1394

College Sewer

PATENT

LEVEL BOOK

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LEVELS FOR SEWER PLANT
STATE COLLEGE
Contour — Location Page 2

	6.26	436.39		430.13	BM top Mon Sketch P-2 USGS Datum
T.P.	0.68	424.15	12.92	423.47	
T.P.	0.14	411.36	12.93	411.22	
T.P.	0.52	398.98	12.90	398.46	
T.P.	0.00	386.12	12.86	386.12	
T.P.	0.63	374.03	12.72	373.40	
T.P.	0.23	361.51	12.75	361.28	
T.P.	0.93	349.84	12.60	348.91	
T.P.	0.16	337.63	12.37	337.47	
T.P.	2.33	327.25	12.71	324.92	on Hub #5 Page 2
T.P.	1.59	321.46	7.38	319.87	

Line A-A1

A 0			+10.5	332.0
+14'			+3.0	324.5
A-1			+7.0	328.5
+12'			+8.0	329.5
A-2			+6.8	328.3
A-3			+2.6	324.1
A-4			-0.8	320.7
A-5 on Hub			1.59	319.87
A-6			+1.4	322.9
A-7			+3.7	325.2
A-8			+6.4	327.9
A-9			+12.3	333.8
A-10			+17.5	339.0

321.46

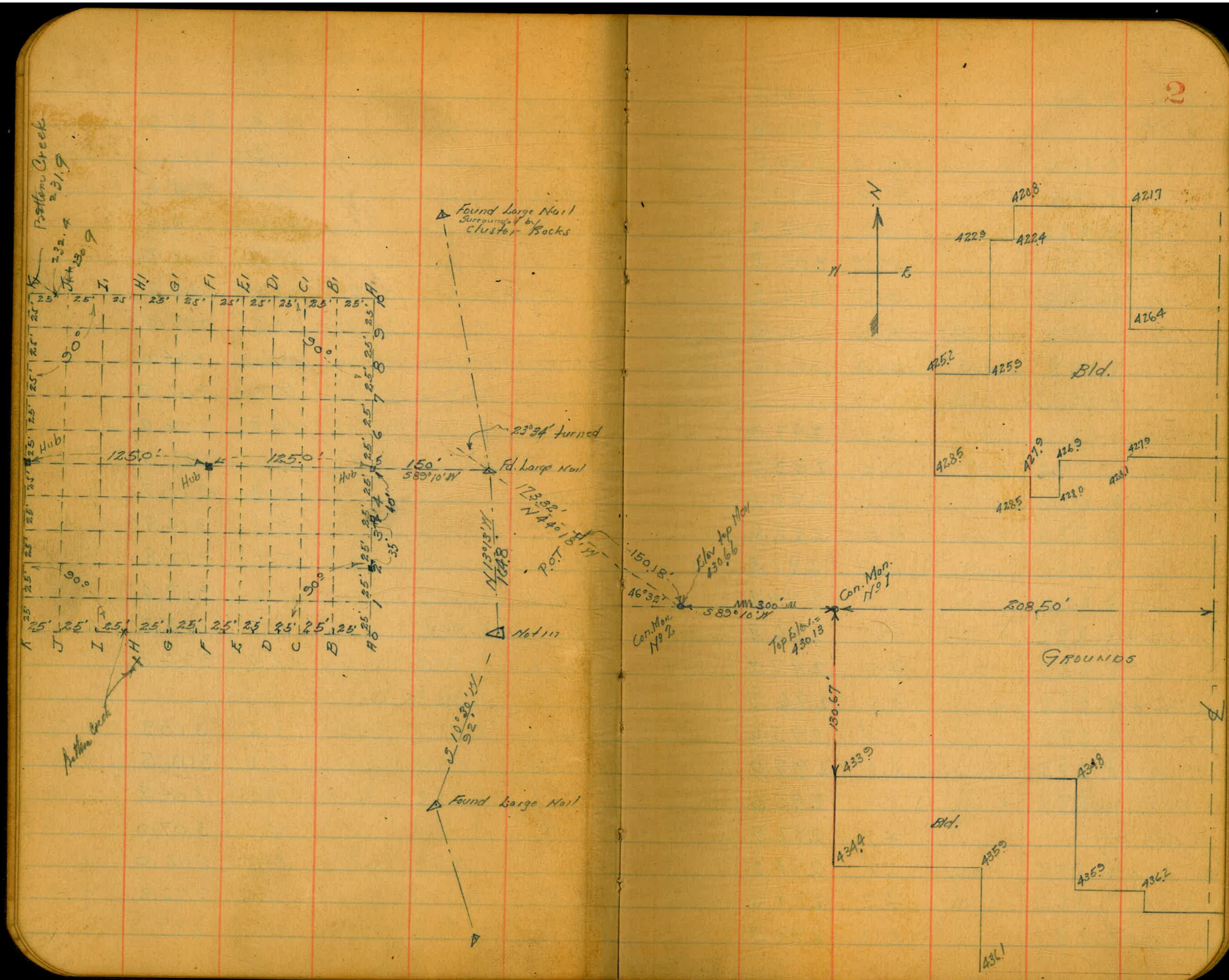
Line B-B1

B-10		+3.6	325.1
B-9		1.4	320.1
B-8		6.5	315.0
B-7		10.9	310.6
B-6		13.2	308.3
15' West B-6		19.3	302.2
B-5		13.5	308.0
12' West B-5		17.5	304.0
B-4		14.0	307.5
10' West B-4		17.5	304.0
15' South B-4		13.0	308.5
B-3		10.8	310.7
B-2		6.6	314.9
12' South B-2		3.7	317.8
B-1		3.9	317.6
7' South B-1		6.2	315.3
B-0		+2.5	324.0

Line C-C1

C-0		7.6	313.9
+14'		11.0	310.5
C-1		16.7	304.8
+8		14.5	307.0
C-2		18.5	303.0
+10		19.2	302.3
C-3		22.2	299.3

1


Bottom Creek
231.9
232.4
230.9
Found Large Nail
Surrounded by
Cluster Rocks
23°34' turned
Fd. Large Nail
150'
S89°10'W
125.0'
Hub
90°
173.32'
N44°18'W
P.O.T.
N13°13'W
164.8
150.18'
46°32'
Elev top Mon
430.66
Con. Mon.
No 2
300'
S89°10'W
Top Elev.
430.13
Con. Mon.
No 1
208.50'
Not in
S10°30'W
92'
Found Large Nail
Bottom Creek
N
W
E
Bld.
Grounds
130.67'
433.9
434.8
434.4
435.9
436.2
436.1
420.8
421.7
422.9
422.4
426.4
425.2
425.9
428.5
427.9
426.9
428.0
428.1

		321.46			
C-4			20.1	301.4	
C-5			19.9	301.6	
C-6			21.0	300.5	
C-7			21.8	299.7	
C-8			19.2	302.3	
C-9			15.7	305.8	
C-10			10.3	311.2	
T.P.	4.50	312.94	13.02	308.44	
T.P.	1.68	301.97	12.65	300.29	on Rock 6.5' East D-5 3' South Line 5
	Line D-D,				
D-10			5.0	297.0	
D-9			9.0	293.0	
15' West D-9			15.0	287.0	
D-7			6.4	295.6	
D-6			4.2	297.8	
D-5			2.9	299.1	
10' West D-5			5.1	296.9	
D-4			4.2	297.8	
10' West D-1			5.7	296.3	
D-3			6.4	295.6	
15' South D-3			7.0	295.0	
D-2			6.4	295.6	
15' South D-2			4.7	297.3	
20' " D-2			7.7	294.3	
D-1			4.2	297.8	
8' South D-1			2.3	299.7	

		301.97			
D-0			0.7	301.3	
	Line E-E,				
E-0			11.0	291.0	
+12			10.1	291.9	
E-1			12.7	289.3	
+6			15.0	287.0	
+15			12.0	290.0	
E-2			11.9	290.1	
+13			11.0	291.0	
E-3			10.0	292.0	
E-4			8.9	293.1	
E-5			9.8	292.2	
+15			11.0	291.0	
E-6			12.5	289.5	
9' West E-6			16.1	285.9	
E-7			13.6	288.4	
5' West E-7			15.7	286.3	
E-8			15.2	286.8	
E-9			18.4	283.6	
+12			19.3	282.7	
E-10			18.2	283.8	
15' West E-10			23.8	278.2	
	Line F-F,				
F-10			26.5	275.5	
F-9			22.3	279.7	
F-8			19.5	282.5	

301.97

7' West F-8			21.6	280.4
F-7			18.5	283.5
7' West F-7			20.5	281.5
T.P.	2.06	291.06	12.97	289.00
F-6			7.4	284.5
10' West F-6			10.5	281.4
20' South F-6			7.8	284.1
F-5 on Redwood Hub.			6.75	284.31
7' South F-5			5.0	286.9
10' " F-5			4.6	287.3
13' West of Above			9.3	282.6
19' "			12.1	279.8
F-4			4.4	287.5
17' South F-4			2.4	289.5
16' West Above			6.9	285.0
F-3			2.3	289.6
16' West F-3			6.6	285.3
13' South F-3			2.6	289.3
16' West			6.7	285.2
F-2			4.4	287.5
12' West F-2			6.0	285.9
8' South F-2			6.0	285.9
12' West of Above			7.1	284.8
15' South F-2			8.5	283.4
22' " F-2			11.9	280.0
F-1			11.0	280.9

291.06

2' South F-1			10.0	281.9
9' " F-1			10.1	281.8
F-0			9.2	282.7
10' West F-0			12.7	279.2
Line G-G.				
G-0			18.1	273.8
13' West G-0			25.0	266.9
G-0 +12			17.0	274.9
G-0 +17			19.0	272.9
G-1			14.6	277.3
10' West G-1			16.4	275.5
14' " G-1			18.0	273.9
G-1 + 10'			11.4	280.5
G-2			9.5	282.4
10' West G-2			13.5	278.4
G-2 + 10'			9.3	282.6
10' West (G-2 + 10')			17.3	274.6
G-3			9.5	282.4
10' West G-3			14.2	277.7
G-4			10.9	281.0
10' West G-4			15.2	276.7
18' " G-4			20.1	271.8
T.P.	1.37	279.59	12.84	278.22
G-5			4.1	275.5
12' West G-5			9.0	270.6
G-6			6.2	273.4

		279.59		
8' West G-6			9.6	270.0
G-7			7.5	272.1
7' West G-7			10.0	269.6
G-8			8.4	271.2
12' West G-8			12.2	267.4
G-8 +15'			7.0	272.6
12' West (G-8 +15')			12.9	266.7
G-9			6.8	272.8
+12			6.9	272.7
G-10			9.1	270.5
T.P.	5.77	272.73	12.63	266.96
Line H-H,				
H-10			14.5	258.2
10' South H10			12.8	259.9
H-9			11.6	261.1
5' West H-9			13.4	259.3
15' South H-9			9.4	263.3
H-8			8.8	263.9
H-7			7.9	264.8
H-6			6.4	266.3
5' West H-6			7.7	265.0
H-5			6.0	266.7
10' West H-5			9.6	263.1
16' " " "			13.2	259.5
10' South H-5			7.0	265.7

		272.73		
14' West (10' South H-5)			12.8	259.9
H-4			5.3	267.4
12' South H-4			4.8	267.9
H-3			5.8	266.9
17' South H-3			5.7	267.0
H-2			3.7	269.0
5' South H-2			2.3	270.4
H-1			5.4	267.3
15' South H-1			10.4	262.3
H-0			14.2	258.5
4' West H-0 = Bottom creek			19.0	253.7
4' South H-0			14.2	258.5
5' " H-0			17.7	255.0
16' " H-0 - Bottom creek			18.5	254.2
Line I-I,				
20' South I-0			16.5	256.2
14' East (20' South I-0)			17.4	255.3
15' " "			19.0	253.7
10' South I-0			17.5	255.2
6' " I-0			20.0	252.7
I-0			21.1	251.6
4' West I-0			19.1	253.6
6' " I-0			17.1	255.6
I-0 +6'			21.1	251.6
6' East (I-0 +6')			19.0	253.7
T.P.	0.06	259.93	12.86	259.87

I-1	9.8	250.1
5' East (I-1)	9.8	250.1
6' " (I-1)	6.0	253.9
5 West (I-1)	9.8	250.1
6' " (I-1)	7.3	252.6
19' North I-1	10.9	249.0
10' East (19' North I-1)	0.9	259.0
I-2	9.4	250.5
4' East (I-2)	4.4	255.5
3' West (I-2)	11.4	248.5
9' " (I-2)	11.4	248.5
13' " (I-2)	9.4	250.5
3' North (I-2)	9.2	250.7
4' " (I-2)	7.3	252.6
12' " (I-2)	8.0	251.9
4' West (12' North I-2)	10.1	249.8
5' " (")	11.1	248.8
12' " (")	12.3	247.6
17' " (")	10.1	249.8
I-3	9.0	250.9
5' West (I-3)	11.8	248.1
13' " "	13.0	246.9
15' " "	11.0	248.9
I-4	8.5	251.5
3' West (I-4)	9.6	250.3
4' " "	12.9	247.0

8' West (I-4)	14.5	245.4
13' " "	13.6	246.3
12' North I-4	7.7	252.2
10' West (12' North I-4)	13.6	246.3
I-5	7.9	252.0
16' West (I-5)	14.8	245.1
15' North I-5	5.0	254.9
I-6	5.8	254.1
I-7	6.6	253.3
10' West (I-7)	11.4	248.5
15' North I-7	6.0	253.9
15' West (15' North I-7)	11.1	248.8
I-8	6.0	253.9
12' West (I-8)	10.0	249.9
13' North I-8	7.2	252.7
12' West (13' North I-8)	10.9	249.0
I-9	9.5	250.4
7' West (I-9)	11.4	248.5
I-10	15.5	244.4
Line J-J1		
20' North J-10	29.0	230.9
10' " J-10	29.0	230.9
8' " J-10	24.8	235.1
J-10	23.7	236.2
10' West J-10	27.5	232.4
J-9	17.8	242.1

259.93

12' West (J-9)	21.9	238.0
14' South (J-9)	16.8	243.1
8' West (14' South J-9)	21.2	238.7
10' " "	24.0	235.9
J-8	17.7	242.2
7' East (J-8)	15.3	244.6
5' West "	22.6	237.3
10' " "	23.6	236.3
10' South J-8	18.9	241.0
2' West (10' South J-8)	22.0	237.9
11' " (")	23.3	236.6
15' " (")	20.1	239.8
J-7	21.9	238.0
6' East (J-7)	20.5	239.4
12' West "	22.2	237.7
15' " "	20.0	239.9
17' South (J-7) in creek	21.6	238.3
18' " " on Bank	17.6	242.3
J-6	16.6	243.3
8' East (J-6)	14.9	245.0
5' West "	17.6	242.3
6' " "	18.8	241.1
10' " "	19.1	240.8
J-5	15.7	244.2
10' South J-5	15.0	244.9
13' West (10' South J-5)	16.6	243.3

259.93

7

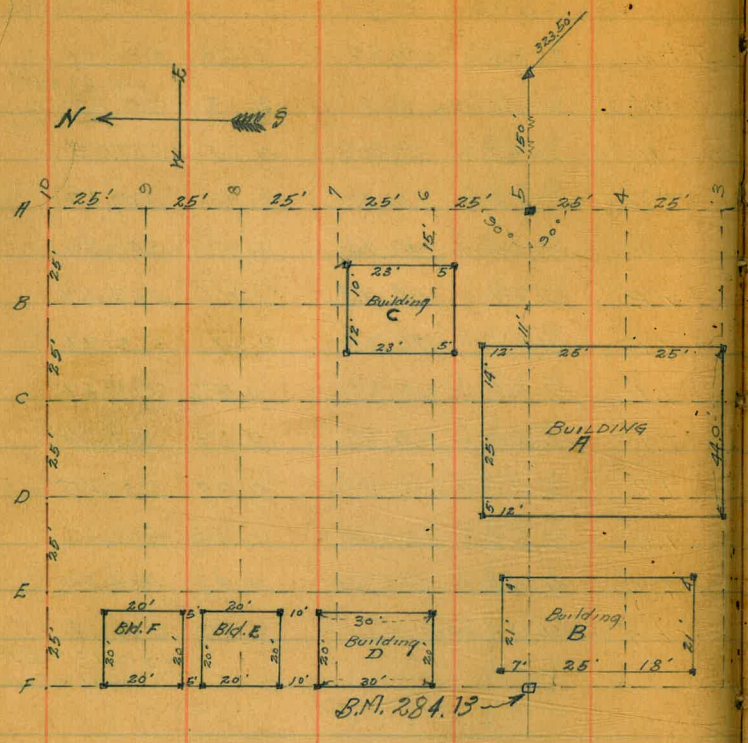
20' South J-5	15.4	244.5
J-4	14.8	245.1
J-3	10.3	249.6
J-2	9.1	250.8
J-1	7.7	252.2
12' West (J-1)	7.8	252.1
12' South (J-1)	7.1	252.8
10' West (12' South J-1)	7.1	252.8
15' " (")	5.9	254.0
J-0	4.9	255.0
Line K-K,		
K-0	2.6	257.3
20' West (K-0)	+5.7	265.6
K-1	4.8	255.1
20' West (K-1)	+3.2	263.1
K-2	6.3	253.6
20' West (K-2)	+1.7	261.6
K-3	9.3	250.6
20' West (K-3)	1.6	258.3
K-4	12.5	247.4
20' West K-4	4.9	255.0
K-5 on Redwood Hub.	15.02	244.91
20' West K-5	6.9	253.0
4' East (K-5)	17.4	242.5
K-6	18.0	241.9
5' East (K-6)	17.0	242.9

		259.93		
12' East (K-6)			17.8	242.1
5' West "			17.5	242.4
20' " "			8.4	251.5
K-7			19.4	240.5
20' West (K-7)			16.0	243.9
11' East "			19.9	240.0
K-8			20.2	239.7
7' East (K-8)			21.0	238.9
12' " "			23.1	236.8
20' West "			19.0	240.9
17' North (K-8)			22.7	237.2
K-9			25.1	234.8
7' West (K-9)			23.4	236.5
20' " "			22.6	237.3
6' East "			24.0	235.9
K-10			26.0	233.9
8' East (K-10)			28.0	231.9
15' West "			26.0	233.9
20' " "			22.8	237.1
8' North in Bottom creek			28.0	231.9
15' " on Bank			25.5	234.4
TP	12.81	272.72	0.02	259.91
TP	12.97	285.41	0.28	272.44
chk. on ℄ Hub Line F-5 Page 4			1.10	284.31
TP	12.29	297.54	0.16	285.25
T.P.	12.63	309.99	0.18	297.36

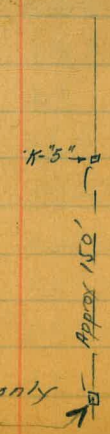
		310.01 309.99		
T.P.	12.71	322.02	0.68	309.31
chk. on ℄ Hub A-5 Page 1			2.19	319.87 = BM. 319.83 Has shot at close range Hence Error
T.P.	11.98	333.07	0.93	321.09
T.P.	12.25	344.42	0.90	332.17
T.P.	12.64	353.14	3.92	340.50
T.P.	12.67	364.74	1.07	352.07
T.P.	12.68	376.39	1.03	363.71
T.P.	12.34	388.21	0.52	375.87
T.P.	12.48	399.82	0.87	387.34
T.P.	12.76	412.21	0.39	399.45
T.P.	13.02	425.18	0.05	412.16
T.P.	11.06	435.81	0.43	424.75
chk. on Starting BM. Page 1			5.69	430.12 430.13 = BM. 0.01 = Error.

Walker
Wm Bliss
Drebert
McHoun
4-15-30

Location Sewage Disposal Buildings
San Diego
State College



Note: 2"x2" Redwood Hubs set at all Corners of Bld's. Except Where noted as Stubs in Level Notes.



284.13 = Above F-"5"
8.14+
292.27 = π
0.65-
291.62 = T.P. = BM

B.M. on Hub "A5" Page 1

Levels For Bld. C

	0.32	320.19		319.87
S.E. Cor. on Hub			6.61	313.58
14' North on East Line			5.4	314.8
N.E. Cor on Hub			4.07	316.12
11' West of N.E. Cor. on North Line			10.6	309.6
T.P.	1.12	308.63	12.68	307.51
N.W. Cor. on Hub			4.53	304.10
5' North Above Cor.			3.6	305.0
5' West N.W. Cor.			6.3	302.3
14' South N.W. " on West Line			5.5	303.1
5' West of 14' South			6.7	301.9
11' East " " "			0.4	308.2
S.W. Cor on Hub.			5.72	302.91
5' West S.W. Cor. on S Line			6.7	301.9
5' South " " " " W "			5.4	303.2
7' East S.W. Cor. on S "			3.3	305.3

Levels For Bld. A

N.E. Cor. on Hub.	4.90	303.73
27' South N.E. Cor. on East Line	4.1	304.5
52' " " " " " "	5.0	303.6
S.E. Cor. on Hub.	3.53	305.10
15' West S.E. Cor. on South Line	9.4	299.2
30' " " " " " "	11.8	296.8
S.W. Cor. on Hub.	13.57	295.06
5' South S.W. Cor. on West Line	13.6	295.0

308.63

Levels For Bld. A Cont.

5' West. SW. Cor on South line			14.2	294.4
15' North SW. " " West Line			12.1	296.5
27' " " " " " "			11.0	297.6
40' " " " " " "			10.4	298.2
50' " " " " " "			10.3	298.3
NW. Cor. on Hub.			10.81	297.82
5' N NW. Cor. on " "			11.1	297.5
5' W " " " " North "			12.0	296.6
10' East " " " " " "			8.9	299.7
30' " " " " " "			7.8	300.8
T.P.	1.28	297.11	12.80	295.83

Levels For Bld. B

N.E. Cor. on Hub.			3.78	293.33
10' South N.E. Cor. on East line			3.2	293.9
20' " " " " " " "			3.4	293.7
35' " " " " " "			3.1	294.0
S.E. Cor. on Hub.			3.80	293.31
10' West S.E. Cor. on South line			5.6	291.5
SW. Cor. on Hub.			7.96	289.15
5' South SW. Cor. on West line			7.7	289.4
5' West " " " " South "			8.9	288.2
18' North " " " " West "			9.1	288.0
32' " " " " " "			9.5	287.6
NW Cor. on Hub			12.75	284.36
5' N. NW. Cor. on West Line			12.7	284.4
5' West " " " " North "			14.1	283.0

297.11

10

12' East NW. Cor. on North			8.5	288.6
T.P. on Hub. "F5" See P-4			12.75	284.36
				284.31 = BM
				0.05 = Error.
Correction Here	7.52	291.83		284.31 = Above B.M.

LEVELS For. Bld. D

S.E. Cor. on Stub.			5.06	286.77
15' North S.E. Cor. on East line			5.3	286.5
N.E. Cor. on Hub.			5.41	286.42
8' West N.E. Cor. on North "			6.8	285.0
NW Cor. on Hub.			8.53	283.30
5' West NW. Cor. " " "			9.8	282.0
15' South " " " " West. "			8.7	283.1
SW. Cor. on Hub.			8.28	283.55
5' South SW. Cor. on " "			8.3	283.5
5' West " " " " South "			9.8	282.0
6' East. " " " " East "			6.8	285.0
15' " " " " " " "			6.0	285.8

LEVELS For Bld. E

SE Cor. on Hub.			4.93	286.90
10' North S.E. Cor. on East line			5.9	285.9
N.E. Cor. on Stub.			7.60	284.23
10' West. NE. Cor. " North "			8.9	282.9
NW. Cor. on Stub.			10.63	281.20
5' West. NW. Cor. on " "			11.6	280.2
10' South " " " " West "			9.5	282.3
SW. Cor. on Hub.			8.95	282.88

291.83

Levels For Bld. E Cont.

5' West S.W. Cor. on South line	10.4	281.4
10' East " " " " "	6.9	284.9

LEVELS For Bld. F

S.E. Cor. on Stub.	8.33	283.50
10' North S.E. Cor. on East line	9.4	282.4
N.E. Cor. on Hub.	10.34	281.49
5' North N.E. Cor. on " "	10.5	281.3
10' West " " " North "	12.0	279.8
N.W. Cor. on Hub.	13.96	277.87
5' North N.W. Cor. on West "	15.0	276.8
5' West " " " " North "	14.8	277.0
10' South N.W. " " West "	12.3	279.5
S.W. Cor. on Stub.	11.14	280.69
5' West S.W. Cor. on South line	12.0	279.8
10' East " " " " " "	9.7	282.1

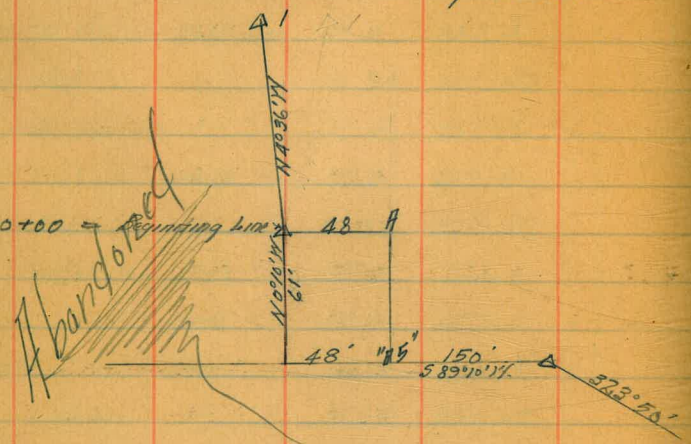
Walker
M. Bliss
Drebert
Nathan

STADIA SURVEY For 15' Road.
From Sewage Disposal Plant.
to Power Plant
STATE College site

Azimuths From North.

Inst. Constant = 1.0

This line For 8.00 % Grade.



Abandoned

READINGS From Sta. 0+00 Elev 301.5

Stations	Azimuths	Stadia	Vert. Δ	Horiz. dist.	Elev.
Δ 1	355°24'	1.40	+6°25'	139.4	317.0

READINGS From Sta. Δ 1 Elev. 317.0

⊡ 0+00		1.40	-6°25	139.4	301.5
	7°39'	0.2	+6°45'		
	53° 16'	0.4	+25°02'		
	326°27'	0.25	-20°09'		
	354°48'	0.50	-8°09'		
	7°39'	0.50	-0°28'		
	24°27'	0.54	+11°12'		
	350°38'	0.69	-10°24'		

READINGS From Sta. Δ 1 Elev 317.0

Station	Azimuth	Stadia	Vert. Δ	Horiz. dist.	Elev.
	7°39'	0.62	+0°23'		
	21°04'	0.76	+9°19'		
	17°54'	1.12	+10°28'		
	7°39'	1.10	+5°18'		
	357°33'	1.12	-0°17'		
	356°45'	1.37	+0°14'		
	7°39'	1.34	+5°52'		
	15°48'	1.38	+9°28'		
⊡ 2	5°12'	1.94	+3°38	194	329.28.

Abandoned

READINGS From ⊡ 2 Elev. 329.28

⊡ 2		1.93	-3°38	H-194'	329.28
	188°15'	0.20	+17°15'		
	186°27'	0.12	+1°00'		
	253°53'	0.25	-22°36'		
	345°12'	0.39	-11°45'		
	18°38'	0.19	-1°15'		
	94°15'	0.24	+15°08'		
⊡ 3	75°11'	0.51	+3°25'	51.7	332.38

READINGS From ⊡ 3 Elev. 332.38

⊡ 2		0.51	-3°25		
	120°24	1.03	+4°35'		
	134°03'	1.07	+9°10'		
	107°05'	1.07	+0°27'		
	113°10'	1.70	+4°09'		

READINGS FROM ⊡3 Elev. 332.38

Sta.	Azimuth	Stadia	Vert ∆	Horz. dist	Elev.
	111°34'	1.73	+1°56'		
	124°48'	1.76	+6°28'		
	125°44'	2.45	+7°04'		
	119°15'	2.45	+4°40'		
	115°22'	2.43	+3°08'		
	124°15'	3.00	+3°02'		
	128°17'	3.05	+4°32'		
	124°16'	3.20	+6°40'		
⊡4	119°13'	3.50	+5°13'	348.1	364.14

Abandoned

READINGS FROM Sta ∆ 4 Elev = 364.14

⊡4		3.50	-5°12'		
	17°39'	0.26	-22°55'		
	204°27'	0.22	+17°00'		
	150°38'	0.50	+13°00'		
	122°40'	0.44	+4°20'		
	37°45	0.46	-7°12'		
	110°00'	0.90	-1°50'		
	124°55'	0.84	+4°20'		
	138°20'	0.92	+9°58'		
	132°00'	1.41	+7°28'		
	123°05'	1.38	+3°54'		
	116°36'	1.38	+1°20'		
	116°40'	1.62	+1°22'		
	123°15'	1.64	+3°55'		

READINGS FROM ⊡4 Elev. 364.14

Sta.	Azimuth.	Stadia	Vert. ∆	Horz. dist.	Elev.
	130°53'	1.70	+6°58'		
⊡5	123°37'	2.54	+3°55'	253.8	381.49

READINGS FROM ⊡5 Elev. 381.7 = Mean

⊡4		2.54	M -3°58'		
	283°24	0.48	+4°55'		
	302°52'	0.42	-3°40'		
	317°32'	0.60'	-10°30'		
	27°02'	0.21	-26°40'		
	208°34'	0.24	+22°55'		
	173°50'	0.41	+20°03'		
	152°44'	0.26	+12°32'		
	114°06'	0.29	-13°00'		
	111°40'	0.64	-12°48'		
	131°46'	0.66	0°0'		
	140°13'	0.47	+4°39'		
	154°05'	0.53	+14°10'		
	147°16'	0.78	+11°22'		
	141°11'	0.88	+10°15'		
	127°25'	0.78	+1°55'		
	112°20'	0.72	-8°45'		
	107°32'	0.81	-10°32'		
	119°44'	0.88	-3°57'		
	126°34'	1.02	+1°50'		
	132°15'	1.14	+6°07'		

Abandoned

Readings from ⊡ 5 Elev. 381.7

Station.	Azimuth	Stadia	Vert. △	Horiz. dist.	Elev.
	138°45'	1.24	+10° 00'		
	128°28'	1.30	+8°40		
	119°36'	1.30	+8°45'		
	106°15'	1.24	+6°00'		
	105°28'	1.06	+1°08'		
	103°37'	0.90	-5° 20'		
	89°40'	0.96	-5°25'		
	96°22'	1.08	+0°55'		
	101°06'	1.30	+5°32'		
	95°40'	1.28	+2°32'		
	90°42'	1.16	-1°48'		
	85°23'	1.55	+2°22'		
	91°34'	1.72	+4°57'		
	95°50'	1.88	+6°15'		
	102°57'	1.70	+7°20'		
	114°10'	1.48	+7°58'		
	131°36'	1.38	+9°15'		
	84°21'	1.94	+4°35'		
	80°45'	1.88	+3°23'		
	89°04'	2.08	+5°47'		
	83°30'	2.56	+4°41'		
	76°48'	2.56	+4°15'		
	71°32'	2.50	+3°07'		
⊡ 6	130°41'	1.16	+7°47'	114.9	397.15

Abandoned

Readings from ⊡ 6 Elev. 397.15

Station	Azimuth.	Stadia	Vert. △	Horiz. dist.	Elev.
⊡ 7	35°07'	3.30	-2°14	330	384.25
N.W. Cor. Power House		3.84	+2°05'	384	398.0
⊡ 8	119°58'	1.92	+2°33'		

Walker
W.D. Bliss
L. Drebert
L. Matteson
4-17-30

Stadia Location for Road Line "B"
From ⊡ 0 on P-12
to Power House GRADE 4.5%
Azimuths from North

READINGS FROM ⊡ 0 Elev. 301.5

Station	Azimuth	Stadia	Vert. Δ	Horiz. dist.	Elev.
⊡ 1	352°39'	1.42	+4°30'	143	312.7

READINGS FROM ⊡ 1 Elev. = 312.7

⊡ 2	359°49'	1.90	+1°08'	191'	316.5

READINGS FROM ⊡ 2 Elev. 316.5 = Also Elev. Grade

⊡ 1		1.90	-1°08'		
⊡ 3	21°07'	0.72	+0°10'	73'	316.7

317.45 = Correction See P-79 Grade 317.7

READINGS FROM ⊡ 3 Elev 316.7

⊡ 4	113°35'	4.40'	+2°44'		

Sta = 8+25 Grade = 338.6

READINGS FROM ⊡ 4 Elev. = 339.0

⊡ 4 Line "A"	225°45'	0.67	+19°34'		
⊡ 3 Line "B"		4.36	-2°47'		
⊡ 5		0.20	GRADE And Horiz dist	Direct By Meas	Grade 339.4 338.0
~~⊡ 6~~	~~129°05'~~	~~2.74~~	~~+3°33'~~		

READINGS From ⊡ Elev. 338.0

⊡ 6	129°05'	2.74	+3°33'		354.9

READINGS FROM ⊡ 6 Corrected Elev. by Level → 357.0

⊡ 5		2.76	+3°58'		
⊡ 7	30°02'	2.74	+0°41'		360.3

READINGS From ⊡ 7 Elev. 360.3

⊡ 6		2.76	-0.42		

READINGS From ⊡ 7 Elev 360.3

Station	Azimuth	Stadia	Vert. Δ	Horiz. dist.	Elev.
⊡ 8	81°17'	0.88	+1°34'		362.7

READINGS From ⊡ 8 Elev. 362.9 = Correction by Level

⊡ 9	138°43'	2.42	+5°10'		384.6
~~⊡ 10~~	~~56°11'~~	~~2.36~~	~~+0°31'~~		

READINGS From ⊡ 9 Elev. = 384.6

⊡ 10	56°11'	2.36	+0°31'		

Walker
Wm Bliss
Drobert
Matthews
4-18-30

TRANSIT Location ROAD GRADE 4.5%
From SEWAGE DISPOSAL PLANT
to POWER HOUSE
STATE COLLEGE SITE

Station	Alignment	Def. Δ	True Bearing		CURVE DATA
4+00		37° 45' 45"			Δ=113°46' ✓
+75		25°49'35"			℄ R= 60'
+50		13°53' 25"			℄ L=119.14'
+20.91=B.C. Rt.					℄ ST.=91.98 ✓
3+00					
	152.99'		N1°01'W		
+50			~~N0°11'W~~	✓270.01'	
2+00					Δ = 7°10' ✓
					℄ R=400
1+67.92=E.C.					℄ L=50.06'
+50				P.I.	℄ ST.=25.04 ✓ .05
+25					
+17.86	B.C	Rt.			
1+00				142.90'	
	117.86'		N8°11'W ~~N7°21'W~~		
+50					
0+00					

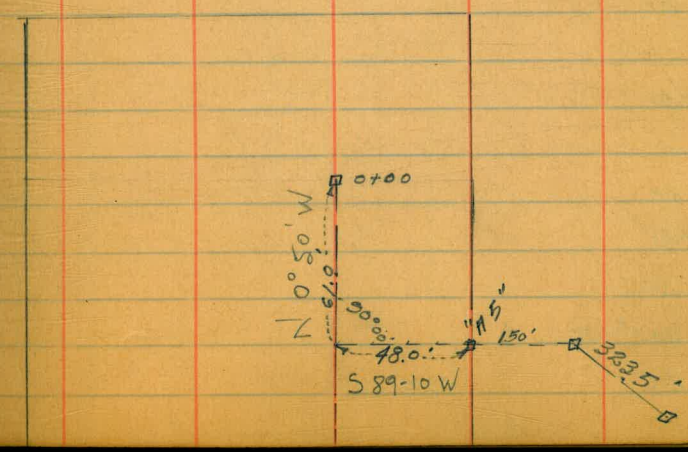
Note: For Cross Sections see Page 22

Stub

Stub E.C.

Stub P.I.

Stub BC



Station	Align.	Def. ∆	True Bearing	Curve Data	
+03.80 = E.C.		7°45'			■ Stub.
9+00		7°32'			
+75		6°06'04"			
+50		4°40'06"			
+25		3°14'08"		∆ = 15°30'	✓
8+00		1°48'10"		∠R = 500'	
+75		0°22'12"		∠L = 135.26	
				∠ST. 68.04	✓
7+68.54 = B.C.		Pt.		.05	■ Stub.
+50					
7+00					
			567°15'E 566°25'E	488.51'	
+50					
	328.49'				
6+00					
+50					
5+00					
+75					
+50					
+40.05 = E.C.					■ Stub.
4+25		49°41'55"			

Station	Align.	Def. Δ	True Bearing	Curve Data		
+75		39°07'28"		Δ=108°41' ✓		
+50		31°10'00"		℄R=90'		
+25		23°12'31"		℄L=170.72'		
14+00		15°15'03"		℄ST.=125.44' ✓		
+75		7°17'35"				
13+52.09=B.C.		Rt.			■ Stub	
13+00						
	156.90' ✓		N 29°12'E N 30°02'E	352.65		
+50						
12+00						
+95.19=E.C.		49°31'30"		Δ=99°03' ✓	■ Stub	
+75		40°00'00"		℄R=60'		
+50		28°05'43"		℄L=104.19'	103.72	
+25		16°11'26"		℄ST.=70.31' ✓		
11+00		4°17'09"				
10+91 } equation. 10+41 } B.C.		Lt.			■ Stub.	
+75						
+50						
+25	137.20' ✓		S 51°45'E S 50°55'E	✓ 275.55		
10+00						
+75						
+50						
9+25						

Stations	Align.	Def. Δ	True Bearing	Curve Data	
19+54.74 = E.C.		20°43'30"		Δ 41°27'	✓
+50		19°12'57"		℄ R = 90'	
+25		11°15'30"		℄ L = 65.10'	
19+00		3°18'03"		℄ St. = 34.05'	✓
18+89.69 = B.C.		Rt.			
+50					
	137.04' ✓		N 55°21'E ~~N 56°11'E~~ ✓		
18+00					
17+52.59	E.C.	41°16'00"		Δ = 82°32'	✓
17+50		40°16'40"		℄ R = 75'	
+25		30°43'35"		℄ L = 108.03'	
17+00		21°10'37"		℄ St. = 65.81	
+75		11°37'40"			
+50		2°04'41"			
16+44.56 = B.C.		Lt			
16+00					
	121.75' ✓		S 42°07'E ~~S 41°17'E~~ ✓	313.00'	
+50					
+22.81 = E.C.		54°20'30"			
15+00		47°04'			

■ Stub

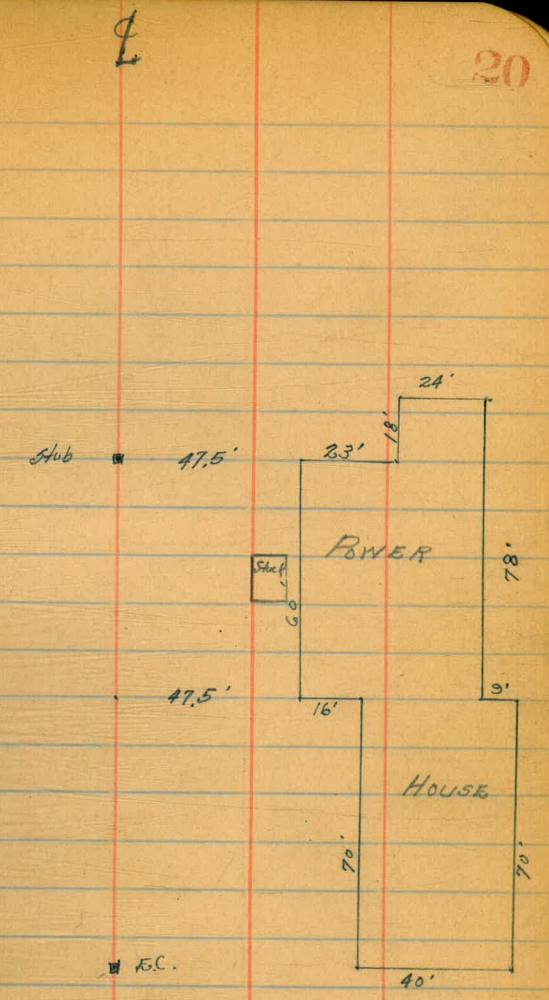
■ Stub

■ Stub

■ Stub

■ Stub.

Station	Align.	Defl. ∆	True Bearing	Curve Data
20+86.47				
	131.73'		S83°12'E ~~S82-22 E~~	
19+54.74 = E.C.				
18+89.63 = B.C.				



Walker
Wm Bliss
Drebert
Mattson
4-22-30

CROSS SECTION 15' Road
State College Site
Location Page 16-20 this Book.

	5.57	325.44 ✓		319.87	on Hub "A5" Page 1
0+00					
8' Lt			28.8	296.6	
Lt.			26.8	298.6	✓
℄			23.9	301.5	✓
Rt.			20.4	305.0	
5' Rt			18.2	307.2	
	0+50				
8' Rt.			10.3	315.1	
Rt.			14.8	310.6	✓
℄			19.2	306.2	✓
Lt			23.2	302.2	✓
10' Lt.			29.1	296.3	✓
15' Lt.			31.7	293.7	✓
	1+00				
15' Lt			27.8	297.6	✓
Lt.			18.8	306.6	✓
℄			14.8	310.6	✓
Rt.			10.3	315.1	✓
8' Rt.			5.5	319.9	✓
	1+17.86 = B.C. Rt.				
10' Rt.			2.7	322.7	✓
Rt.			8.6	316.8	✓
℄			13.1	312.3	✓
Lt.			17.4	308.0	✓

325.44

22

10' Lt.			23.4	302.0	✓
	1+42.89 = Center of Curve				
10' Lt.			23.6	301.8	✓
Lt.			16.5	308.9	✓
℄			12.1	313.3	✓
Rt.			8.1	317.3	✓
10' Rt.			2.2	323.2	✓
	1+67.92 = E.C				
10' Rt.			1.9	323.5	✓
Rt.			7.8	317.6	✓
℄			13.3	312.1	✓
Lt.			18.1	307.3	✓
33' Lt.			37.9	287.5	✓
	2+00				
44' Lt.			43.4	282.0	✓
18' Lt.			31.0	294.4	✓
Lt.			23.0	302.4	✓
℄			18.6	306.8	✓
Rt.			14.3	311.1	✓
5' Rt.			11.0	314.4	✓
	2+20				
5' Rt			9.5	315.9	✓
Rt.			12.5	312.9	✓
℄			17.1	308.3	✓
Lt.			21.3	304.1	✓
26 Lt.			35.3	290.1	✓

		325.44			
50' Lt.			47.4	278.0	✓
	2+50				
40' Lt.			38.9	286.5	✓
14' Lt.			22.8	302.6	✓
Lt.			14.4	311.0	✓
℄			10.2	315.2	✓
Rt.			6.1	319.3	✓
6' Rt.			2.9	322.5	✓
	2+75				
6' Rt.			0.7	324.7	✓
Rt.			4.0	321.4	✓
℄			7.7	317.7	✓
Lt.			11.7	313.7	✓
5' Lt.			14.7	310.7	✓
	3+00				
25' Lt.			26.0	299.4	✓
Lt.			12.3	313.1	✓
℄			8.4	317.0	✓
Rt.			4.1	321.3	✓
6' Rt.			0.9	324.5	✓
	3+20.91 = B.C. Rt.				
6' Rt.			0.7	324.7	✓
Rt.			3.6	321.8	✓
℄			7.9	317.5	✓
Lt.			12.4	313.0	✓
30' Lt.			28.3	297.1	✓

		325.44			
T.P	12.63	334.26 ✓	3.81	321.63	
	3+50				
15' Lt.			27.0	307.3	✓
Lt.			19.0	315.3	✓
℄			15.3	319.0	✓
Rt.			11.6	322.7	✓
10' Rt.			7.1	327.2	✓
	3+75				
10' Rt.			5.8	328.5	✓
Rt.			8.6	325.7	✓
℄			10.8	323.5	✓
Lt.			12.9	321.4	✓
5"			14.4	319.9	✓
	4+00				
5' Lt			14.6	319.7	✓
Lt			13.2	321.1	✓
℄			11.0	323.3	✓
Rt			9.0	325.3	✓
10"			6.3	328.0	✓
	4+25				
10 Rt			6.7	327.6	✓
Rt.			9.6	324.7	✓
℄			11.9	322.4	✓
Lt.			14.3	320.0	✓
5' Lt.			15.9	318.4	✓
	4+40.05 = E.C.				

		334.26			
8' Lt.			16.0	318.3	✓
Lt.			13.5	320.8	✓
℄			11.3	323.0	✓
Rt.			9.1	325.2	✓
5' Rt.			7.4	326.9	✓
	4+65				
5' Rt.			6.0	328.3	✓
Rt.			7.0	327.3	✓
℄			9.0	325.3	✓
Lt.			11.3	323.0	✓
10' Lt.			14.4	319.9	✓
	5+00				✓
10' Lt.			12.8	321.5	✓
Lt.			10.5	323.8	✓
℄			8.4	325.9	✓
Rt.			6.0	328.3	✓
5' Rt.			4.6	329.7	✓
T.P.	10.28	338.29	✓ 6.25	328.01	
	5+25				
5' Rt.			7.6	330.7	✓
Rt.			9.0	329.3	✓
℄			10.6	327.7	✓
Lt.			13.5	324.8	✓
8' Lt.			16.0	322.3	✓
	5+50				
8' Lt.			15.1	323.2	✓

		338.29			
Lt.			13.1	325.2	✓
℄			11.3	327.0	✓
Rt.			9.1	329.2	✓
5' Rt.			7.4	330.9	✓
	5+75				
5' Rt.			5.9	332.4	✓
Rt.			7.9	330.4	✓
℄			10.3	328.0	✓
Lt.			12.6	325.7	✓
8' Lt.			14.4	323.9	✓
	6+00				
5' Lt.			12.7	325.6	✓
Lt.			11.6	326.7	✓
℄			9.5	328.8	✓
Rt.			7.5	330.8	✓
5' Rt.			5.9	332.4	✓
	6+25				
5' Rt.			3.6	334.7	✓
Rt.			5.5	332.8	✓
℄			8.5	329.8	✓
Lt.			10.7	327.6	✓
5' Lt.			12.0	326.3	✓
	6+50				
5' Lt.			10.2	328.1	✓
Lt.			8.8	329.5	✓
℄			6.4	331.9	✓

		338.29			
Rt.			4.2	334.1	✓
5' "			2.6	335.7	✓
	7+00				
5' Rt.			1.0	339.3	✓
Rt.			1.4	336.9	✓
℄			4.0	334.3	✓
Lt.			6.0	332.3	✓
5' Lt.			7.3	331.0	✓
T.P.	12.56	349.37 ✓	1.48	336.81	
	7+35				
10' Lt.			17.5	331.9	✓
Lt.			14.9	334.5	✓
℄			12.5	336.9	✓
Rt			10.3	339.1	✓
5' Rt			9.0	340.4	✓
	7+68.54 = B.C. Rt.				
5' Rt			7.4	341.0	✓
Rt			9.3	340.1	✓
℄			12.3	337.1	✓
Lt			14.5	334.9	✓
5' Lt.			10.9	333.5	✓
	8+00				
8' Lt.			16.8	332.6	✓
Lt.			13.5	335.9	✓
℄			11.0	338.4	✓
Rt.			8.5	340.9	✓

		349.37			
5' Rt.			6.9	342.5	✓
	8+25				
5' Rt.			6.2	343.2	✓
Rt.			7.2	342.2	✓
℄			9.4	340.0	✓
Lt.			12.4	337.0	✓
8' Lt			14.9	334.5	✓
	8+50				
8' "			13.7	335.7	✓
Lt			11.9	337.5	✓
℄			9.7	339.7	✓
Rt.			7.0	342.4	✓
5' Rt.			5.2	344.2	✓
	8+75				
5' Rt.			4.5	344.9	✓
Rt			5.4	344.0	✓
℄			7.7	341.7	✓
Lt.			10.1	339.3	✓
5' Lt.			11.3	338.1	✓
	9+03.80 = E.C.				
8' Lt.			10.8	338.6	✓
Lt.			8.6	340.8	✓
℄			6.5	342.9	✓
Rt.			4.5	344.9	✓
5' Rt.			2.9	346.5	✓
	9+25				

		349.37			
5' Rt.			+0.6	350.0	✓
Rt			1.8	347.6	✓
℄			3.9	345.5	✓
Lt.			6.6	342.8	✓
5' Lt.			8.6	340.8	✓
	9+50				
5' Lt.			7.7	341.7	✓
Lt.			5.3	344.1	✓
℄			2.3	347.1	✓
Rt.			+1.2	350.6	✓
5' Rt.			+3.3	352.7	✓
T.P.	10.35	358.24 ✓	1.48	347.89	
	9+75				
6' Rt.			3.9	354.3	✓
Rt.			6.5	351.7	✓
℄			10.1	348.1	✓
Lt.			14.0	344.2	✓
10' Lt.			19.2	339.0	✓
	10+00				
10' Lt.			17.9	340.3	✓
Lt.			13.0	345.2	✓
℄			9.6	348.6	✓
Rt.			6.0	352.2	✓
6' Rt.			2.5	355.7	✓
	10+20				
6' Rt.			2.4	355.8	✓

		358.24			
Rt.			5.2	353.0	✓
℄			9.3	348.9	✓
Lt.			12.5	345.7	✓
10' Lt.			16.9	341.3	✓
	10+41 =10+91 =B.C.		Lt. {Equation.}		
10' Lt.			13.4	344.8	✓
Lt.			8.8	349.4	✓
℄			4.7	353.5	✓
Rt.			1.1	357.1	✓
7' Rt.			+2.0	360.2	✓
	11+00				
8' Rt.			+3.5	361.7	✓
Rt.			0.2	358.0	✓
℄			3.6	354.6	✓
Lt.			7.4	350.8	✓
5' Lt.			10.1	348.1	✓
	11+25				
13' Lt.			16.4	341.8	✓
Lt.			12.3	345.9	✓
℄			10.3	347.9	✓
Rt.			8.3	349.9	✓
5' Rt.			7.0	351.2	✓
	11+34				
5' Rt.			9.8	348.4	✓
Rt.			11.4	346.8	✓
℄			13.8	344.4	✓ ✓

358.24

Lt.	15.9	342.3	✓
20'	23.2	335.0	✓
25	23.1	335.1	✓
11+36 = O.K. For Culvert Const. on Radial Line			
30	27.6	330.6	✓
Lt.	21.1	337.1	✓
℄	17.9	340.3	✓
Rt.	14.1	344.1	✓
6' Rt.	11.8	346.4	✓
10' Rt.	10.8	347.4	✓
11+38			
10' Rt.	8.3	349.9	✓
Rt.	11.4	346.8	✓
℄	13.8	344.4	✓
Lt.	16.3	341.9	✓
22' Lt.	22.0	336.2	✓
Cbt. on B.M. on Stub opp. #50 P-79	6.84	351.40 (351.39 = B.M.)	
11+50			
25' Lt.	23.8	334.4	✓
15' "	19.8	338.4	✓
Lt.	13.5	344.7	✓
℄	10.5	347.7	✓
Rt.	8.0	350.2	✓
5' Rt.	6.1	352.1	✓
11+75			
5' Rt.	4.4	353.8	✓

358.24

27

Rt.	5.9	352.3	✓
℄	8.9	349.3	✓
Lt.	11.9	346.3	✓
7' Lt.	15.5	342.7	✓
15' Lt.	18.9	339.3	✓
21' "	22.4	335.8	✓
26' "	25.4	332.8	✓
33' " = Bottom ditch	33.4	324.8	✓
40' " on top of Bank at ditch	30.0	328.2	✓
11+95.19 = E.C.			
45' Lt. top ditch	31.5	326.7	✓
37' " = Bott. "	34.5	323.7	✓
29' " = top "	25.7	332.5	✓
21' "	21.7	336.5	✓
13' "	17.2	341.0	✓
Lt.	10.9	347.3	✓
℄	6.9	351.3	✓
Rt.	3.6	354.6	✓
5' Rt.	1.0	357.2	✓
12+25			
5' Rt.	+0.2	358.4	✓
Rt.	2.7	355.5	✓
℄	6.7	351.5	✓
Lt.	10.1	348.1	✓
10' Lt.	15.1	343.1	✓
23' "	22.4	335.8	✓

		358.24			
36' Lt			38.4	329.8	✓
40' "			30.3	327.9	✓
	12+50				
35' Lt.			25.5	332.7	✓
26' "			22.0	336.2	✓
18' "			16.1	342.1	✓
13' "			13.5	344.7	✓
Lt.			6.8	351.4	✓
℄			3.1	355.1	✓
Rt.			+0.5	358.7	✓
5' Rt.			+2.7	360.9	✓
T.P.	10.45	366.76 ✓	1.93	356.31	
	12+80	Grade 3.19			
5' Rt.			3.2	363.6	✓
Rt.			5.5	361.3	✓
℄			9.0	357.8	✓
Lt.			11.9	354.9	✓
6' Lt.			14.6	352.2	✓
	13+00				
15' Lt.			19.1	347.7	✓
5' "			13.7	353.1	✓
Lt.			11.4	355.4	✓
℄			8.1	358.7	✓
Rt.			5.0	361.8	✓
5' Rt.			2.9	363.9	✓
	13+25				

		366.76			
5' Rt			1.3	365.5	✓
Rt			3.3	363.6	✓
℄			6.2	360.6	✓
Lt.			9.2	357.6	✓
5' Lt.			11.3	355.5	✓
	13+52.09				
5' Lt			10.0	356.8	✓
Lt.			8.1	358.7	✓
℄ on Stub			5.32	361.44	✓
Rt.			2.5	364.3	✓
5' Rt			0.4	366.4	✓
	13+75				
5' Rt.			+0.2	367.0	✓
Rt.			1.7	365.1	✓
℄			4.1	362.7	✓
Lt.			6.9	359.9	✓
5' Lt.			8.8	358.0	✓
	14+00				
5' Lt.			6.9	359.9	✓
Lt.			5.3	361.5	✓
℄			3.0	363.8	✓
Rt.			0.7	366.1	✓
5' Rt.			0.9	365.9	✓
T.P.	12.78	378.26 ✓	1.28	365.48	
	14+25				
5' Rt.			9.9	368.4	✓

378.26

Rt.	11.2	367.1	✓	
℄	13.5	364.8	✓	
Lt.	16.0	362.3	✓	
5' Lt	17.5	360.8	✓	
14+50				
5' Lt.	16.0	362.3	✓	
Lt	14.5	363.8	✓	
℄	12.2	366.1	✓	
Rt.	10.4	367.9	✓	
5' Rt.	9.1	369.2	✓	
14+75				
5' Rt.	7.6	370.7	✓	
Rt.	9.3	369.0	✓	
℄	11.4	366.9	✓	
Lt.	13.3	365.0	✓	
5' Lt	14.8	363.5	✓	
15+00				
5' Lt.	15.3	363.0	✓	
Lt	13.3	365.0	✓	
℄	11.1	367.2	✓	
Rt.	9.0	369.3	✓	
5' Rt.	7.5	370.8	✓	
15+22.81 = E.C.				
5' Rt.	6.0	372.3	✓	
Rt.	7.9	370.4	✓	
℄ on Stub	10.38	367.88	✓	✓

378.26

Lt.	12.9	365.4	✓	
10' Lt.	16.2	362.1	✓	
15+50				
10' Lt.	15.2	363.1	✓	
Lt.	11.7	366.6	✓	
℄	8.5	369.8	✓	
Rt.	5.8	372.5	✓	
5' Rt.	4.0	374.3	✓	
16+00				
5' Rt	1.0	377.3	✓	
Rt.	2.9	375.4	✓	
℄	5.8	372.5	✓	✓
Lt.	8.7	369.6	✓	
10' Lt.	12.8	365.5	✓	
16+30				
10' Lt	11.0	367.3	✓	
Lt.	6.8	371.5	✓	
℄	3.3	375.0	✓	
Rt.	0.5	377.8	✓	
5' Rt.	+1.0	379.3	✓	
16+44.56 = B.C. Lt.				
5' Rt	+1.4	379.7	✓	
Rt.	1.0	377.3	✓	
℄	4.0	374.3	✓	✓
Lt.	7.2	371.1	✓	
10' Lt.	11.1	367.2	✓	

		378.26			
	16+75				
15' Lt.			13.5	364.8	✓
Lt.			6.8	371.5	✓
℄			3.6	374.7	✓
Rt.			0.6	377.7	✓
5' Rt.			+1.5	379.8	✓
	17+00				
5' Rt.			+0.9	379.2	✓
Rt.			0.6	377.7	✓
℄			2.8	375.5	✓
Lt.			6.3	372.0	✓
12' Lt.			11.0	367.3	✓
	17+25				
8' Lt.			6.3	372.0	✓
Lt.			2.9	375.4	✓
℄			0.0	378.3	✓
Rt.			+2.5	380.8	✓
5' Rt.			+4.3	382.6	✓
T.P.	12.96	390.48 ✓	0.74	377.52	
	17+52.59 = E.C.				
5' Rt.			2.9	387.6	✓
Rt.			5.2	385.3	✓
℄ on stub.			7.82	382.66	✓
Lt.			10.7	379.8	✓
5' Lt.			12.5	378.0	✓
	18+00				

		390.48			
5' Lt.			10.2	380.3	✓
Lt.			8.8	381.7	✓
℄			6.4	384.1	✓
Rt.			4.2	386.3	✓
5' Rt.			2.6	387.9	✓
	18+25				
5' Rt.			0.0	390.5	✓
Rt.			2.2	388.3	✓
℄			4.3	386.2	✓
Lt.			7.0	383.5	✓
5' Lt.			8.7	381.8	✓
	18+50				
5' Lt.			8.0	382.5	✓
Lt.			6.3	384.2	✓
℄			3.9	386.6	✓
Rt.			2.0	388.5	✓
5' Rt.			0.4	390.1	✓
	12.18	397.27 ✓	5.39	385.09 ✓	cht. on B.M. 10' Lt. P79 Sta. 19+05
	18+89.63 = B.C. Rt.				
5' Rt.			7.4	389.9	✓
Rt.			8.4	388.9	✓
℄ on stub.			10.57	386.70	✓
Lt.			12.6	384.7	✓
5' Lt.			13.9	383.4	✓
	19+25				
5' Lt.			11.9	385.4	✓

397.27

Lt.		10.9	386.4	✓
℄		9.1	388.2	✓
Rt.		7.6	389.7	✓
5' Rt.		6.9	390.4	✓
	19+54.74			
28' Lt.	in Fill	0.7	396.6	✓
8' "	" "	3.2	395.1	✓
Lt.	" "	5.9	391.4	✓
+2	Nat. Ground	7.8	389.5	✓
℄	on Stub.	8.31	388.96	✓
Lt.		9.4	387.9	✓
5' Lt.		10.5	386.8	✓
	19+60			
10' Lt.		11.0	386.3	✓
Lt.		8.9	388.4	✓
℄		8.2	389.1	✓
Rt.		6.9	390.4	✓
10' Rt.		3.9	393.4	✓
	19+90			
10' Rt.		3.6	393.7	✓
Rt.		6.1	391.2	✓
℄		7.3	390.0	✓
Lt.		8.3	389.0	✓
10' Lt.		10.2	387.1	✓
	20+00			
10' Lt.		9.9	387.4	✓

397.27

31

Lt.		7.9	389.4	✓
℄		7.4	389.9	✓
Rt.		7.0	390.3	✓
10' Rt.		5.8	391.5	✓
	20+30			
10' Rt.		5.4	391.9	✓
Rt.		6.1	391.2	✓
℄		6.7	390.6	✓
Lt.		8.4	388.9	✓
10' Lt.		9.6	387.7	✓
	20+50			
20' Lt.	on Nat. Ground	13.5	383.8	✓
14' "	" " "	12.4	384.9	✓
9' "	" Fill	9.9	387.4	✓
Lt.	" "	7.6	389.7	✓
℄	" "	6.9	390.4	✓
Rt.	" "	6.4	390.9	✓
10' Rt	" "	5.4	391.9	✓
	20+86.47			
10' Rt.	in Fill	6.6	390.7	
Rt.	" "	7.7	389.6	
℄	on Stub	8.55	388.72	✓
Lt.		10.1	387.2	
10' Lt.		11.4	385.9	

Walker
Wm Bliss
L. Mattoon.
Mc Hugh
Sommermeyer

5-2-30

Location Portion Proposed Sewer
State College Site
"A" Line

℄ Road Station = 7+68.54 → = BC. Rt.

51° 50' 30"

Stub.

20'

℄ Road Station = 4+40.05 → ℄ Proposed Sewer

= △ Rt. 51°50'30"
4+34.17 = End Location

+75 = P.O.T.

Stub.

3+35.05 △ Rt. 68°02'30

Re-Located
See Page 35

Stub.

1+40 = P.O.T.

N.E. Cor. 55' 125'

Bld. C
Page 9

0+00

Walker
And Party
5-2-30

LEVELS For Sewer Line "A"
Location. P-33

	3.14	323.01		319.87 BM. on Hub. "A5" Page 1
0+00 on Hub N.E. Cor. Bld C			6.88	316.13
T.P.	10.97	330.44	3.54	319.47
+50			8.8	321.6
+75			5.3	325.1
1+00			2.4	328.0
T.P.	10.11	337.82	2.73	327.71
+15			7.5	330.3
+40 = P.O.T. Boring Stake			5.56	332.26
1+75			6.2	331.6
2+00			10.8	327.0
+35			14.2	323.6
+65			10.5	327.3
+85			9.7	328.1
3+00			10.5	327.3
+35.05 = Δ Rt.			12.40	325.42
T.P.	4.20	339.67	2.35	335.47
+55			7.6	332.1
+70			5.9	333.8
+90			7.3	332.4
4+05			9.7	330.0
+34.17 on Boring Stake			14.52	325.15
Rough check ℄ Sta 4+40.05 P-24			16.6	323.07

Walker
5-7-30

LEVELS on ℄ Semi-Tangents P-18
for Proposed Sewer Line
State College

10+41 = 10+91 = B.C. P-18	9.71	361.10		351.39
=0+00			7.6	353.5
+13			5.9	355.2
+25			6.9	354.2
+37			10.1	351.0
+45			9.6	351.5
+50			11.0	350.1
+51			13.1	348.0
+58			12.7	348.4
+61			9.1	352.0
+70.31 = P.I. on Hub			4.07	357.03
+78			5.6	357.5
+90			5.0	356.1
1+05			8.7	352.4
+23			10.8	350.3
1+40.62 = E.C. = 11+95.19 P-27			9.75	351.35

LEVELS ℄ S.T.s Bet. Sh. 16+44.56 and 17+52.59 P-19

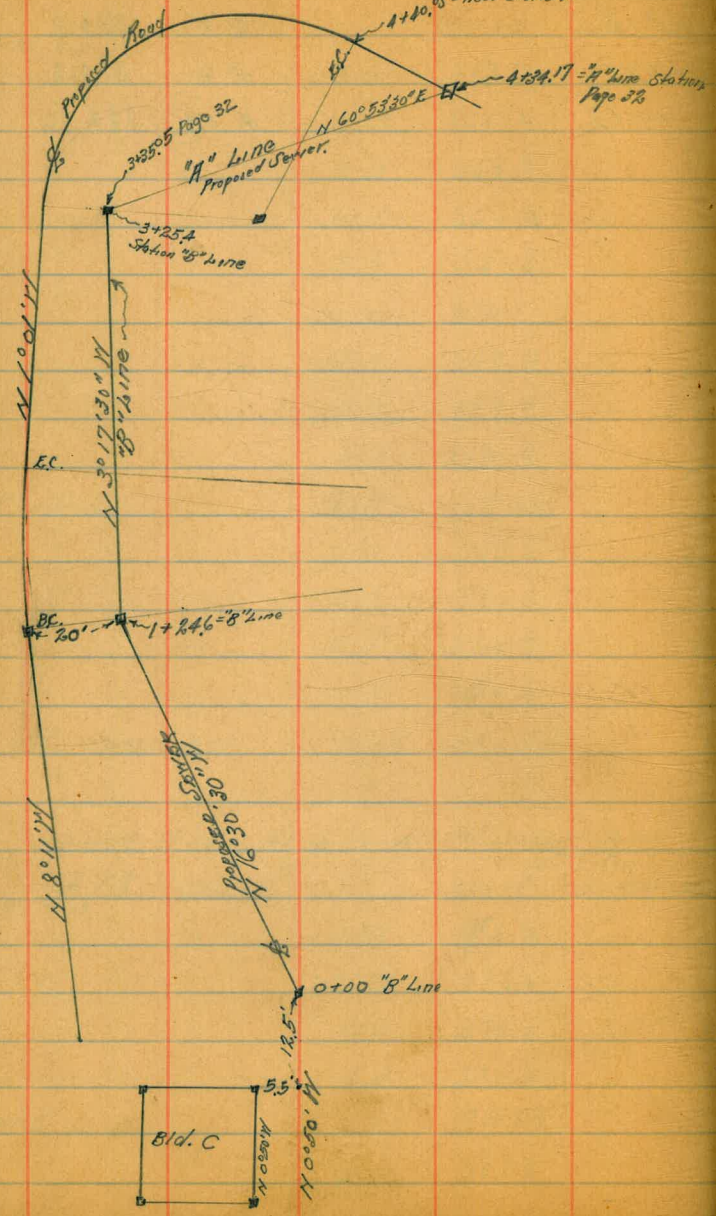
16+44.56 = B.C. P-19	4.72	387.38		382.66	17+52.59 P-30 ℄ Hub
=0+00			13.2	374.2	
+11			11.9	375.5	
+45			8.4	379.0	
+55			6.4	381.0	
+65.81 = P.I. on Stub.			2.84	384.54	
+78			5.6	381.8	

387.38

1+00		7.2	380.2
+10		6.7	380.7
+25		4.8	382.6
+31.62		4.72	382.66

Walker
Wm Bliss
McHoon
Osborne
5-7-30

Location of a Portion of Proposed Sewer Line State College Site
LINE "B"



Preliminary Levels for "B" Line Sewer
Location on opposite page

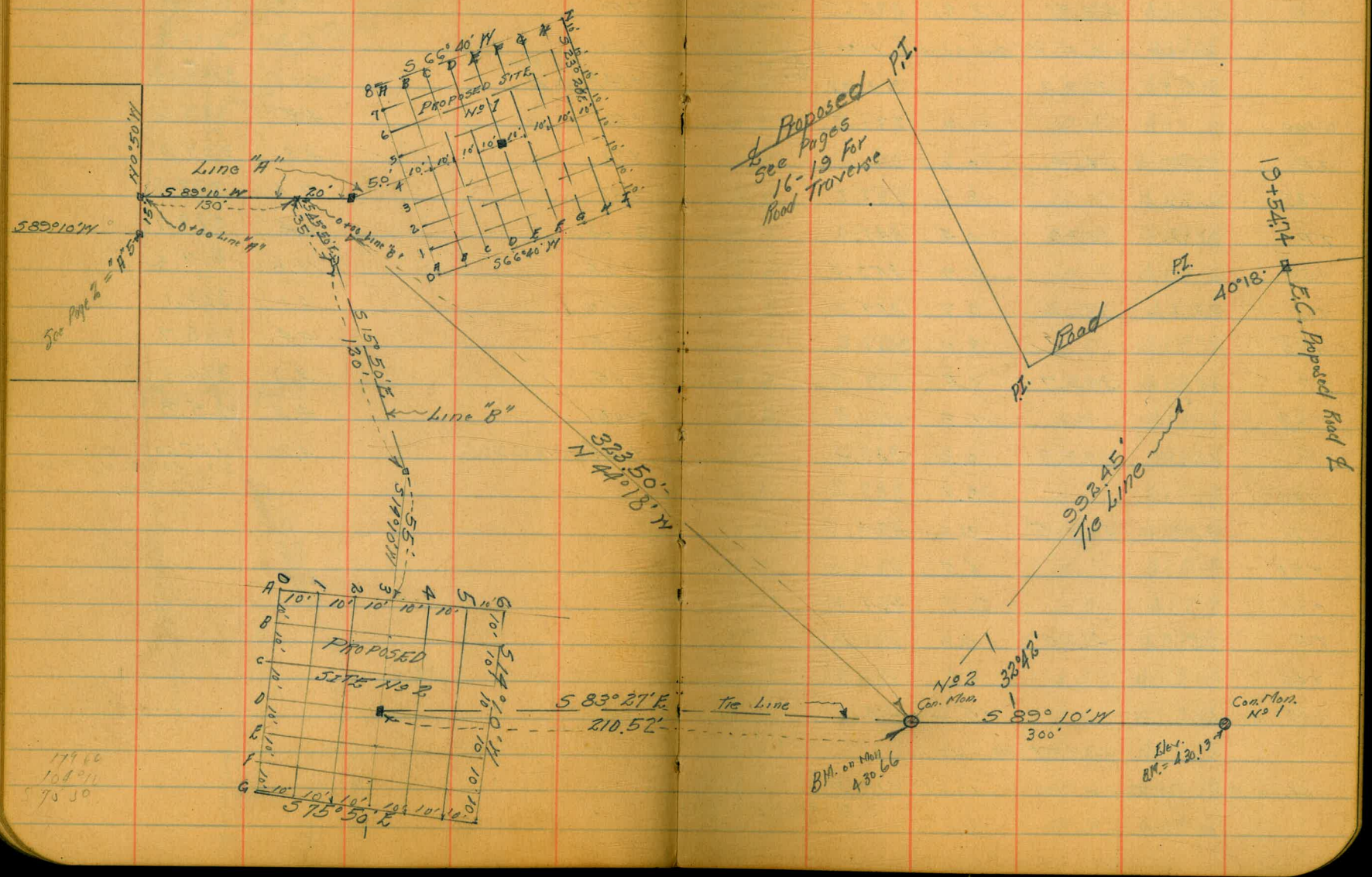
35

	10.23	330.10		319.87 BM. Hub "A" 5 P-2
0+00 on State			9.33	320.77
+50			7.3	322.8
1+00			6.2	323.9
+24.6 on State = Δ Rd			6.06	324.04
+50			4.5	325.6
+70			4.8	325.3
+81			7.6	322.5
2+00			10.4	319.7
+25			10.6	319.5
+50			6.0	324.1
+65			4.4	325.7
+85			4.0	326.1
3+05			4.3	325.8
+25.40 = 3+35.02 "A" Line			4.70	325.40

325.42 = Bm. Hub P-33
0.02 = Error.

Walker
W. W. Bliss
Mattoon
6-8-30

Location Water Main
and Proposed Water Tank Site No 1 and No 2
State College Site
Levels on P. 37 to 41



LEVELS FOR WATER MAIN
LINE "A" Sketch P-~~33~~ 37

	5.43	435.56		430.13	B.M. on Mon. P-1 U.S. G.S. Datum
Left B.M. top Con Mon No 2 - P-33			4.90	430.66	
T.P.	0.84	423.51	12.91	422.67	
	Levels on Line "A" from 0+00 to 1+50 by Hand Level				
	12.9	332.8		319.87	B.M. on Hub "A"-5 P-1
0+00			11.0	321.8	
T.P.	12.8	345.4	0.2	332.6	
+25			8.2	337.2	
T.P.	12.9	357.9	0.4	345.0	
+50			5.9	352.0	
T.P.	13.0	370.2	0.7	357.2	
+75			3.0	367.2	
T.P.	13.0	382.7	0.5	369.7	
+83			11.3	371.4	
T.P.	12.9	395.3	0.3	382.4	
1+00			12.1	383.2	
T.P.	12.8	407.5	0.6	394.7	
+25			6.5	401.0	
+30			2.7	404.8	
T.P.	12.1	419.0	0.6	406.9	
+45			6.1	412.9	
+50 on Stub.			5.2	413.8	
		423.51 = Above H.I. Level			
chk. on Hand Level Turn at 1+50			10.01	413.5	
				0.3 = Error Hand Level	

423.51

LEVELS PROPOSED Water Tank Site No 1

0"A"	4.7	418.8
1"A"	5.9	417.6
2"A"	7.2	416.3
3"A"	8.5	415.0
4"A"	10.0	413.5
5"A"	11.2	412.3
6"A"	12.5	411.0
7"A"	14.2	409.3
8 A	16.5	407.0
8"B"	15.7	407.8
7"B"	13.9	409.6
6"B"	12.2	411.3
5"B"	11.0	412.5
4"B"	9.9	413.6
3"B"	8.4	415.1
2"B"	7.0	416.5
1"B"	5.9	417.6
0"B"	4.7	418.8
0"C"	4.7	418.8
1"C"	5.7	417.8
2"C"	6.2	417.3
3"C"	8.5	415.0
4"C"	9.9	413.6
5"C"	11.2	412.3
6"C"	12.6	410.9
7"C"	13.9	409.6

8 "C"		15.6	407.9
8 "D"		15.8	407.7
7 "D"		14.3	409.2
6 "D"		12.7	410.8
5 "D"		11.2	412.3
4 "D"		10.0	413.5
3 "D"		8.1	415.4
2 "D"		6.3	417.2
1 "D"		5.8	417.7
0 "D"		5.0	418.5
0 "E"		5.3	418.2
1 "E"		6.2	417.3
2 "E"		6.9	416.6
3 "E"		8.7	414.8
4 "E" on Hub (reving stake)		10.23	413.28
5 "E"		11.6	411.9
6 "E"		13.0	410.5
7 "E"		14.6	408.9
8 "E"		16.1	407.4
8 "F"		16.6	406.9
7 "F"		15.0	408.5
6 "F"		13.5	410.0
5 "F"		12.2	411.3
4 "F"		10.9	412.6
3 "F"		9.3	414.2
2 "F"		7.3	416.2

1 "F"		6.3	417.2
0 "F"		5.7	417.8
0 "G"		6.4	417.1
1 "G"		7.3	416.2
2 "G"		8.4	415.1
3 "G"		9.9	413.6
4 "G"		11.5	412.0
5 "G"		12.7	410.8
6 "G"		14.1	409.4
7 "G"		15.5	408.0
8 "G"		16.5	407.0
8 "H"		16.5	407.0
7 "H"		15.7	407.8
6 "H"		14.9	408.6
5 "H"		13.4	410.1
4 "H"		12.1	411.4
3 "H"		10.5	413.0
2 "H"		9.0	414.5
1 "H"		7.8	415.7
0 "H"		6.8	416.7
0 "I"		7.4	416.1
1 "I"		8.6	414.9
2 "I"		10.1	413.4
3 "I"		11.5	412.0
4 "I"		13.0	410.5
5 "I"		14.3	409.2

423.51

6 "I"			15.3	408.2	
7 "I"			16.5	407.0	
8 "I"			17.6	405.9	

LEVELS on Water Line "B" to Proposed Tank Site No 2

0+00			18.7	404.8	
+23			9.4	414.1	
~~+25~~			~~7.7~~		
~~+65~~			~~9.5~~		
T.P.	11.80	435.19	0.12	423.39	on Rock 30' Lt 0+80
0+35					
10' Lt			18.0	417.2	
℄			18.5	416.7	
5' Rt = Brown Canyon			19.8	415.4	
10' Rt			21.5	413.7	
0+65					
16' Rt			20.4	414.8	
6' Rt = Brown Canyon			16.2	419.0	
℄			15.1	420.1	
10' Lt			14.5	420.9	
0+90					
10' Lt			11.5	423.7	
℄			12.0	423.2	
8' Rt			12.7	422.5	
13' Rt = Brown Canyon			13.7	421.5	
18' Rt			15.5	419.7	

435.19

1+25		
20' Rt	15.5	419.7
13' Rt = Brown Canyon	10.8	424.4
℄	9.7	425.5
10' Lt	9.5	425.7
1+55 = ∆ Rt	Section on Bisector	
10 Lt	7.6	427.6
℄ on Pav. State	8.14	427.05
13' Rt = Brown Canyon	9.0	426.2
23' Rt	12.9	422.3
1+75		
15' Rt	14.9	420.3
℄ = Brown Canyon	8.1	427.2
10' Lt	7.1	428.1
1+88		
10' Lt	6.7	428.5
4' Lt = Brown Canyon	7.4	427.8
℄	8.6	426.6
10' Rt	13.9	421.3
1+95		
10' Rt	11.7	423.5
℄ = Brown Canyon	7.6	427.6
10' Lt	6.7	428.5
2+05		
10' Lt	6.2	429.0
℄	7.0	428.2

10' Rt. = Bow Canyon	8.5	426.7
20' Rt	12.8	422.4

LEVELS for Proposed Water Tank Site No 2

0 "A"	17.7	417.5
1 "A"	10.4	424.8
+5	8.6	426.6
2 "A"	7.9	427.3
3 "A"	6.8	428.4
4 "A"	6.1	429.1
5 "A"	6.0	429.2
6 "A"	5.6	429.6
6 "B"	5.6	427.6
5 "B"	5.9	429.3
4 "B"	6.0	429.2
3 "B"	6.8	428.4
2 "B"	7.8	427.4
1 "B"	9.5	425.9
+4	10.2	425.0
0 "B"	13.3	421.9
3' West 0 - "C" = Bow Canyon	12.7	422.5
0 "C"	11.6	423.6
1 "C"	9.3	425.9
2 "C"	7.9	427.3
3 "C"	6.9	428.3
4 "C"	6.2	429.0

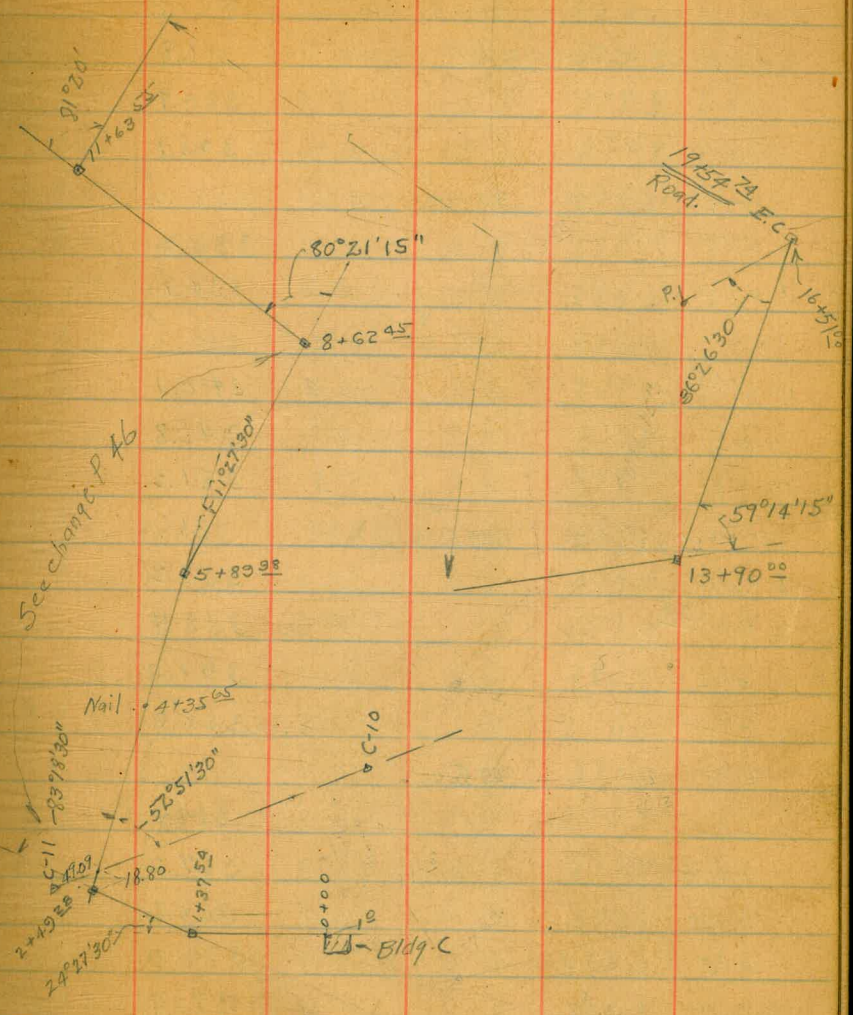
5 "C"	5.8	429.4
6 "C"	5.5	429.7
6 "D"	5.3	429.9
5 "D"	5.7	429.5
4 "D"	6.3	428.9
3 "D" on Boring Stake	6.95	428.24
2 "D"	8.0	427.2
1 "D"	9.7	425.5
0 "D"	12.7	422.5
+10 = Bow Canyon	14.7	420.5
-10' = " "	15.3	419.9
0 "E"	12.4	422.8
1 "E"	9.7	425.5
2 "E"	8.1	427.1
3 "E"	7.0	428.2
4 "E"	6.4	428.8
5 "E"	5.8	429.4
6 "E"	5.2	430.0
6 "F"	5.3	429.9
5 "F"	5.8	429.4
4 "F"	6.5	428.7
3 "F"	7.2	428.0
2 "F"	8.2	427.0
1 "F"	10.3	424.9
0 "F"	12.9	422.3
+10' = Bow Canyon	16.6	418.6

435.19

-10' West = Brow Canyon	19.4	415.8
0 "G"	16.4	418.8
10' South 0"G"	22.0	413.2
1 "G"	13.2	422.0
10' South 1"G"	19.2	416.0
5' North 1"G"	11.0	424.2
2 "G" - Brow Canyon	9.4	425.8
10' South 2"G"	15.4	419.8
3 "G"	7.5	427.7
10' South 3"G"	11.5	423.7
4 "G"	6.5	428.7
12 South 4"G"	8.0	427.2
5 "G"	5.7	429.5
6 "G"	5.3	429.9
Check on Cu. Mon. No 2	4.51	430.68
		430.66 = BM
		0.02

6/26/30 London.

Sewer Line from Bldg C, Disposal Plant to Power House - State College.



Profile of Sewer Line Shown on P41

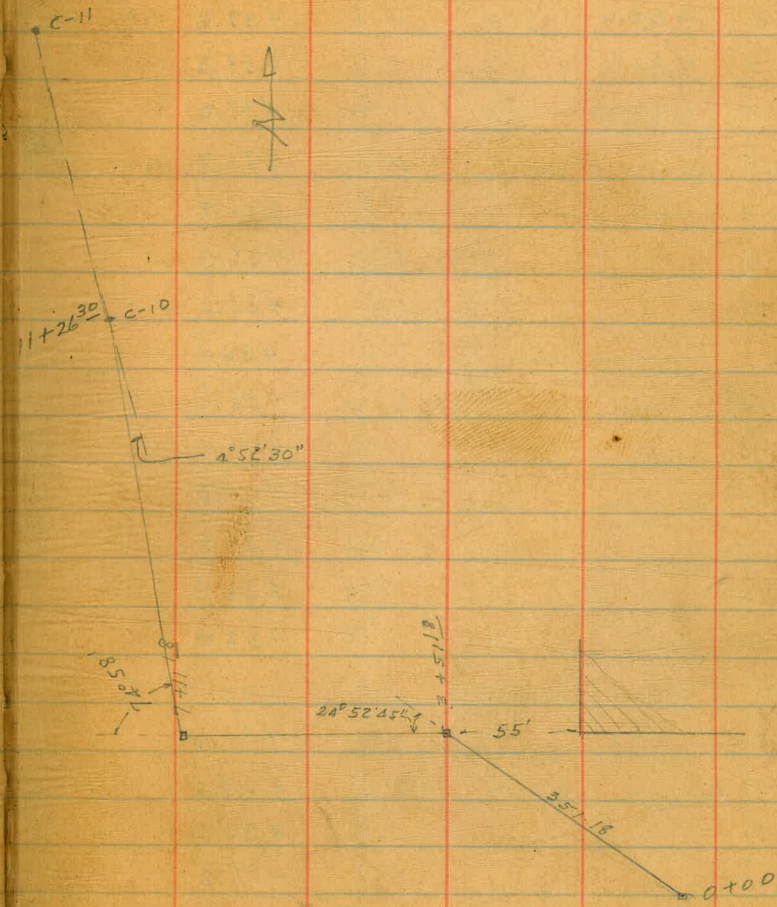
Hub NE Cor Bldg C				
B.M.	12.77	328.87 ✓		316.12
0+00	=1' Ely NE Cor Bldg. C.		12.1	316.8
+25			8.0	320.9
+50			3.2	325.7
T.P.	12.10	340.35 ✓	0.62	328.25 ✓
+75			10.2	330.2
1+00			6.3	334.1
T.P.	12.39	352.49 ✓	0.25	340.10 ✓
1+37.54 L.			12.4	340.1
+63			5.7	346.8
+88			1.3	351.2
T.P.	12.04	364.02 ✓	0.51	351.98 ✓
2+00			10.8	353.2
2+49.28 L.			5.6	358.4
+65			2.0	362.0
+75			1.2	362.8
T.P.	11.69	375.45 ✓	0.26	363.76 ✓
3+00			10.6	364.9
+25			8.3	367.2
+50			6.9	368.6
+75			5.5	370.0
4+00			4.6	370.9
+35			3.5	372.0
+60			1.3	374.2
T.P.	12.50	387.05	0.90	374.55 ✓

		387.05		
4+75			13.3	373.8
5+00			12.8	374.3
+25			12.2	374.9
+50			11.3	375.8
+75			12.4	374.7
+89.98 L.			12.5	374.6
6+25			9.9	377.2
+50			9.2	377.9
+75			8.3	378.8
7+00			7.6	379.5
T.P.	5.17	384.94 ✓	7.28	379.77 ✓
+25			5.5	379.4
+50			5.5	379.4
+82			3.6	381.3
8+12			8.8	376.1
+55			13.9	371.0
8+62.45 L.			9.5	375.4
8+68			14.5	370.4
+73			11.3	373.6
+85			12.6	372.3
9+00			10.7	374.2
+15			10.4	374.5
+25			12.9	372.0
+50			15.3	369.6
+75			12.5	372.4
10+00			10.8	374.1

		384.94			
10+50			7.0	377.9	
11+00			3.5	381.4	
T.P.	11.46	392.07	4.33	380.61	
11+63.51	L.		12.5	379.6	
12+00			9.1	383.0	
+50			8.2	383.9	
13+00			9.4	382.7	
+25			9.9	382.2	
+55			11.2	380.9	
+75			11.3	380.8	
13+90	L.		8.2	383.9	
14+10			9.6	382.5	
+25			10.9	381.2	
+50			7.5	384.6	
+75			6.1	386.0	
15+00			4.9	387.2	
+32			2.2	389.9	
T.P.	12.90	402.80	2.17	389.90	
+75			11.5	391.3	
16+00			12.0	390.8	
+25			12.5	390.3	
16+51			14.0	388.8	
B.M. Hub N.W. of Power House			6.16	396.64	(Marked 395.65)
on stub	(Walker 388.96)		13.87	388.93	

7/1/30
Loudon.

Line for Electrical Conduit at State College.



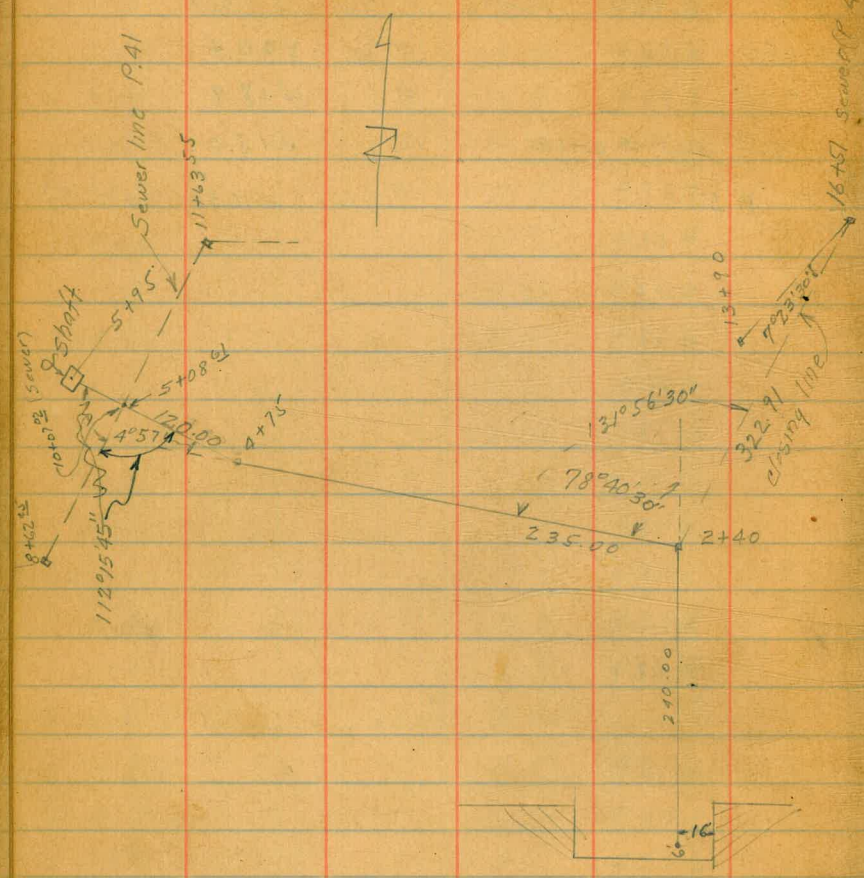
Profile of Electrical Conduit Line
Shown on P. 43

Con Mon No 2 (P. 2) B.M.	10.57	441.23		430.66
0+00			3.9	437.3
+50			3.6	437.6
+60			2.9	438.3
1+00			4.2	437.0
+45			4.5	436.7
2+00			5.8	435.4
+50			5.2	436.0
3+00			5.6	435.6
+30			4.8	436.4
+51.8 L			6.2	435.0
4+00			6.6	434.6
+50			6.2	434.8
5+00			7.1	434.1
+50			7.8	433.4
6+00			8.8	432.4
T.P	3.20	435.99	8.44	432.79
+50			4.4	431.6
7+11.8 L			6.5	429.5
+50			5.8	430.2
8+00			4.8	431.2
+50			4.8	431.2
9+00			5.1	430.9
+50			7.1	428.9
10+00			9.2	426.8

		435.99			
10+00			12.0	424.0	
T.P	2.27	425.96	12.30	423.69	
10+80			5.6	420.4	
11+00			8.1	418.9	
+26.30 End. = C-10			11.0	415.0	
2A P 37			9.66	416.30	(416.3)

7/2/30
Loudon.

Location for Pent Sewer from Lab. to cess-pool State College.

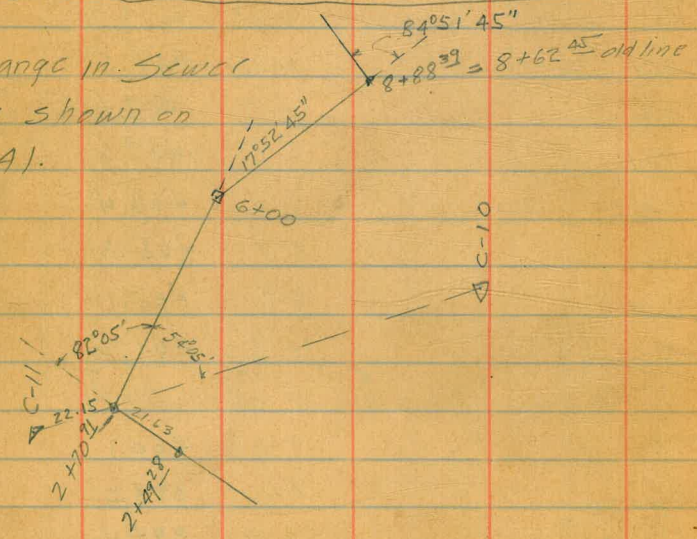


Profile of line on opp. Page.

Corner Power House B.M.	12.71	409.36		396.65
T.P.	11.50	420.61	0.25	409.11
T.P.	8.16	426.07	2.70	417.91
0+00			2.8	423.3
+50			3.6	422.5
+65			4.2	421.9
1+00			7.2	418.9
+40			11.4	414.7
+75			11.4	414.7
T.P.	0.82	414.01	12.88	413.19
2+00			4.5	409.5
+25			5.7	408.4
+40			8.5	405.6
+50			7.6	406.4
3+00			8.7	405.3
+50			8.9	405.1
4+00			12.8	401.2
T.P.	0.50	402.31	12.20	401.81
+25			1.60	400.7
+36			4.0	398.3
+50			7.9	394.4
T.P.	0.30	390.07	12.54	389.77
+75			2.4	387.7
T.P.	0.27	377.42	12.92	377.15
5+20			7.4	370.0
T.P.	0.26	364.97	12.71	364.71

		364.97		
5+45			8.2	356.8
+65			18.0	347.0
+77			23.7	341.3
+80			26.2	338.8
+91			32.7	332.3
+93			36.3	328.7
T.P	10.88	375.34	0.51	364.46
10+00 sewer (PA2)			1.15	374.19

Change in Sewer Line shown on P 41.



Profile - Change in Sewer on Opp. Page.

T.P.	5.11	368.87		363.76
2+70.91			11.7	357.2
3+00			9.5	359.4
+50			7.8	361.1
+65			6.1	362.8
4+00			6.6	362.3
+50			5.3	363.6
+75			3.7	365.2
5+00			4.1	364.8
T.P.	12.10	376.29	4.68	364.19
+50			10.6	365.7
6+00			12.1	364.2
+50			9.4	366.9
7+00			4.6	371.7
+50			2.8	373.5
T.P.	9.39	383.02	2.66	373.63
8+07			5.4	377.6
+50			9.7	373.3
+70			12.9	370.1
8+88.39 = 6+62.45			7.5	375.5

Stations from Page 44

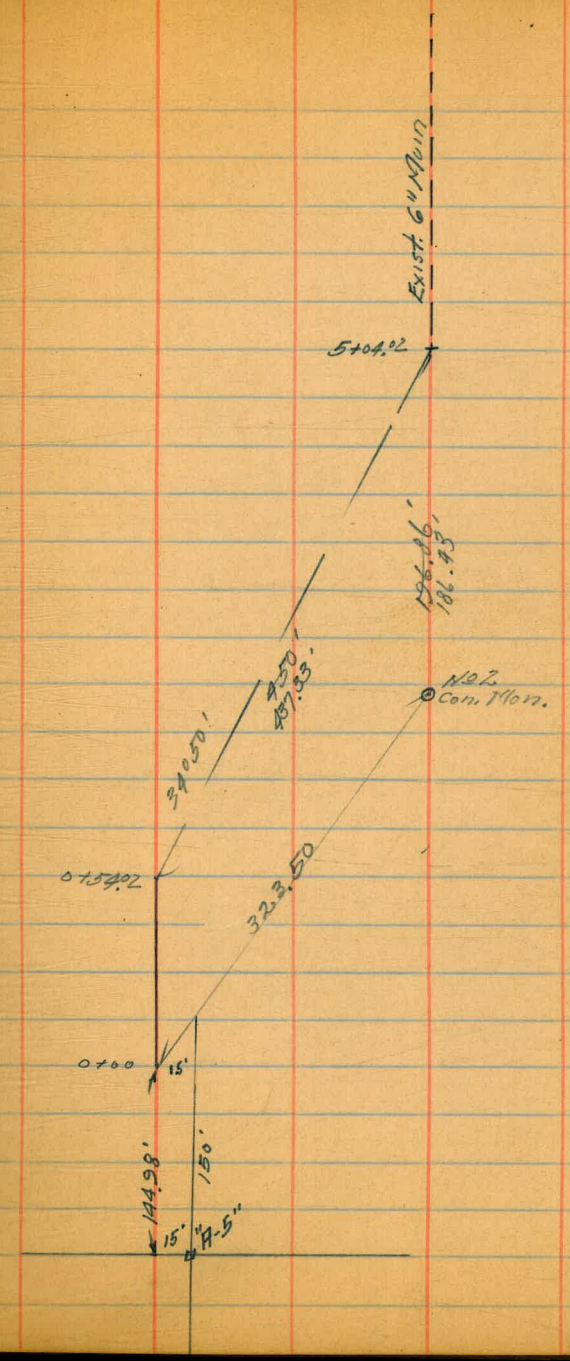
New levels across College Grounds

~~7+11.18~~	~~10.13~~			
	5.00	439.6		434.6
3+00			5.2	434.4
2+50			5.3	434.3
2+00			5.3	434.3
1+50			5.5	434.1
1+00			5.9	433.7
0+50			6.2	433.4
0+00			4.7	434.9
0+25			6.1	433.5
3+51.18	H.I. - 5.2			434.4

Walker
Bliss
Drebert
Kanagy 11-3-30

PRELIMINARY LEVELS
For WATER LINE

	0.53	431.19		430.66
0+00			18.7	412.5
+54.02 = Δ Rt. 34°50'			15.1	416.1
1+00			12.4	418.8
+50			8.8	422.4
2+00			7.9	423.3
+50			6.4	424.8
+75			6.2	425.0
3+00			4.7	426.5
+25			5.5	425.7
+50			4.4	426.8
+65			4.8	426.4
+75			3.6	427.6
4+00			2.3	428.9
T.P.	7.85	436.58	2.46	428.73
+10			7.5	429.1
+25			8.9	427.7
+50			6.6	430.0
+75			7.4	429.2
+91.35 = End. 5+04.02			5.2	431.4
Chk. on Starting BM			5.92	430.66 ✓



~~Additional Bench Marks~~

~~Sewer Plant~~

	+	⊼	−	Elev.
		294.57		
			11.94	282.63
T.P.	12.55	306.53	0.59	293.98
			2.33	304.20

Elev. of B.M.s From stake ⑥ Grade Book 144-40

	3.39	306.73		303.34
			2.33	304.40
T.P.	0.59	294.77	12.55	294.18
	12.21	295.04	11.94	282.83
chk. on stake (23)			11.43	283.61

GRADES for 6" C.I. Line

Bet. Sludge Tank. and Sludge Bed.

90° Bend at Sludge Bed.	295.04	10.48	284.56	284.56
30' South - △ "Y"		9.54	285.50	285.50
15' " East		9.07	285.97	285.97

B.M. Page 9 ~~291.62~~ ~~2.95~~ + 294.57 - ⊼

~~LARGE Nail in Con. Footing N.W. Cor. Sand Filter.~~

LARGE Nail in Con Shoulder S.W. Cor. Sludge Tank.

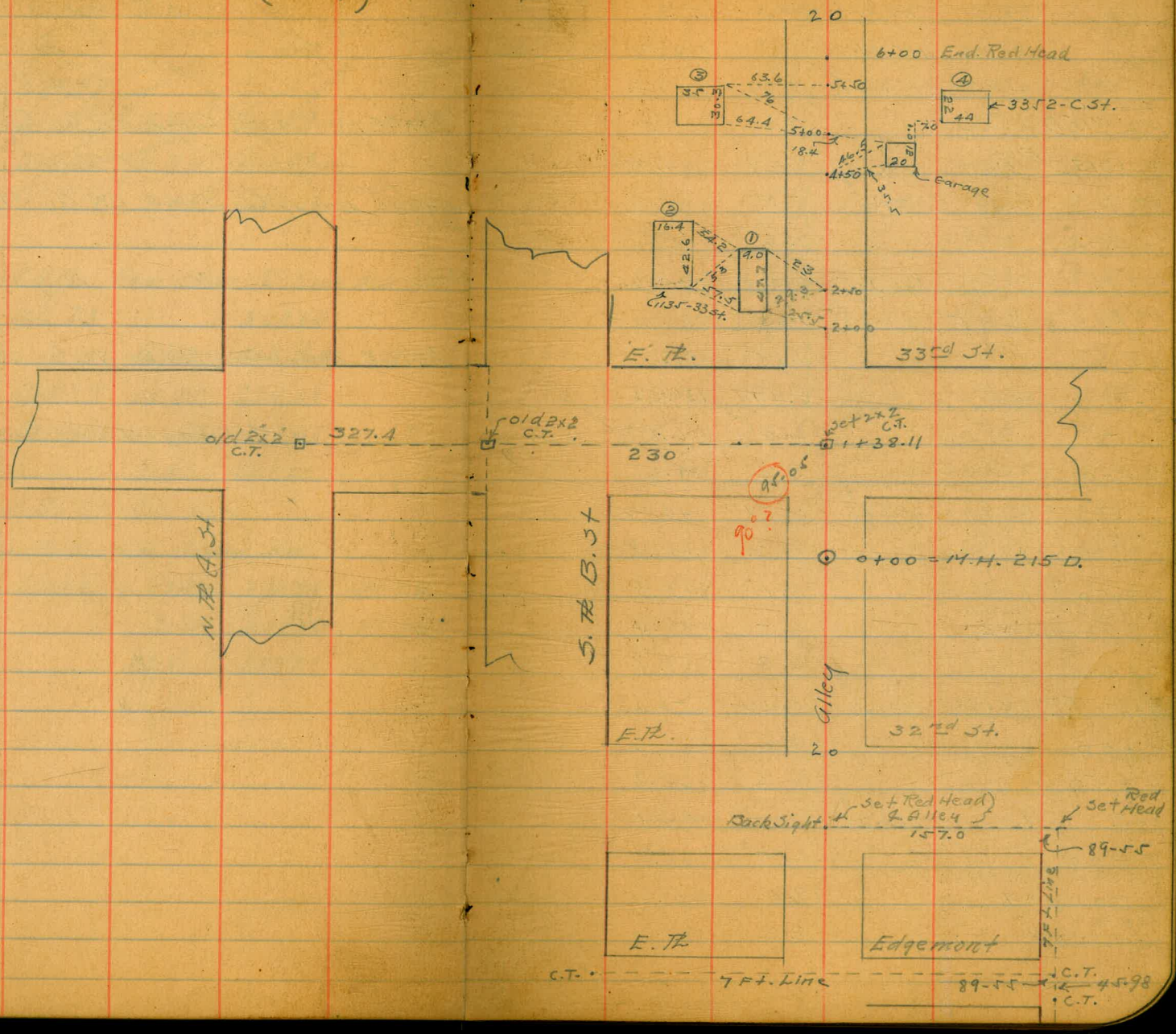
LARGE Nail in Con Shoulder S.W. Cor Sludge Tank.

" " " " Footing N.W. Cor. Sand Filter.

Sewer Alignment Blk. 123
Choates Addition (167) 148

Partridge
Borrer
Losey
5/13/35

51



indexed
C.S.K.

Levels Sewer Blk 123-148
Choates Addition

Sta	B.S.	H.I.	F.S.	Elev	
					6" B.P. Mon. NW-33 3/4 D
	8.76	115.31		106.55	
	4.88	114.40 ✓	5.79	109.52	
0+00 M.H. 215D	Top Cover		5.4	109.0	
M.H 215D	Flow Line		9.49	104.91	
T.P.	11.60	120.63 ✓	5.37	109.03	
0+50			1.6	119.0	
T.P.	11.50	131.765	0.365	120.265	
T.P.	12.085	142.83 ✓	1.02	130.745	
1+00			11.65	131.1	
1+38.11	Hub		6.47	136.36	
1+50			6.0	136.8	
2+00			3.2	139.6	
T.P.	12.59	154.85 ✓	0.57	142.26	
Center of S. Side House #1			10.2	144.7	
2+50			11.1	143.8	
Center of S. Side House #2			6.5	148.4	
3+00			6.8	148.1	
3+50 T.P.	12.80	167.23 ✓	0.42	154.43	
4+00			6.6	160.6	
4+50			2.4	164.8	
T.P.	8.03	174.21 ✓	1.05	166.18	
5+00			6.5	167.7	
Center of N. Side House #4			9.0	165.2	
Center of S. Side House #3			2.2	172.0	

5/14/35 B4C 33rd + 34th

Partridge Bower

		104.91 = Fl. M.H.		
		15.36		
Fl. Ex. M.H. = 0+00		120.27		104.91 ✓
		0.74		
		119.53		
0+40		12.65		111.71 C 4.96
		132.68		
0+80		0.77		118.51 C 8.72
		131.91		
		11.23		
1+20 Brk		143.14		125.31 C 9.12
		0.00		
1+60		143.14		127.65 C 9.21
		11.38		
2+00 = M.H.		154.52		130.0 C 9.54
		0.65		
		153.87		
+40		18.15		135.0 C 8.12
		167.02		
		0.70		
+80		166.32		140.0 C 6.32
		6.28		
3+20		172.60		145.0 C 5.42
		4.40		
+60		168.20 = 5+50 ground check		150.0 C 5.53
4 = Brk		168.20		155.0 C 5.20
+40				157.24 C 6.72
+80				159.48 C 6.84
5+25 = D.E.				162.0 C 6.10

Sewer Const.

Moore 10-21-36

Levels Sewer Blks. 123-148

Sta.	B.S.	H.I.	F.S.	Elev		
		174.21				
5+50			6.0	168.2		
6+00	End.		7.7	166.5		
	0.13	162.86	11.48	162.73	Checking	Back To Mon 33rd and D.
	0.50	150.42	12.94	149.92		
	3.65	141.295	12.775	137.645		
	1.03	129.73	12.595	128.70		
	0.275	116.865	13.14	116.59		
			10.34	106.525	✓ 6" B.P. Mon N.W. 33rd	D. Elev 106.55

Orchard Ave Curb Levels
East of Santa Barbara St to Venice
Existing Curb & Walk on South

BM	2.78	255.09	252.31	NW BP out Santa Barbara & Orchard
		E.L. Santa Barbara = 0+0		
S Cb Top		4.84	250.25	
Gutter		5.1	250.0	
℄		4.5	250.6	
Cb Ground		4.4	250.7	
+2		3.8	251.3	
N.L.		2.6	252.5	
	0+25			
N.L.		2.6	252.5	
+10		4.6	250.5	
+18		4.0	251.1	
Cb on Ground		5.1	250.0	
℄		5.4	249.7	
Gutter		5.6	249.5	
S Cb Top		5.26	249.83	
	0+50			
S Cb Top		5.81	249.28	
Gutter		6.1	249.0	
℄		6.2	248.9	
Cb		6.1	249.0	
+2		5.5	249.6	
N.L.		4.7	250.4	

80' Wide
20' Cbs

Dec. 4. 40
Sisson
Northern
W Moore

	255.09		
	0+75		
N.L.		6.0	249.1
Cb		7.0	248.1
℄		7.1	248.0
Gutter		6.8	248.3
S Cb Top		6.51	248.58
	1+0		
S Cb Top		7.56	247.53
Gutter		8.0	247.1
℄		8.2	246.9
Cb		8.3	246.8
+5		7.8	247.3
N.L.		6.8	248.3
	1+25		
N.L.		7.9	247.1
+18		9.0	246.1
Cb		9.6	245.5
℄		9.5	245.6
Gutter		9.4	245.7
S Cb Top		8.94	246.15
	1+50 = W End Cb on N		
S Cb Top		10.44	244.65
Gutter		10.8	244.3
℄		10.9	244.2
Gutter		11.1	244.0

		255.09		
NCb Top = Wly End			10.45	244.64
NL			10.1	245.0
	1+75			
NCb Top			11.93	243.16
Gutter			12.4	242.7
℄			12.4	242.7
Gutter			12.4	242.7
SCb Top			11.97	243.12
TP	1.44	244.36	12.17	242.92
	2+0			
SCb Top			2.74	241.62
Gutter			3.2	241.2
℄			3.1	241.3
Gutter			3.0	241.4
NCb Top			2.70	241.66
	3+0			
NCb Top			8.73	235.63
Gutter			9.1	235.3
℄			9.4	235.0
Gutter			9.3	235.1
SCb Top			8.64	235.72
TP	1.33	233.69	12.00	232.36
	4+0			
SCb Top			3.79	229.90
Gutter			4.4	229.3

		233.69			
℄			4.4	229.3	
Gutter			4.4	229.3	
NCb Top			3.81	229.88	
	5+0				
NCb Top			9.37	224.32	
Gutter			10.0	223.7	
℄			10.0	223.7	
Gutter			10.0	223.7	
SCb Top			9.40	224.29	
TP	2.33	224.29	11.73	221.96	
	6+0 = WL Venice				
SCb Top			5.62	218.67	
Gutter			6.0	218.3	
℄			5.9	218.4	
Gutter			6.2	218.1	
NCb Top			5.59	218.70	
BM			5.50	218.79	SW B.P Venice + Orchard

Cross Section T St.
W.L. Elizabeth St to 630' West

60' Wide

B.M.	1.12	88.29		87.17	SE Top Hyd T St + 45th
	0+0 = W.L. Elizabeth St From N.				
N			10.7	77.6	
℄			9.6	78.7	
S			10.1	78.2	
	0+50				
S			11.7	76.6	
℄			11.6	76.7	
N			13.8	74.5	
TP	0.29	76.43	12.15	76.14	
	1+0				
N			4.1	72.3	
℄			2.3	74.1	
S			1.8	74.6	
	1+35				
S			3.4	73.0	
℄			4.7	71.7	
N			5.3	71.1	
	1+70				
N			7.1	69.3	
℄			5.8	70.6	
S			5.1	71.3	
	2+0				
S			6.5	69.9	
℄			7.5	68.9	

Red. & Plat. 9-10-41
Profile 2902

Index cd
LM

Sept 4-41
Sisson
Northern
W Moore

56

		76.43		
N			7.6	68.8
	2+50			
N			9.5	66.9
℄			9.1	67.3
S			8.5	67.9
	2+70 = E.L. 44th St From S = Wly Graded Area S of ℄			
S			11.0	65.4
℄			10.8	65.6
N			10.0	66.4
	3+0 = ℄ 44th			
N			10.8	65.6
℄			11.6	64.8
S			12.5	63.9
TP	2.35	66.81	11.97	64.46
	3+30 = W.L. 44th St From S			
S			2.6	64.2
℄			3.3	63.5
N			2.5	64.3
	3+70			
N			3.6	63.2
℄			4.6	62.2
S			5.4	61.4
	4+0			
S			7.2	59.6
℄			4.5	62.3

		66.81			
H			4.4	62.4	
	4+50				
H			5.5	61.3	
℄			5.3	61.5	
S			7.3	59.5	
	5+0				
S			8.0	58.8	
℄			7.0	59.8	
H			7.1	59.7	
	5+50				
H			9.3	57.5	
℄			8.9	57.9	
S			9.4	57.4	
	6+0				
S			10.9	55.9	
℄			10.8	56.0	
H			11.4	55.4	
	6+30				
H			11.6	55.2	
℄			11.2	55.6	
S			11.6	55.2	
TP	0.31	56.66	10.46	56.35	
TP	1.21	45.~~73~~	12.~~4~~14	44.~~78~~57	
TP	6.82	44.~~73~~	7.82	37.~~84~~91	
BM			2.32	42.~~74~~41	NE8.P Col 100' East San Miguel + Occ on Vien 42.43

BM	0.74	43.17		42.43	NE8.P Col 100' East San Miguel + Occ on Vien
TP	6.98	44.23	5.92	37.25	
TP	11.95	53.69	2.49	41.74	
TP	11.84	64.96	0.57	53.12	
TP	11.90	76.79	0.07	64.89	
TP	12.08	88.45	0.42	76.37	
BM			3.00	85.45	Z.L.T 45th + Occ on Vien Front plan 85.44
TP	4.89	92.78	0.56	87.89	
BM			5.64	87.14	SE Top F Hyd TST + 45th St 87.17
BM	0.02	87.19		87.17	SE Top F Hyd TST + 45th St
TP	0.13	76.27	11.05	76.14	
TP			11.80	64.47	

Sewer Location & Levels. 43rd &
Hilltop

Void

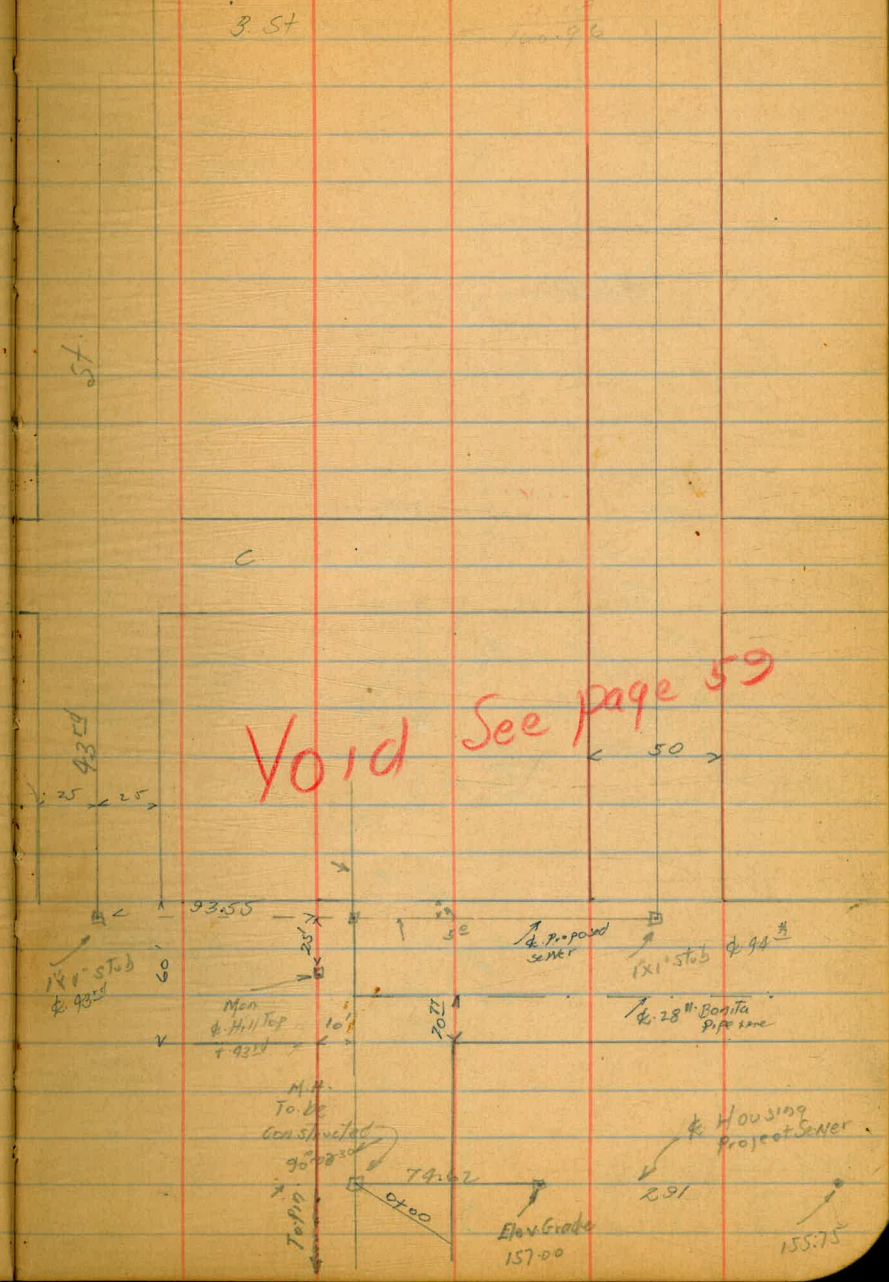
See Page 59

1+14.93 L Rt 89°-55-30

0+83.93 ℄ Hilltop

0+80 To int 28" Bonita Pipeline

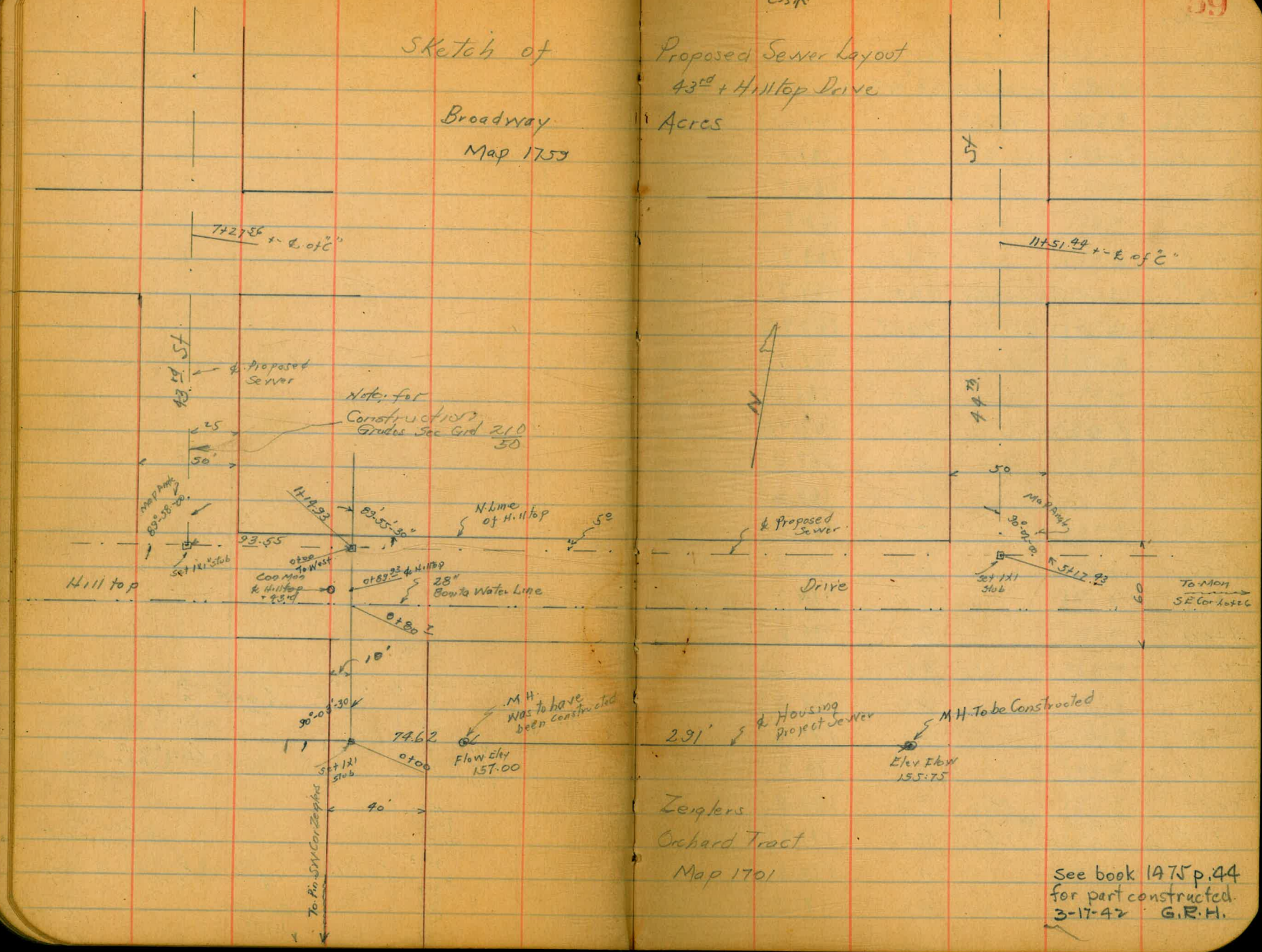
0+00 L 90°-03:30 Rt



Void

See page 59

Indexed
C.S.K.



See book 1475 p. 44
for part constructed.
3-17-42 G.R.H.

Bliss
Sommermyer
Beggs
11/5/41

Sewer Location and Levels 43rd

+ Hilltop. East on Hilltop to 44th + N. on 44th to 1714' North SW. Iron Pin 43rd + Hilltop

B.M. #24 Glovers City Datum	640	171.07		164.67	
74.62 East of 0+00 Ground			10.0	161.1	
0+00			10.4	160.7	
+50			8.3	162.8	
+65			7.2	163.9	
+80.70 int Bonita Pipe Line Grd			6.4	164.7	
" " on top 28" pipe			10.15	160.92	
+89.93 ℄ Hilltop			5.4	165.7	
1+08			4.9	166.2	
1+14.93 L Rt 89°-55'-30"			3.67	167.40	
+50			4.1	167.0	
2+00			4.5	166.6	
+50			5.1	166.0	
3+00			6.3	164.8	
+50			6.4	164.7	
4+00			4.5	166.6	
T.P.	965	176.65	4.07	167.00	
+50			8.4	168.3	
+87			6.1	170.6	
+91			6.7	170.0	
5+00			5.9	170.8	
+17.43 L Lt on 1"x1" stub ℄ 44th Mon ∑ Angle 90°-02-00			4.70	171.95	
+50			4.1	172.6	
6+00			4.8	171.9	

		* 176.65		
+50			5.2	171.5
7+00			4.8	171.9
+50			4.2	172.5
8+00			3.3	173.4
+50			2.9	173.8
9+00			2.1	174.6
T.P.	12.59	187.34	1.90	174.75
+50			11.7	175.6
10+00			10.2	177.2
+50			8.0	179.3
11+00			5.3	182.0
+51.44 ℄ of "C" St			2.3	185.0
T.P.	10.54	197.45	0.43	186.91
12+00			9.8	187.7
+50			7.3	190.2
13+00			6.1	191.4
+50	# Note Ground on Rt is above ℄		5.1	192.4
" "	100' Lt		9.8	187.7
14+00			4.2	193.3
" "	100' Lt		10.7	186.8
+50			3.6	193.9
" "	100' Lt		11.9	185.6
15+00			4.6	192.9
" "	100' Lt		13.2	184.3
+50			6.0	191.5

		197.45		
16+00		8.4	189.1	
" "	100' Lt	17.0	180.5	
+20	S Side Res on West ℄	10.5	187.0	
"	Floor Res. 100' Lt	17.5	180.0	
+50		12.5	185.0	
17+00		15.0	182.5	
+14		15.7	181.8	
+14	100' Lt	20.4	177.1	
" "	100 Rt	14.8	182.7	
Set T.P. ℄ 42nd for check		2.05	195.40	500 sight

Sewer Levels 43rd St. North of Hilltop Drive.

See Sketch Page 58

	8.40	173.07		164.67
See Sketch 0+00			5.7	167.4
+50			6.0	167.1
+65			6.2	166.9
+80			6.7	166.4
+93.55	1. Rt		6.71	166.36
1+00			6.4	166.7
+50			3.8	169.3
2+00			1.3	171.8
T.P.	12.70	185.23	0.54	172.53
+50			11.4	173.8
3+00			9.4	175.8
+50			8.0	177.2
4+00			6.5	178.7
+50			5.0	180.2
5+00			3.3	181.9
" "	S. Side Res 110' Lt. Floor		5.8	179.4
+50			1.5	183.7
T.P.	12.14	197.00	0.37	184.86
6+00			11.1	185.9
+50			9.0	188.0
7+00			6.8	190.2
+27.56	℄ C.		5.5	191.5
"	200' West on ℄ C.		9.5	187.0

197.00

300' W on ℄ C			9.7	187.3
+27.56	100' E on ℄ C.		3.1	193.9
" "	200 " " " "		3.5	193.5
Note C St Slopes to 44th				
7+50			4.3	192.7
8+00			1.8	195.2
T.P.	7.71	203.06	1.65	195.35
+50			5.4	197.7
9+00			3.1	200.0
+40			1.6	201.5
10+00			1.8	201.3
+15	# Note Ground on left is above ℄		2.4	200.7
" "	100' Rt		12.0	191.1
" "	150 "		15.8	187.3
+50			4.3	198.8
11+00			7.8	195.3
Check Turn from 44th			7.59	195.47 probably Best 195.40 500' sight 0.07 error
11+00	100' Rt		17.0	186.1
+50			12.6	190.5
12+00			19.5	183.6
" "	100' Rt		24.4	178.7
+50			25.6	177.5
+90			30.0	173.1

BENCH LEVELS
State College Sewer
From Disposal Plant to Power House

	3.67	323.54		319.87	BM. on Hub #45 Page 1 U.S.G.S Datum.
on stub	⊡1 "B" Line		10.50	313.04	
" "	⊡2 "B"		6.40	317.14	
T.P.	12.67	329.81	6.40	317.14	
⊡3 "B"			12.36	317.45	
T.P	12.92	340.88	1.85	329.96	
T.P.	12.39	352.13	1.14	339.74	
T.P.	12.72	364.13	0.72	351.41	
			12.74	351.39	BM. on stub. opp 11+50 BM.
T.P	12.79	364.38	12.54	351.59	BM.
T.P.	12.93	376.75	0.56	363.82	
T.P.	12.26	388.78	0.23	376.52	on Rock.
T.P	12.14	397.23	3.69	385.09	10' Lt Sta 19+5 BM.
			0.58	396.65	B.M. Rt. above 21 on stub.
T.P	12.76	409.18	0.81	396.42	
T.P.	10.86	418.99	1.05	408.13	
T.P	11.24	429.97	0.26	418.73	
T.P.	6.92	435.28	1.61	428.36	
chk. on BM. top Mon Page 1			5.15	430.13	

430.13 − BM. Page 1
0.00 = Error.

IMPROVED TABLES

AND

INFORMATION

Table X.
MIDDLE ORDINATES OF RAILS
Length of Rail (feet)

C ° ′	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch	C °	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch
0–20	17189	.08	.07	.06	.05	.04	.03	8	716.8	1.88	1.64	1.42	1.20	1.01	84
0–40	8594	.16	.14	.12	.10	.08	.07	9	637.3	2.12	1.84	1.60	1.35	1.14	.94
1–0	5730	.24	.20	.18	.15	.13	.10	10	573.7	2.36	2.05	1.78	1.50	1.27	1.04
1–20	4297	.31	.27	.23	.20	.17	.13	11	521.7	2.59	2.26	1.95	1.65	1.39	1.15
1–40	3438	.39	.34	.29	.25	.21	.17	12	478.3	3.83	2.47	2.15	1.81	1.54	1.26
2–0	2865	.47	.41	.35	.30	.25	.20	13	441.7	3.05	2.66	2.30	1.96	1.66	1.36
2–20	2456	.55	.48	.41	.35	.29	.23	14	410.3	3.30	2.87	2.48	2.10	1.78	1.46
2–40	2149	.63	.55	.47	.40	.33	.27	15	383.1	3.54	3.08	2.68	2.26	1.91	1.57
3–0	1910	.71	.62	.53	.45	.38	.31	16	359.3	3.76	3.28	2.83	2.40	2.04	1.67
3–20	1719	.78	.68	.59	.50	.42	.35	17	338.3	4.00	3.48	3.02	2.57	2.16	1.78
3–40	1563	.86	.75	.65	.55	.46	.38	18	319.6	4.21	3.67	3.18	2.70	2.28	1.87
4–0	1433	.94	.82	.71	.60	.50	.42	19	302.9	4.45	3.89	3.36	2.86	2.41	1.98
4–20	1323	1.02	.89	.77	.65	.55	.45	20	287.9	4.70	4.09	3.55	3.00	2.54	2.09
4–40	1228	1.10	.96	.83	.70	.59	.48	22	262.0	5.16	4.44	3.84	3.30	2.80	2.29
5	1146	1.18	1.03	.89	.75	.63	.52	24	240.5	5.64	4.92	4.20	3.59	3.04	2.50
6	955.3	1.41	1.23	1.06	.90	.76	.62	26	222.3	6.07	5.29	4.58	3.88	3.29	2.70
7	819.0	1.65	1.44	1.24	1.05	.89	.73								

Table XI.
SHORT RADIUS CURVES

Radius Feet	Chord Feet	Central Angle	Deflection Angle	Deflection for 1 Foot
35	10	16-26	8-13	49.3
45	10	12-46	6-23	38.3
50	15	17-16	8-38	34.5
60	15	14-22	7-11	28.8
75	15	11-30	5-45	23.0
100	20	11-30	5-45	17.3
120	20	9-34	4-47	14.3
150	20	7-39	3-49	11.5
190	25	7-32	3-46	9.15
200	25	7-10	3-35	8.6
225	25	6-25	3-12	7.7
240	25	5-58	2-59	7.2
250	25	5-44	2-52	6.9
275	25	5-12	2-36	6.2
288	50	9-58	4-59	6.0
300	50	9-32	4-46	5.7
350	50	8-12	4-06	4.9
376	50	7-40	3-50	4.6
400	50	7-10	3-35	4.3
410	50	7-00	3-30	4.2

To find length of curve divide angle from P. C. to P. T. by central angle of chord and multiply by length of chord.

C081
13162

Table XII.
INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL

Slope	Horizontal Distance	Correction	Rise Per Foot	Slope	Horizontal Distance	Correction	Rise Per Foot
0°00′	100.000	0.000	0.000	8°00′	99.027	0.973	0.139
15′	99.999	0.001	0.004	15′	98.965	1.035	0.143
30′	99.996	0.004	0.009	30′	98.902	1.098	0.148
45′	99.991	0.009	0.013	45′	98.836	1.164	0.152
1 00	99.985	0.015	0.017	9 00	98.769	1.231	0.156
15	99.976	0.024	0.022	15	98.700	1.300	0.161
30	99.966	0.034	0.026	30	98.629	1.371	0.165
45	99.953	0.047	0.031	45	98.556	1.444	0.169
2 00	99.939	0.061	0.035	10 00	98.481	1.519	0.174
15	99.923	0.077	0.039	15	98.404	1.596	0.178
30	99.905	0.095	0.044	30	98.325	1.675	0.182
45	99.885	0.115	0.048	45	98.245	1.755	0.187
3 00	99.863	0.137	0.052	11 00	98.163	1.837	0.191
15	99.839	0.161	0.057	15	98.079	1.921	0.195
30	99.813	0.187	0.061	30	97.992	2.008	0.199
45	99.786	0.214	0.065	45	97.905	2.095	0.204
4 00	99.756	0.244	0.070	12 00	97.815	2.185	0.208
15	99.725	0.275	0.074	15	97.723	2.277	0.212
30	99.692	0.308	0.078	30	97.630	2.370	0.216
45	99.657	0.343	0.083	45	97.534	2.466	0.221
5 00	99.619	0.381	0.087	13 00	97.437	2.563	0.225
15	99.580	0.420	0.092	15	97.338	2.662	0.229
30	99.540	0.460	0.096	30	97.237	2.763	0.233
45	99.497	0.503	0.100	45	97.134	2.866	0.238
6 00	99.452	0.548	0.105	14 00	97.030	2.970	0.242
15	99.406	0.594	0.109	15	96.923	3.077	0.246
30	99.357	0.643	0.113	30	96.815	3.185	0.250
45	99.307	0.693	0.118	45	96.705	3.295	0.255
7 00	99.255	0.745	0.122	15 00	96.593	3.407	0.259
15	99.200	0.800	0.126	15	96.479	3.521	0.263
30	99.144	0.856	0.131	30	96.363	3.637	0.267
45	99.087	0.913	0.135	45	96.246	3.754	0.271

Table XIII.
MINUTES IN DECIMALS OF A DEGREE.

0 30″	.00833	10′ 30″	.17500	20′ 30″	.34167	30′ 10″	.50833	40′ 30″	.67500	50′ 10″	.84167
1 00	.01667	11 00	.18333	21 00	.35000	31 00	.51667	41 00	.68333	51 00	.85000
30	.02500	30	.19167	30	.35833	30	.52500	30	.69167	30	.85833
2 00	.03333	12 00	.20000	22 00	.36667	32 00	.53333	42 00	.70000	52 00	.86667
30	.04167	30	.20833	30	.37500	30	.54167	30	.70833	30	.87500
3 00	.05000	13 00	.21667	23 00	.38333	33 00	.55000	43 00	.71667	53 00	.88333
30	.05833	30	.22500	30	.39167	30	.55833	30	.72500	30	.89167
4 00	.06667	14 00	.23333	24 00	.40000	34 00	.56667	44 00	.73333	54 00	.90000
30	.07500	30	.24167	30	.40833	30	.57500	30	.74167	30	.90833
5 00	.08333	15 00	.25000	25 00	.41667	35 00	.58333	45 00	.75000	55 00	.91667
30	.09167	30	.25833	30	.42500	30	.59167	30	.75833	30	.92500
6 00	.10000	16 00	.26667	26 00	.43333	36 00	.60000	46 00	.76667	56 00	.93333
30	.10833	30	.27500	30	.44167	30	.60833	30	.77500	30	.94167
7 00	.11667	17 00	.28333	27 00	.45000	37 00	.61667	47 00	.78333	57 00	.95000
30	.12500	30	.29167	30	.45833	30	.62500	30	.79167	30	.95833
8 00	.13333	18 00	.30000	28 00	.46667	38 00	.63333	48 00	.80000	58 00	.96667
30	.14167	30	.30833	30	.47500	30	.64167	30	.80833	30	.97500
9 00	.15000	19 00	.31667	29 00	.48333	39 00	.65000	49 00	.81667	59 00	.98333
30	.15833	30	.32500	30	.49167	30	.65833	30	.82500	30	.99167
10 00	.16667	20 00	.33333	30 00	.50000	40 00	.66667	50 00	.83333	60 00	1.00000

1277
119
1396
Az.
119°15'

325.94
1.5
23.9

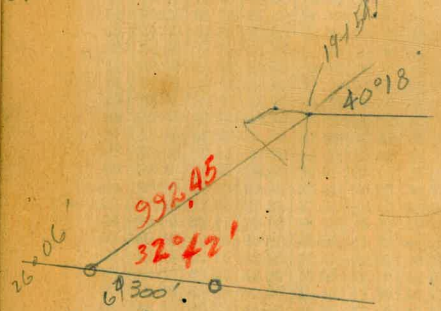
325.4
7.9
17.5

3015
225
3037
325.4
217
29
8.4
195
278
85

3165

Laying Sheet 315.0
B.C. 317.0
E.C. 323.7 = sta 9+40 ±
96°33'
179.60
S83°27'E

54-05
52-51-30
1-13-30
83-18-30
82-05-00



2559
29°52'45"
1°07'10
26°10'00
25°65'60
1 13 15
26°06'00

163
19
142

485
14
62

93°01'
46°32'

323.50
150.18
173.32
323.50

1272
290
1502

1119

358
163
195
97
29.2

379
163
216
108
324

109
255.43
.84

54-05
108-10

349.4
15.9
333.5

249.28
21.63
270.91

84-52
169-43-30
84-51-45

17-52-30
35-45-30
17-52-45

6+97.62
4+06.62
2.91.00