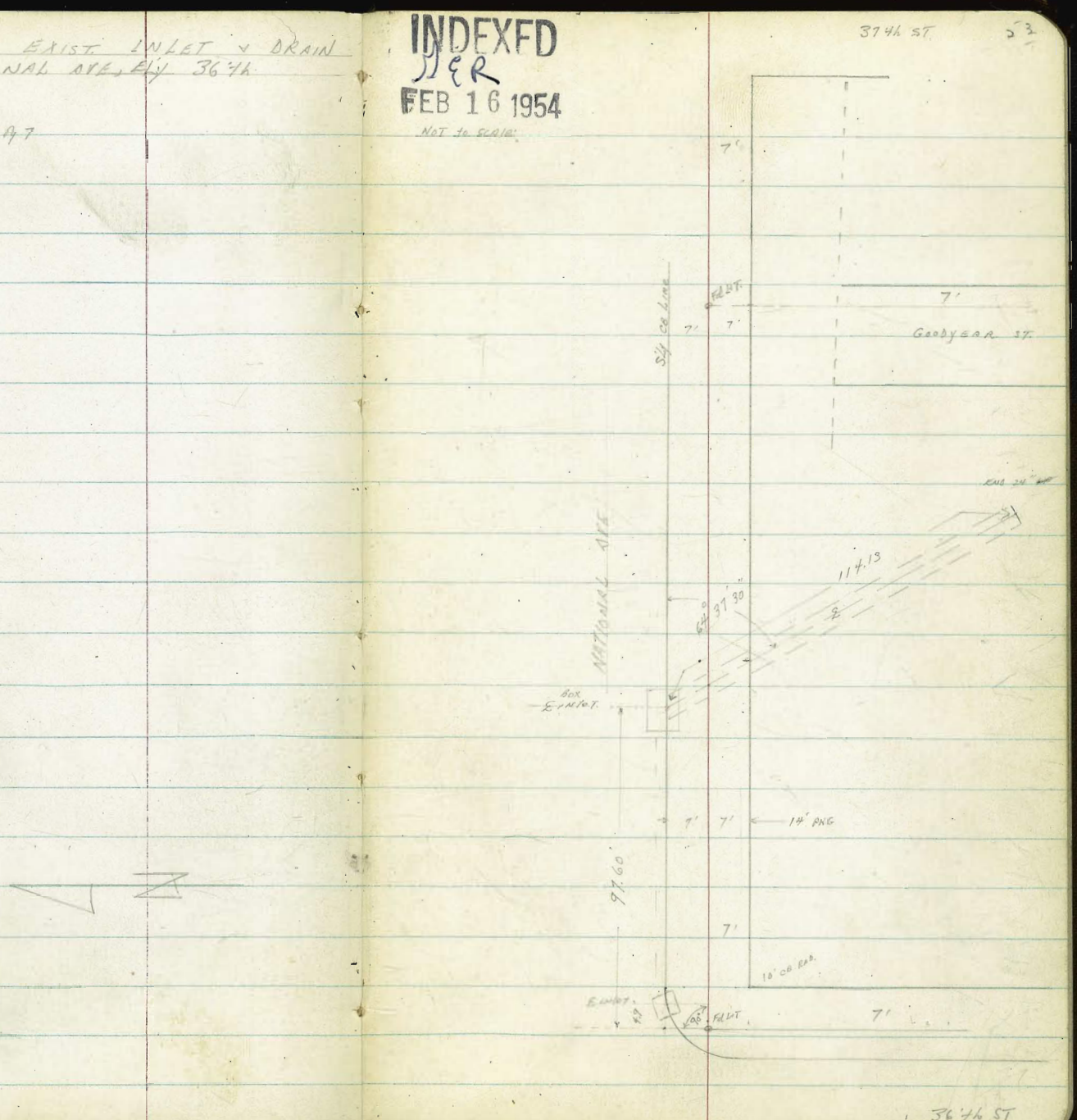
See S 23-L for Dimensions of structures (checked)

Clark
Shephard
Brewer
2-15-54
W.O. 21092

LOC EXIST INLET & DRAIN
NATIONAL AVE, E/J 36'th

See also, Pg 7

NOT to SCALE:

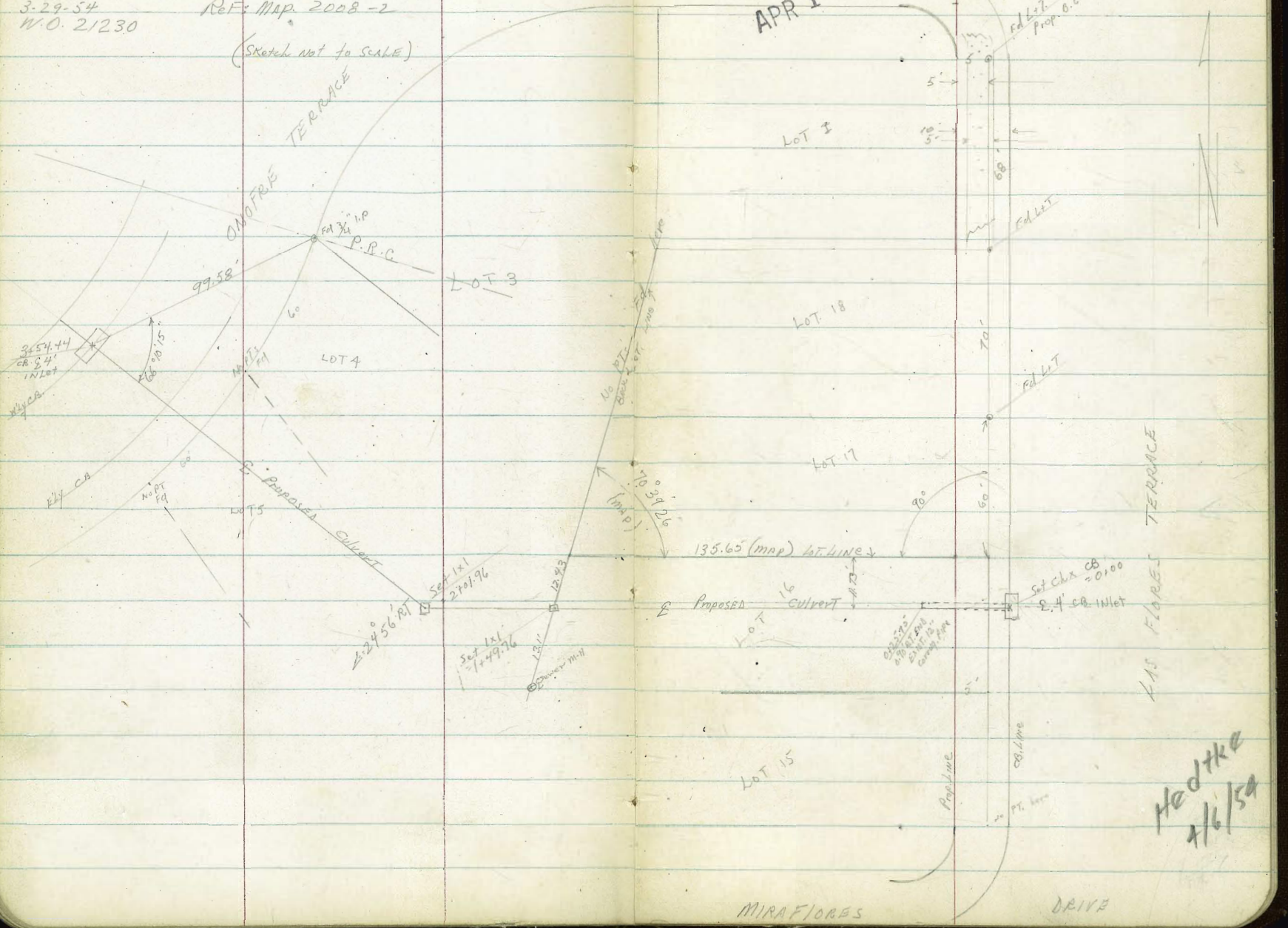


SURVEY to EXTEND CULVERT
LOT 16 - BLK 14
VALENCIA PARK

Clark
Shephard
Bruner
Oneil
3-29-54
W.O. 21230

REF: Map 2008-2

(Sketch not to SCALE)



Hedtke
4/6/54

PROPOSED EXT. CULVERT LOT 16 - BLK 14
VALENCIA PARK

55

(S'ly) LT. | ℄ | RT. (N'ly)

0+25.75 — 0.90 RT. ℄ - END 12" Corrug. Pipe
253.47 / 9.79 / 0.90 — F. LINE EXIST PIPE

0+25 — TOE BANK
254.36 8.9 / 5 — 254.86 8.4 — 254.46 8.8 / 5 — 254.96 8.8 / 11.73

0+10 — = Prop Line, W'ly LAS FLORES
260.96 2.3 / 5 — 260.56 2.7 — 260.06 3.2 / 5 — 260.96 2.3 / 11.73 — LOT LINE 16+17

0+09 — BK. Edge WALK
260.90 2.36

0+04 — F. Edge WALK
261.24 2.02

0+00 = CB FC AT ℄ — 4' CB INLET — STD 8" CB'S
261.42 1.84 / 10 / CB — 260.66 2.60 / 10 / G — 260.26 3.00 / GUTT ℄ — 258.07 5.19 / F. LINE INLET — 261.24 2.02 / CB ℄ — 260.53 2.73 / 10 / G — 261.35 1.91 / 10 / CB

T.P.	9.75	263.26	0.65	253.51	
T.P.	13.06	254.16	1.24	241.10	
T.P.	12.93	242.34	0.37	229.41	
T.P.	13.05	229.78	0.15	216.73	
T.P.	13.23	216.88	0.13	203.65	
T.P.	13.04	203.18	0.09	190.74	
B.M.	7.43	190.83		183.40	N W G.P. SAN JACINTO & SAN BERNARDO TERRACE

263.26

Proposed DRAIN (CONT.)

1+63 ~~2+63~~ ℄ = Bottom of Widened Ditch Area

T.P.	0.82	240.86	1238	240.07
459	= Edge ERODED Area (Ditch Widens here)			
1449.76	Sect Along BACK-LOT Line			
1449.76	= ℄ Prop. Culvert & LOT Line (Sect. at 90° ℄)			
1+40	℄ LT Beg ERASION Channel (Ditch			
1+00				
T.P.	1.79	252.42	1263	250.63
0+50				

LT. ℄ RT.

240.26 234.86 234.06 234.56 239.06 239.36
0.6 6.0 6.8 6.3 1.8 1.5
10 8 3 6 10
TP BANK TP BANK

240.86

241.02 234.82 234.72 238.82 240.32
11.4 17.6 17.7 13.6 12.1
12 10 3 5
TP BANK Both. ERODED Area

241.08 239.32 237.19 237.12 239.92 240.92
11.34 13.1 15.23 15.3 12.5 11.5
13.1 11 8 8 3.7
TP Sewer M.H(Rim) TP Exposed 6" Sewer Pipe Ditch

240.92 237.13 240.22 240.92
11.5 15.3 12.2 11.5
10 7.0 3.5 5 11.7
Bottom

241.22 238.92 241.32 241.52 242.02
11.2 B.2 11.1 10.9 10.7
11 8 5 11.7
℄ Ditch

245.82 246.02 246.22 246.82
6.6 6.4 6.2 5.6
5 5 11.7

252.42

251.86 251.66 252.06 251.96
11.4 11.6 11.2 11.3
5 5 11.7
Lot Line

PROPOSED DRAIN (CONT.)

CHK:			7.92	183.37 = 183.40 (see B.M.)
T.P.	0.24	191.29	13.18	191.05
T.P.	0.92	204.23	12.87	203.31
T.P.	0.80	216.18	12.84	215.38

3+54.44 = CB Fc. ℄ W'ly INLET.

3+39.08 = ℄ PAV. SAN. ONOFRE TERRACE

3+23.88 = Fc. E'ly CB. (water drains over CB., across ST. & into W'ly inlet)

3+19.88 = F. Edge walk

3+14.88 = BK. WALK - SAN ONOFRE TERRACE

3+00 Ditch ends here

T.P.	0.25	228.22	12.89	227.97

2+50

2+01.96 = ∠ 24°56' RT SOLT AT 90° BK TANG.

LT. ℄ RT.

Hadtke 4/6/54

223.41 4.81 CB ℄ — 219.75 8.47 F. LINE ℄ — 222.38 5.84 GUT ℄

223.51 4.71/10 — 223.56 4.96/5 — 223.26 4.96 — 223.42 4.80/5

224.19 4.03/5 CB — 223.64 4.58/5 GUT — 224.32 4.00 CB — 223.70 4.52 GUT ℄ — 223.76 4.46/5 G — 224.27 3.95/5 CB

224.31 3.91

224.11 4.11

225.52 2.7/10 — 225.22 3.0 — 226.42 1.8/10

228.22

230.76 10.1/12 TP. BANK — 226.56 14.3/2.5 — 226.16 14.7 — 226.86 14.0/4 — 230.06 10.8/10 on slope (Break slope Cont. 30' RT)

238.36 2.5/12 TP BANK — 229.56 11.3/2 — 228.96 11.9 — 229.16 11.7/3 — 235.26 5.6/14 TP BANK

240.86

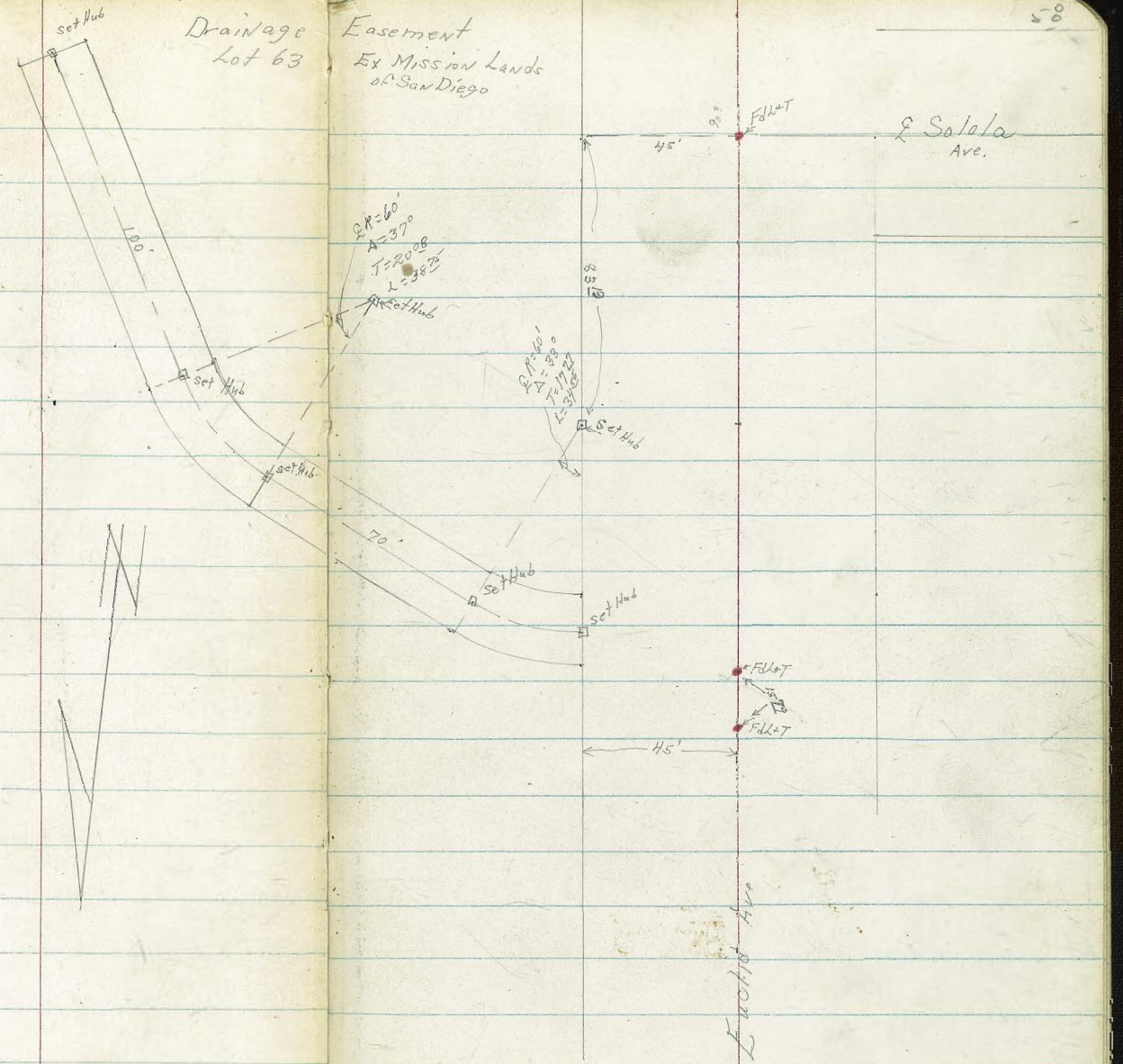
W O # 21200
7-19-54
D. Smith
J. Rorer
R. Taylor
B. Fish

INDEXED
JUL 20 1954

Ref 5170-B
pg 37 this Book

Drainage
Lot 63

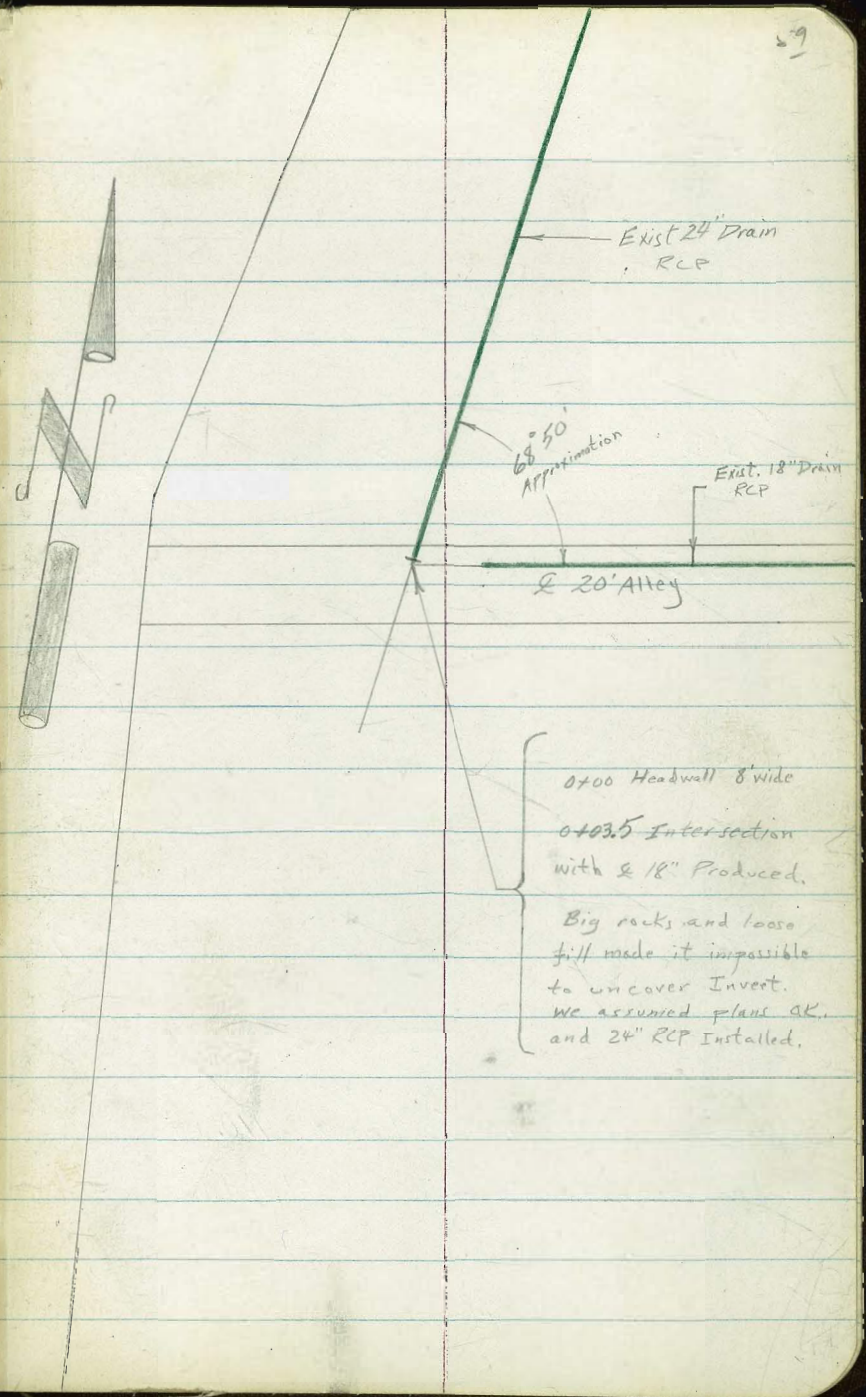
Easement
Ex Mission Lands
of San Diego



Roberts
Cota
Moore
Moralez
9-3-54
W.O. # 20625

Survey for proposed Inlet Box
in Alley Block 69, Villa Tract La Jolla Park

No ties for: Somers



0+00 Headwall 8' wide

0+03.5 Intersection
with ℄ 18" Produced.

Big rocks and loose
fill made it impossible
to uncover Invert.
We assumed plans OK.
and 24" RCP Installed.

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Sta.					Lt	℄	Rt
0+50						104.53 6.0	
0+26.5	cross sewer lateral					103.33 8.2	
0+10.5	Cross proposed sewer Lateral						
0+03.5	Intersect ℄s of Exist. Drains				108.17 2.36 16.6 INVERT 18" RCP · 107.73 8.3 16.6 on Diagonal GRD	99.93 10.6	
0+00	So. Face Headwall (GROUND Elev. will be feet higher after first rain or when kids play on slope.)				101.53 9.0 8 · 100.44 10.11 Top Headwall	93.30 17.23 Invert · 100.13 10.4 GRD	103.83 6.7 10
0-16	Edge of Fill (Slope very loose dirt)				higher · 110.03 0.5 13 BRK	109.53 1.0 · 109.93 0.6 15	Same
T.P.	0.36	110.53 ⊼	4.12	110.17		110.53 ⊼	
~~T.P.~~	10.16	114.29	0.97	104.13			
T.P.	13.17	105.10	0.28	91.93			
BM	6.19	92.21		86.02 Chisel Square Nly Corner Sewer pump house Amalfi & Torrey Pines Road.			

Cont'd From Page 60

check			12.71	86.00 = 86.02
T.P.	0.30	98.71	12.12	98.41
		110.53		

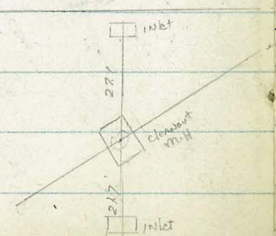
Clark
Shephard
Bruner
O'Neil
10-5-54
W.O. 21275

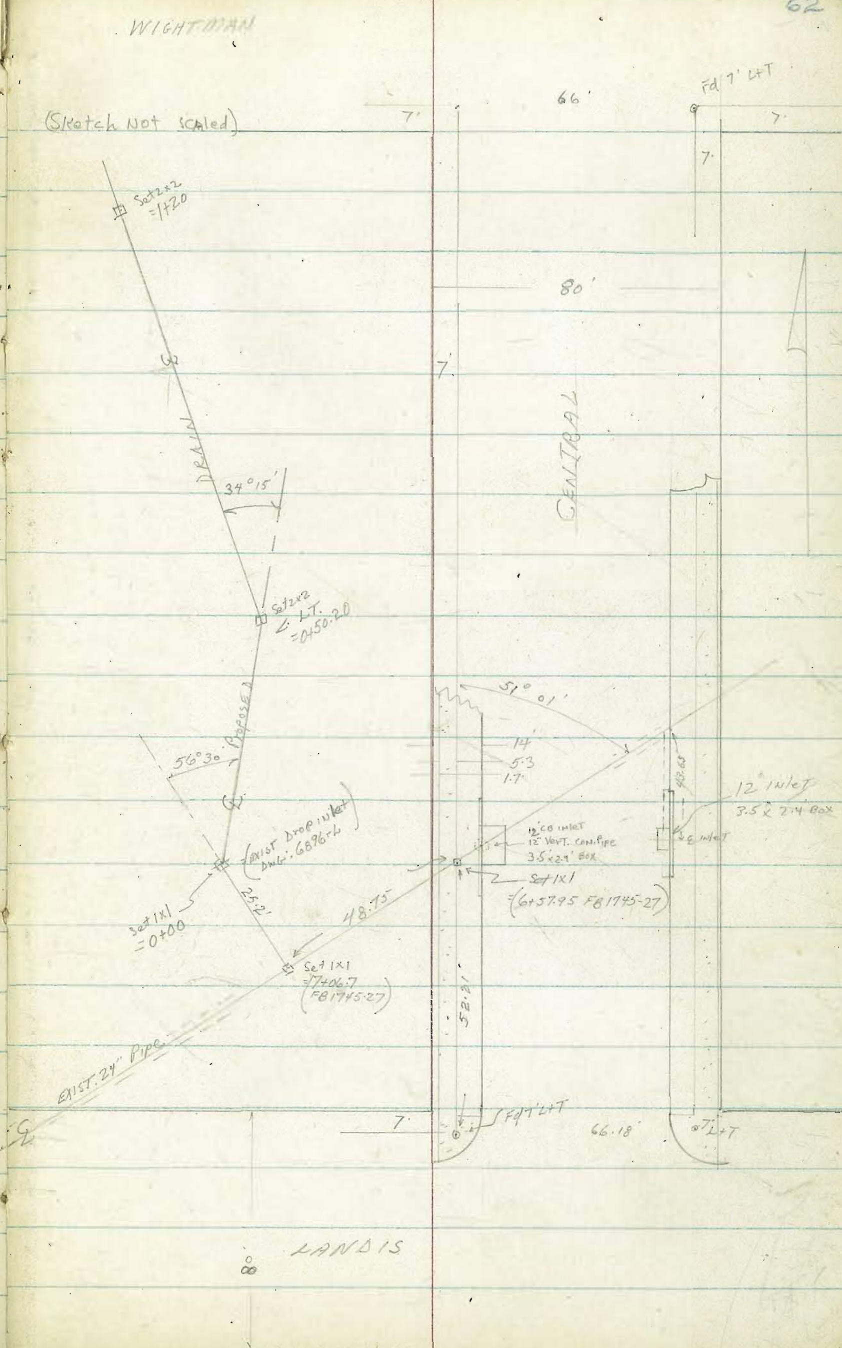
SURVEY PROPOSED DRAIN - B.R.
68 - CITY HTS. - Central & Landis
EXIST. DROP-INLET - 120' N'LY

Ref: F.B. #1745 - 27
DWG: #6896-L (6596 L ?)
T.P.S. #3542

Staked 8-25-55
DWG 5476-B. C. Allen.

Note: DWG: #6896-L (OBSOLETE) shows 89' pipe laid N.E'ly 41°13' off BR. TANG. of 25.2' of 24" pipe (Sta 7+06.7) Beg. at 0+00, (See Sketch). As near as we can ascertain this pipe not in. J.C.





PROPOSED DRAIN - BK 68
CITY HTS

					LT.	℄	RT.
0+75					3147 4.9 10 ON Slope	3078 11 2 Toe	11.1
0+50.20		(SECT 90° FOR. TANG.)			3242 +6.3 38	3252 +6.2 28 Shoulder	10.4 2 Toe 10.6
0+50.20 = ∠ LT. 34° 15'		(SECT 90° BK. TANG.)			3242 +5.7 43	3248 +5.8 33 Shoulder	10.6
0+40 =	Toe				3230 +6.0 36	3252 +6.0 26 Shoulder	8.8
T.P.	0.08	318.96 ✓	12.49	318.88 ✓			318.76 ✓
0+25					3250 6.4 35	3254 6.3 23 Shoulder	3256 15.9 Bott.
0+00	= EXIST. Drop Inlet (DWG 6896-1) = Shoulder EXIST F/L (V-shaped Canyon)					3256 5.8 20	3222 4.1 = Shoulder EXIST F/L
T.P.	0.64	331.37 ✓	13.01	330.73 ✓			331.37 ✓
B.M.	0.24	343.80 ✓		343.56 = N.W.B.P. CENTRAL & WIGHT (MAN			

3094 9.9 8 Toe
3148 4.2 20 ON Slope
3268 +7.8 Shoulder
3271 +8.0 34.2 = Edge Walk
3268 +7.5 33 Shoulder
3267 +7.7 40
3258 +6.0 30 Shoulder
3252 +6.3 40
3270 4.4 20 Shoulder
3265 4.9 30
3267 4.5 20
298.13 = Elev F/Line (DWG 6896-1)

DRAIN - BLK 68 (CONT.)

		LT.	℄	RT.
1428	8.5 LT Edge Conc. SLAB 18.0' RT S'ly Corn. Rock+Conc. Ret. WALL 15.0 RT ℄ 6" EUCALYPTUS Tree	311.51 7.45 8.5 Bott.	311.20 7.26 8.5 TP Conc.	314.69 4.27 18.0 FTG WALL 314.58 +0.62 18.0 TP WALL
1424	= ℄ 6' Steel-Wire Fence (approx. along LOT LINE)		311.42 7.32 11 TOP SLOPE 310.6 8.4 10	310.2 8.8 310.3 8.8 10 APPROX TOE
1420				
1417	4.0' LT ℄ 2" Peach Tree			
1404	5' LT ℄ Shrub			
1403	120' LT to S'ly Cor. N. Conc. Terrace (13.0' wide)	311.20 7.06 12 Bott.	312.0 6.86 12 TP. Conc.	
1400	Beg garden-Area Approx 20' wide 19.3 RT ℄ 6" Pepper Tree 9.5 LT to edge Series 2.0 Wide Conc. Steps Steps: Av. depth = 2.0 " Rise = 0.9 go to Rim CANYON LT.	311.76 7.20 9.5 Bott. Conc. Step		
0+95	Rim CANYON LT. Brooks Sharply W'ly here 3.6 LT E'ly & N'ly Edge Conc. FDTN for Bridge Supports (=℄ 4' Chicken Wire Fence // to Bridge	324.7 +5.7 35 324.2 5.4 25 Shoulder 308.5 10.51 3.6 FTG 311.51 7.49 3.6 TP 310.2 8.8 3.6 grid Toe	310.4 8.9	310.3 8.8 11 Toe 329.2 +9.7 48 shoulder 329.8 +9.8 51 ± Edge Walk
0+92	5.2 RT ℄ 4"x4" Bridge Support			
0+90 = PT. INT. ℄	3.0 (WALKWAY) wide FOOTBRIDGE {Bridge // to LOT LINES			
0+89.5	5.5 LT (E'ly 4 S'ly) Edge Conc. (6' x 18") FDTN for Bridge Supports. (2 4"x4"'s Post on Conc.) Note: 4"x4" Supports Av. 10' Apart Across CANYON.	308.5± 10.42 5.5 FTG 311.5± 7.43 5.5 TP Conc.		
0+85.6	3.5 RT ℄ 4"x4" Wood Foot-Bridge Support			

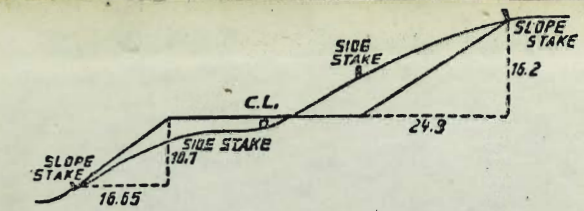
318.96

DRAIN BK 68 (CONT.)

					LT.	℄	RT
T.P.	12.96	335.79	0.20	322.83			
2+05	= ℄ Canyon to RT	= Approx. END CANYON (Becomes Terraced earth)			0.3 322.2 / 15	6.1 316.8 / 4	6.5 316.5 / 8.0 315.2 / 10 — 7.3 315.2 / 20 — 9.3 314.7 / 25
1+75	= Bnk grd ahead				8.4 314.6 / 15	10.0 313.9 / 10 — 11.3 312.7 / 5	10.5 312.5 / 9.5 313.5 / 10 — 6.7 316.3 / 15
1+74	= 3.5' Picket Fence						
1+61.5	4.7 LT = ℄ RT Con. Ret. Wall Angles W'ly, Away from ℄				12.36 310.67 / 4.7 FTG	10.86 312.17 / 4.7 To Wall	
1+54.5	℄ 5.2, RT Edge 2.5' wide Con. Steps; to house RT.		Av. depth = 1.0' Rise = 0.5'				11.93 311.40 / TP Both Step
1+52	31.8' RT = NW'ly Corn House						
1+51	11.0 LT ℄ 10" Tree						
1+50					100 315.0 / 17 Bnk — 11.5 311.5 / 10 grd — 12.0 311.0 / To Wall — 13.2 309.8 / grd	13.0 310.2	12.8 310.2 / 5 Toe - slopes up to Concrete Wall — 5.0 310.0 / ±2
1+38	7.0 LT Sly Corn Conc. Ret. Wall, 8' wide				13.4 309.6 / 7 FTG — 12.00 311.08 / 7 To Wall		
T.P.	7.73	323.03	3.66	315.30		323.03	
1+29	24.4 RT Sly Corn. House						328.58 +4.58 / 24.4 Fl. House

DRAIN BLK 68 (Conc.)

Chk:			0.79	343.58 ✓ = 343.56 / = St. B.111
T.P.	9.16	344.37 ✓	0.58	335.21 ✓



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	71.20	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

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