

W

422

DICTIONARY

EXHIBITS
LEVEL BOOK

No. 412

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning
Roadway 16 feet wide. Side Slopes 1 on 1.
For Single Track Embankment.

422

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be $30.6 + (20 - 16) \div 2 + 2$ ft. added to $30.6 = 32.6$. For slopes of 1 on 1½ see inside of back cover.

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MICROFILMED

JAN 12 1965

Index

Pages 1-93 Final & Semi Final X Sec. ^{Item 3} " 11

MICROFILMED

JAN 23 1965

UNIVERSITY MICROFILMS

Final X sections under rock emb.
Bottom of Item 3 Excavation

(Top Item 3 was orig ground) These sections
supercede previous sections on same coords
if any.

Note: These Notes in some places are levels
above orig ground + was fill for shaping of N. beach
prior to begin of hydraulic operations. etc. etc.
B.M. 12.07 615.07 603.00

Transit
12.08 625.60 1.55 613.52
Level
8.15 633.12 0.63 624.97

N3250

52.00 8.5 24.6

10 8.2 24.9

20 8.1 25.0

30 7.4 25.7

40 4.3 28.8

50 2.0 31.1

60 +1.4 34.5

70 +6.5 39.6

80 +13.0 46.1

N3260

87 +10.3 43.4

74 +4.6 37.7

60 3.9 29.2

50 5.3 27.8

plotted

All etc. etc. for Plotting

lower elev
45 ft
N.

Feb 8 - 1933

Elliott
Simpson
Soper
Remmer

Kiernan for Contractor

N3260

52.40 633.12 6.4 26.7

30 7.1 26.0

20 8.5 24.6

10 9.3 23.8

52.00 9.4 23.7

N3270

52.00 8.9 24.2

10 7.8 25.3

20 7.0 26.1

30 6.0 27.1

40 6.4 26.7

50 5.5 27.6

60 5.3 27.8

70 4.4 28.7

80 10.7 33.8

90 +5.8 38.9

95 +9.3 42.4

plotted

O.G.

633.12

N 3280

625.60

N 3290

5302 + 7.9 641.0 0.6

5250 3.4 22.2

2.90 0.0 33.1

8.15 633.12 624.97

80 4.8 28.3

60 5.9 27.2

70 5.3 27.8

70 5.5 27.6

60 5.3 27.8

80 5.5 27.6

50 24.1

40 21.8

30 20.0

20 19.3

10 17.1

5200 17.0

5190 19.5

5180 20.8 0.6

0.63 625.60

624.97

N 3290

5190 13.4 12.2

200 11.9 13.7

10 9.8 15.8

20 6.6 19.0

30 5.8 19.8

40 6.0 19.6

Bottled

From boat 408 p. 32

4.5
4.2

Bottled

See Book 245
Pg. 1.

Bottled
4.5

N 3300

+ 2.3 35.4 0.6

3.5 29.6

4.3 28.8

5.5 27.6

5.4 27.7

5.4 27.7

11.2 21.9

T.P. 0.63 625.60 8.15 624.97

50 6.1 19.5

40 8.1 17.5

N3300

625.60

N3300

5230

9.2

616.4 ✓

20

11.9

13.7 ✓

T.P.

0.16

613.68

12.08

613.52 ✓

10

2.2

11.5 ✓

200

4.1

09.6 ✓

190

4.1

09.6 ✓

80

5.0

08.7 ✓

70

4.7

09.0 ✓

60

5.5

08.2 ✓

50

3.6

10.1 ✓

45

2.7

11.0 ✓

40

5.8

07.9 ✓

30

8.6

05.1 ✓

5120

9.6

04.1 ✓

N3310

5120

13.3

00.4 ✓
~~10.4~~

30

11.6

02.1 ✓

40

6.6

07.1 ✓

45

4.4

09.3 ✓

N3310

3

613.68

N3310

5150

5.1

608.6 ✓

60

6.6

07.1 ✓

70

7.5

06.2 ✓

80

7.2

06.5 ✓

90

3.7

10.0 ✓

5200

5.7

08.0 ✓

10

4.3

09.4 ✓

20

1.9

11.8 ✓

12.08 625.60

613.52

30

11.9

13.7 ✓

40

11.4

14.2 ✓

50

8.8

16.8 ✓

60

6.4

19.2 ✓

70

3.0

22.6 ✓

80

0.8

24.8 ✓

90

+1.4

27.0 ✓

300

+2.5

28.1 ✓

10

+3.3

28.9 ✓

20

+7.9

33.5 ✓

0.6

Plotted

Plotted

Plotted

N3320 N3320

603.82

N3340

B.M.	0.16	613.68	613.52	5140
5160		10.3	603.4	30
50		7.7	06.0	25
40		6.5	07.2	20
30		11.8	01.9	

N3350

N3350

	0.82	603.82	603.00	5120
5120		5.0	598.8	30

N3330

40

Plotted

5120		8.9	94.9	50
30		8.2	95.6	55
35		8.3	95.5	65
40		0.5	603.3	
50		3.0	00.8	
60		3.9	599.9	
70		3.6	600.2	
80		4.0	599.8	

N3340

5170

5150		8.0	95.8	35
45		5.6	98.2	30

T.P. 0.53 591.70
Check on Steel Point in Core Wall

18.1	85.7	
12.8	91.0	

11.6	92.2	
------	------	--

10.2	93.6	
------	------	--

9.1	94.7	
-----	------	--

1.0	602.8	
-----	-------	--

N3360

13.7	590.1	
------	-------	--

14.1	89.7	
------	------	--

14.2	89.6	
------	------	--

15.1	88.7	
------	------	--

18.0	85.8	
------	------	--

18.7	85.1	
------	------	--

12.65	591.17	
11.76	579.99	579.90

Bottom of final X sections before start
of Hydraulic Fill. Bottom Item 3 (Top was previous
final in Book 394)

Continued from book 421 page 46
N3640 N3640

2.21	539.66	537.45	
4972		6.0	533.7 ✓ ↓
75		8.9	30.8 ✓ ↓
80		10.2	29.5 ✓ ↓
90		10.7	29.0 ✓ ↓
97		10.3	29.4 ✓ ↓

11.45 553.70

4967		13.4	40.3 ✓ ↓
60		13.8	39.9 ✓ ↓
50		13.6	40.1 ✓ ↓
40		12.5	41.2 ✓
30		9.3	44.4 ✓
20		7.4	46.3 ✓
10		4.4	49.3 ✓
4900		2.1	51.6 ✓

Start Feb 9 - 1933

B.M.	10.68	552.93	542.25
	7.97	560.18	0.72
4890		6.6	552.21
		6.6	53.6 ✓
80		5.0	55.2 ✓

Feb 8 - 1933

5

560.18

N3640

4870

60

50

40

30

20

10

4800

4800

10

20

30

40

50

60

70

80

90

Plotted

Plotted

4.5 555.7 ✓

4.8 55.4 ✓

4.8 55.4 ✓

4.1 56.1 ✓

3.5 56.7 ✓

2.7 57.5 ✓

2.0 58.2 ✓

1.4 58.8 ✓

N3650 N3650

1.6 58.6 ✓

1.9 58.3 ✓

2.3 57.9 ✓

3.3 56.9 ✓

3.5 56.7 ✓

4.1 56.1 ✓

4.8 55.4 ✓

5.1 55.1 ✓

5.1 55.1 ✓

7.3 52.9 ✓

N3650

560.18

N3650

N3660

552.93

N3660

6

4900 8.3 51.9 ✓

10.68 552.93 542.25

10 3.4 49.5 ✓

20 5.0 47.9 ✓

30 7.9 45.6 ✓

40 10.6 42.3 ✓

50 12.3 40.6 ✓

60 12.4 40.5 ✓

67 11.5 41.4 ✓

2.21 539.66 537.45

72 5.4 34.3 ✓

76 9.2 30.5 ✓

80 10.1 29.6 ✓

90 10.2 29.5 ✓

97 10.6 29.1 ✓

N3660

N3660

4997 10.1 29.6 ✓

90 9.9 29.8 ✓

80 9.7 30.0 ✓

74 5.4 34.3 ✓

4967

60

50

40

30

20

10

7.97

560.18

4900

890

80

70

60

50

40

30

20

10

4800

10.6 542.3 ✓

11.2 41.7 ✓

11.3 41.6 ✓

8.9 44.0 ✓

6.7 46.2 ✓

4.8 48.1 ✓

3.1 49.8 ✓

7.97 560.18 552.21

8.3 51.9 ✓

6.3 53.9 ✓

5.2 55.0 ✓

5.0 55.2 ✓

4.5 55.7 ✓

4.2 56.0 ✓

4.2 56.0 ✓

3.2 57.0 ✓

2.3 57.9 ✓

2.3 57.9 ✓

1.7 58.5 ✓

N3670

560.18

N3670

4800

1.8 558.4

10

2.0 58.2

20

2.4 57.8

30

3.7 56.3

40

3.9 56.3

50

4.5 55.7

60

5.2 55.0

70

5.3 54.9

80

5.6 54.6

90

7.1 53.1

4900

8.0 52.2

10.68 552.93

10

2.4 50.5

20

4.1 48.8

30

6.0 46.9

40

7.7 45.2

50

9.7 43.2

60

10.2 42.7

67

10.0 42.9

plotted

N3670

2.21

539.66

N3670

537.45

4976

7.6 32.1

80

8.6 31.1

90

8.6 31.1

97

9.1 30.6

N3680

N3680

4997

7.5 32.2

90

7.7 32.0

80

7.5 32.2

74

5.4 34.3

10.68 552.93

4966

9.3 43.6

60

8.3 44.6

50

8.3 44.6

40

6.4 46.5

30

5.0 47.9

20

2.8 50.1

10

1.3 51.6

plotted

N3680

N3680

	7.97	560.18	552.21	
4900			7.1	53.1 ✓
890			6.5	53.7 ✓
80			5.5	54.7 ✓
70			5.4	54.8 ✓
60			5.0	55.2 ✓
50			4.4	55.8 ✓
40			3.9	56.3 ✓
30			1.6	61.8 ✓ Derrick
20			2.3	57.9 ✓
10			1.7	58.5 ✓
4800			2.0	58.2 ✓

potted

N3690 N3690

4900			1.6	58.6 ✓
10			1.4	58.8 ✓
20			1.4	58.8 ✓
30			10.8	61.0 ✓ Derrick
35			3.4	56.8 ✓
40			4.4	55.8 ✓

N3690

8

560.18

N3690

	4850		4.0	556.2 ✓
	60		4.8	55.4 ✓
	70		5.3	54.9 ✓
	80		5.6	54.6 ✓
	90		6.2	54.0 ✓
4900			7.2	53.0 ✓
10			7.3	52.9 ✓
20			8.6	51.6 ✓
30			11.4	48.8 ✓
	10.68	552.93		542.25
40			5.9	47.0 ✓
50			7.0	45.9 ✓
60			7.1	45.8 ✓
65			7.1	45.8 ✓
	2.21	539.66		537.45
75			5.4	34.3 ✓
80			6.6	33.1 ✓
90			6.7	33.0 ✓
97			6.6	33.1 ✓

potted

N 3700

N3700

11.45

550.36

538.91

4997

16.3

34.1 ✓

4850

4.8

555.4 ✓

90

16.1

34.3 ✓

40

4.5

55.7 ✓

80

16.2

34.2 ✓

30

2.8

57.4 ✓

75

15.6

34.8 ✓

20

2.1

58.1 ✓

10

1.5

58.7 ✓

4800

0.9

59.3 ✓

552.93

66

8.1

44.8 ✓

4880

6.1

54.1 ✓

60

4.3

48.6 ✓

90

6.7

53.5 ✓

50

5.3

47.6 ✓

4900

6.6

53.6 ✓

40

4.5

48.4 ✓

10

6.2

54.0 ✓

30

3.0

49.9 ✓

20

6.9

53.3 ✓

20

7.97

560.18

552.21

30

9.1

51.1 ✓

20

7.9

52.3 ✓

40

10.6

49.6 ✓

10

6.4

53.8 ✓

50

10.9

49.3 ✓

4900

6.7

53.5 ✓

60

11.6

48.6 ✓

4890

5.7

54.3 ✓

65

12.5

47.7 ✓

80

5.6

54.6 ✓

11.45

550.36

538.91

70

5.2

55.0 ✓

74

13.9

36.5 ✓

60

4.0

56.2 ✓

N 3700

9

560.18

N3700

Plotted

N3710 ✓

N3710

Plotted

N3710
550.36 N3710

4980	14.8	535.6 ✓
90	15.3	35.1 ✓
97	15.7	34.7 ✓

N3720

plotted

	N3720	
97	14.9	35.5 ✓
90	14.6	35.8 ✓
80	14.1	36.3 ✓
75	13.1	37.3 ✓

797 560.18

4966	12.1	48.1 ✓
60	10.1	50.1 ✓
50	10.0	50.2 ✓
40	8.9	51.3 ✓
30	8.0	52.2 ✓
20	6.4	53.8 ✓
10	6.8	53.4 ✓

N3720
560.18 N3720

4900	6.8	53.4 ✓
4890	6.1	54.1 ✓
80	3.3	56.9 ✓

N3730 N3730

plotted

4900	6.4	53.8 ✓
10	6.9	53.3 ✓
20	7.2	53.0 ✓
30	7.9	52.3 ✓
40	8.6	51.6 ✓
50	9.0	51.2 ✓
60	9.9	50.3 ✓
67	12.2	48.0 ✓

11.45 550.36 538.91

75	12.6	37.8 ✓
80	13.5	36.9 ✓
90	14.1	36.3 ✓
4997	14.5	35.9 ✓

Final X Sections Item 11
(Top was Or. Ground)

B.M.	11.48	599.48'		588.00
	8.05	606.84'	0.69	598.79'
Set B.M.	1.13	606.84'	1.13	605.71'
	0.01	594.63'	12.22	594.62'
	0.28	582.10'	12.81	581.82'
	3.98	578.30'	7.78	574.32'
Set B.M.	6.74	581.82'	3.22	575.08'

N3820 N3820

4997		13.7	68.1	✓ ✓
95		13.7	68.1	✓
91		6.1	75.7	✓ ✓
83		3.1	78.7	✓
70		3.2	78.6	✓
60		3.1	78.7	✓
52		0.8	81.0 71.0	✓
49483			592.0	

Plotted

N3810

4937.8			588.8	↓
42		4.6	77.2	↓

Plotted

Feb 13 - 1933

11

581.82

N3810

4950		4.5	77.3	✓ ✓
60		4.3	77.5	✓
70		3.8	78.0	✓
77		6.9	74.9	✓
85		12.1	69.7	✓
89		21.0	60.8	✓
4997		22.3	59.5	✓ ↓

Plotted

N3800

4997		35.9	45.9	✓ ✓
92		26.7	55.1	✓ ✓
83		22.9	58.9	✓ ✓
82		17.8	64.0	✓ ✓
74		9.8	72.0	✓ ✓
70		7.7	74.1	✓
60		4.5	77.3	✓ ✓
50		4.9	76.9	✓ ✓
40		5.4	76.4	✓ ✓
28		5.3	76.5	✓ ✓
49235			587.5	↓

Plotted

581.82 N3790

E 4915		5.9	75.9 ✓
35		5.7	76.1 ✓
50		10.8	71.0 ✓
T.P.	1.44	570.40	12.86 568.96
60		3.1	67.3 ✓
70		3.0	67.4 ✓
80		11.4	59.0 ✓
87		17.7	52.7 ✓
90		23.8	46.6 ✓
94		25.4	45.0 ✓
97		29.9	40.5 ✓

plotted

N3780

4997		31.8	38.6 ✓
92		28.4	42.0 ✓ met
85		27.2	43.2 ✓ met
81		24.0	46.4 ✓
78		22.5	47.9 ✓ 82470
75		19.4	51.0 ✓
70		17.4	53.0 ✓ met

plotted

570.40 N3780

4967		14.0	56.4 ✓
60		9.2	61.2 ✓
50		5.6	64.8 ✓
40		2.5	67.9 ✓
	6.74	581.82	575.08
30		12.4	69.4 ✓
20		6.6	75.2 ✓
4910		6.7	75.1 ✓
4897		6.4	75.4 ✓
4895		2.9	79.4 ✓
		11.8	570.0 ✓

plotted

0.0 570.0

Hand level check on H.T. 16.2 553.8 Record 553.72

Final X sections along
Core wall No. end.

Feb 14-1933
Elliott
Simpson
Soper-Remmen

13

B.M.	2.86	567.86		565.00
N3800				
E 5010				
N3800			10.4	57.5 ✓
5005				
3800			14.7	53.2 ✓
5003			14.7	53.2 ✓
3810				
5003			12.0	55.9 ✓
3810				
5007			6.4	61.5 ✓
3810				
5008.5			0.7	67.2 ✓
	12.25	579.64	0.47	567.39
N3820				
5003			6.3	73.3 ✓

plotted

plotted

plotted

Final X Sections
(Bottom Item 3-top was or. ground)

Feb 14 - 1933
Elliott
Simpson
Soper
638.83 N3930

14

B.M.	10.20	638.83	628.63	5110	9.1	29.7	✓
			N3980	5100	5.0	33.8	✓
5185		7.2	31.6	Item 3 E. Item 11 W. Set T.P. #1	0.07	638.76	
			N3970	Set T.P. #2	12.84	625.99	
5170		4.8	34.0	Item 3 E. Item 11 W. Duplicated page 21 GRH	T.P. #1	4.57	643.33
			N3960	5090	7.3	36.0	✓
5145		2.8	36.0	Item 3 E. Item 11 W. Duplicated on page 22 GRH	80	6.1	37.2
				5070	2.8	40.5	Item 3 E. Item 11 W.
			N3950				N3920
5130		2.1	36.7	Item 3 E. Item 11 W. Duplicated on page 22 GRH	5030	2.8	40.5
			N3940	40	3.8	39.5	✓
5130		8.2	30.6	50	4.9	38.4	✓
20		3.4	35.4	60	10.3	33.0	✓
10		10.2	39.0	70	13.9	29.4	✓
			N3930	80	15.8	27.5	✓
5130		14.3	24.5	90	16.3	27.0	✓
20		11.8	27.0	#2	0.61	626.60	525.99
				5100	0.5	26.1	✓

Plotted

Plotted

Plotted

Plotted

Plotted

Item 3

626.60 N3920

5110		3.7	22.9 ✓
20		6.8	19.8 ✓
30		7.9	18.7 ✓
		<u>N3910</u>	
5130		16.5	1.01 ✓ ⁴²¹ / ₅₆
20		14.1	12.5 ✓
10		11.5	15.1 ✓
5100		10.6	16.0 ✓
5090		8.0	18.6 ✓
80		7.6	19.0 ✓
70		5.6	21.0 ✓
60		0.2	26.4 ✓
# 1	4.57	643.33 ✓	638.76
50		12.3	31.0 ✓
40		11.8	31.5 ✓
30		9.7	33.6 ✓
20		5.6	37.7 ✓
10		3.2	40.1 ✓ ^{Item 3 E.} / _{Item 1 W.}

Plotted & plotted

Item 3 N3900 15

643.33 N3900

4995		3.5	39.8 ✓ ^{Item 3 E.} / _{Item 1 W.}
5000		6.7	36.6 ✓
10		9.3	34.0 ✓
20		11.8	31.5 ✓
T.P.	0.61	631.02 ✓	12.92 630.41
30		5.9	25.1 ✓
40		5.7	25.3 ✓
50		7.7	23.3 ✓
58		6.0	25.0 ✓ ^{Dormick}
60		11.5	19.5 ✓
	0.61	626.60 ✓	625.99
T.P.	0.89	614.63 ✓ ^{novel}	12.86 613.74
64		11.7	16.3 ✓
70		1.3	13.3 ✓
80		5.0	09.6 ✓
90		7.9	06.7 ✓
93		10.0	04.6 ✓
5100		9.1	05.5 ✓

Plotted

Feb 14-1933

N3900

614.63

N3900

5110

10.7 03.9 ✓

20

12.6 02.0 ✓

30

14.8 399.8 ✓

40

601.1 ✓

50

599.5 ✓

60

602.6 ✓
Item 11 E
Item 3 W

N3890

5102

19.0 595.6 ✓
Item 11 E
Item 3 W

5095

17.8 96.8 ✓

90

11.6 603.0 ✓

80

12.9 01.7 ✓

70

8.3 06.2 ✓

60

3.0 11.6 ✓

0.61

631.02

630.41

50

15.6 15.4 ✓

40

9.1 21.9 ✓
Dornick

30

12.9 18.1 ✓

20

9.0 22.0 ✓

10

6.7 24.3 ✓
See page 44

Set B.M.

6.63 624.39 ✓
End Feb 14

Item 3

Feb 15-1933

Elliott-Simpson-Saper-Tremmer

16

N3880

B.M. 11.91

616.09

604.18

5003

1.5 14.6

10

0.0 16.1

20

2.0 14.1 ✓

30

5.3 10.8 ✓ ✓

38

7.8 08.3 ✓ ✓

40

6.1 10.0 ✓ ✓

50

8.5 07.6 ✓ ✓

60

13.1 03.0 ✓ ✓

70

16.3 599.8 ✓ ✓

80

24.1 920 ✓

86

26.6 89.5 ✓
Item 11 E
Item 3 W

N3870

B.M. 8.37

606.73

598.36

5003

604.7

10

+1.1 07.8

15

+3.8 10.5 ✓
Dornick

20

+3.2 09.9 ✓ ✓

Plotted

Plotted

Plotted

Plotted

see page 44

revised as per page 44

Item 3

606.73

N3870

5027	+3.0	09.7	↓	Derrick
30	2.4	04.3	↓	
40	7.2	599.5	↓	
50	8.2	98.5	↓	
58	11.4	95.3	↓	Item 11 E. Item 3 W.

plotted

N3860

5040	14.9	91.2	↓	Item 11 E. Item 3 W.
30	8.6	98.1	↓	
20	6.4	600.3	↓	
10	5.0	01.7	↓	
5003		598.3	↓	

plotted

N3850

5010	13.2	93.5	↓	
14	11.5	95.2	↓	Item 11 E. Item 3 W.

plotted

End of Item 3

X sections of upper
Road on No. abutement Item 11 '7
Excavation. Feb 15-1933

B.M.	10.21	Transit 638.84	✓	628.63
	8.21	Level 643.81	✓	3.24 635.60
				N4070
5320				5.0 38.8 ✓
10				4.7 39.1 ✓
5300				4.1 39.7 ✓
5295				4.1 39.7 ✓
		660.61		
5278	✓			7.8 52.8 ✓ Item 11 E. Item 3 W.
		643.81		N4060
5330				5.6 38.2 ✓
20				8.3 35.5 ✓
10				5.1 38.7 ✓
5300				4.7 39.1 ✓
5290				4.5 39.3 ✓
80				4.1 39.7 ✓
		660.61		
5266	✓			8.0 52.6 ✓ Item 11 E. Item 3 W.

plotted

plotted

Item 11

N4050

	660.61		
5260	12.3	48.3	Item 11 E. Item 3 W.
	643.81		
5270	4.1	39.7	✓
80	4.4	39.4	✓
90	4.4	39.4	✓
5300	7.9	35.9	✓
10	15.5	28.3	✓
30	10.9	32.9	✓

N4040

5290	4.2	39.6	✓
80	4.3	39.5	✓
70	4.4	39.4	✓
60	4.2	39.6	✓
50	3.7	40.1	✓
40	2.3	41.5	✓
30	10.2	44.0	✓
20	11.1	44.9	✓

Elliott
Simpson
Soper
Remmer

Kneon

5210

200

5192

5180

5163

5172

80

90

5200

10

20

30

40

50

Plotted. ↑

↓

Plotted ↑

↓

Item 11

18

643.81

N4040

3.6 40.2 ✓

4.1 39.7 ✓

3.5 40.3 ✓

660.6

7.3 53.3 ✓
Item 11 E.
Item 3 W.

N4030

6.1 54.5 ✓
Item 11 E.
Item 3 W.

643.81

3.9 39.9 ✓

4.2 39.6 ✓

4.7 39.1 ✓

4.6 39.2 ✓

4.4 39.4 ✓

4.3 39.5 ✓

4.2 39.6 ✓

4.5 39.3 ✓

4.5 39.3 ✓

643.81

N 4030

5260	4.1	39.7 ✓
70	4.0	39.8 ✓
80	6.2	37.6 ✓
90	7.3	36.5 ✓

Plotted

above
not
9
2
11

N 4020

10.21 638.84

628.63

5290	9.8	29.0 ✓
80	9.4	29.4 ✓
70	10.6	28.2 ✓
60	10.9	27.9 ✓
50	11.4	27.4 ✓

8.21 643.81

635.60

40	4.1	39.7 ✓
30	4.3	39.5 ✓
20	4.1	39.7 ✓
10	4.4	39.4 ✓
5200	4.6	39.2 ✓
5190	4.5	39.3 ✓
80	4.5	39.3 ✓

Plotted

V

Item 11

19

643.81

N 4020

5170	4.3	39.5 ✓
60	3.8	40.0 ✓
660.6		
46	2.6	58.0 ✓

Plotted

Item 11 E.
Item 3 W.

N 4010

10.21 638.84

628.63

5280	13.2	25.6 ✓
70	13.1	25.7 ✓
60	12.9	25.9 ✓
50	12.6	26.2 ✓
40	12.1	26.7 ✓
30	11.6	27.2 ✓
20	10.9	27.9 ✓
10	10.3	28.5 ✓
5200	9.5	29.3 ✓
5190	8.7	30.1 ✓

Plotted

Profile Same
from Staves. Station
Note near station?
11

8.21 643.81

635.60

80	4.2	39.6 ✓
----	-----	--------

V

Item 11

20

643.81

N4010

N4000

5170

4.0 39.8 ✓ ↓

638.84

60

4.2 39.6 ✓ ↓

5166

6.8 32.0 ✓ |

50

3.8 40.0 ✓ ↓

8.21

643.81

635.60

41

0.8 43.0 ✓ ↓

60

3.7 40.1 ✓ |

660.6

50

3.8 40.0 ✓ |

25

2.5 58.1 ✓ ↓
Item 11 E.
Item 3 W.

40

3.8 40.0 ✓ |

27

3.2 40.6 ✓ ↓

N4000

671.73

10.21 638.84

628.63

17

15.5 56.2 ✓ ↓
Item 11 E.
Item 3 W.

5260

12.9 25.9 ✓

50

12.6 26.2 ✓

N3990

40

12.3 26.5 ✓

10.21

638.84

628.63

30

11.9 26.9 ✓

5240

12.4 26.4 ✓

20

11.3 27.5 ✓

30

12.3 26.5 ✓

10

10.5 28.3 ✓

20

11.7 27.1 ✓

5200

9.5 29.3 ✓ |

10

10.7 28.1 ✓

5190

8.7 30.1 ✓ |

5200

9.7 29.1 ✓ ↓

80

7.8 31.0 ✓ |

5190

8.5 30.3 ✓ |

70

7.1 31.7 ✓ | ↓

80

7.6 31.2 ✓ ↓

638.84 N3990

5170	6.7	32.1	↓
60	5.6	33.2	↓
50	4.8	34.0	↓
46	4.3	34.5	↓
8.21	643.81	635.60	
T.P.	4.59	645.49	2.91 640.90
40	4.9	40.6	↓
30	5.3	40.2	↓
20	5.2	40.3	↓
11	4.7	40.8	↓
06	4.1	46.6	↓

↓ Plotted

Items 3/11/24

671.73

5089 ↓

645.49 N3980

5185	13.9	631.6	Item 3 E. Item 11 W.
80	13.6	31.9	
70	12.7	32.8	
60	12.0	33.5	
50	11.2	34.3	

↓ Plotted

Item 3 E. Item 11 W.

Item 11

21

645.49 N3980

5140	10.1	35.4	↓
27	9.3	36.2	↓
24	4.9	40.6	↓
20	4.8	40.7	↓
10	5.0	40.5	↓
5100	5.4	40.1	↓
5093	4.8	40.7	↓

↑ Plotted

671.73

5065 ↓

8.0 63.7

Item 11 E. Item 3 W.

N3970

645.49

5170

60

50

40

30

20

10 ↓

11.5 34.0

Item 3 E. Item 11 W.

11.1 34.4

10.5 35.0

9.8 35.7

9.1 36.4

8.4 37.1

7.7 37.8

↓ Plotted

Item 11 - Continued
Feb 20 - 1933 - Elliott - Soper - Reman

22

64549 N3970

N3950

5100

6.7 38.8 ✓

B.M.

11.53

640.16

628.63

5099

6.0 39.5 ✓

4.90

644.58

0.48

639.68

90

5.7 39.8 ✓

5130

36.7

Item 3 E.

Item 11 W.

80

5.3 40.2 ✓

20

7.2

374 ✓

72

4.9 40.6 ✓

10

6.7

37.9 ✓

671.73

5100

6.1

38.5 ✓

50

6.5 65.2

Item 11 E.

Item 3 W.

5090

5.7

38.9 ✓

64549 N3960

5145

9.5 36.0

Item 3 E.

Item 11 W.

60

4.7

39.9 ✓

40

9.0 36.5 ✓

50

4.6

40.0 ✓

30

8.8 36.7 ✓

40

4.4

40.2 ✓

20

8.2 37.3 ✓

30

4.4

40.2 ✓

10

7.6 37.9 ✓

30 also

+8.4

53.0 ✓

5100

7.1 38.4 ✓

B.M.

1.12

677.20

676.08

5090

6.5 39.0 ✓

5007

8.6

68.6 ✓

Item 11 E

80

5.8 39.7 ✓

70

5.3 40.2 ✓

57

4.2 41.3 ✓

671.73

27

4.9 66.8

Item 11 E.

Item 3 W.

Plotted

Plotted

Plotted

644.58 N3940

			77.3 E. It. 11 W.
5110		6.39.0	
5100		6.0	38.6 ✓
5090		5.3	39.3 ✓
80		5.4	39.2 ✓ ✓
70		5.2	39.4 ✓ ✓
60		4.9	39.7 ✓ ✓
50		4.7	39.9 ✓ ✓
40		4.6	40.0 ✓ ✓
30		4.7	39.9 ✓ ✓
20		4.8	39.8 ✓ ✓
5016		4.5	40.1 ✓

677.20

4993

10.0 67.2 ✓ Item 11 E.

644.58 N3930

			Item 3 E. 40.5 Item 11 W.
5070			
60		4.7	39.9 ✓
50		4.8	39.8 ✓
40		4.7	39.9 ✓ ✓

644.58 N3930

5030		4.6	40.0 ✓ ✓
20		4.7	39.9 ✓
10		4.8	39.8 ✓ ✓
5000		4.9	39.7 ✓ ✓
4995		4.9	39.7 ✓ ✓
4982		12.9	64.3 ✓ Item 11 E.

677.20

644.58 N3920

			Item 3 E. 40.5 Item 11 W.
5030			
20		4.7	39.9 ✓ ✓
10		4.8	39.8 ✓ ✓
5000		4.9	39.7 ✓ ✓
4990		5.0	39.6 ✓ ✓
80		5.1	39.5 ✓ ✓
65		11.2	55.8 ✓ ✓

677.20

11.3 65.9 ✓ Item 11 E.

644.58 N3910
Cont on page 15
40.1 Item 11W
Item 3E

5010				4940
5000	4.7	399	✓	32
4950	4.9	397	✓	T.P.
80	5.1	395	✓	B.M.
70	5.1	395	✓	
60	4.9	397	✓	
38	5.1	497	✓	
33	4.6	50.7	✓	4908
	677.20			
27	13.8	634	Item 11E	

Plotted

644.58 N3900

5.5	391	✓	
5.4	392	✓	
5.33	646.00		3.91 640.67
8.50	645.97		8.50 637.50
			Record 637.47
6.38	675.13		668.75
			13.8 613 Item 11E

Plotted

644.58 N3900
39.8 Item 11W
Item 3E

4995				4980
90	4.7	399	✓	70
80	5.0	396	✓	60
70	5.0	396	✓	50
60	5.1	395	✓	40
50	5.4	392	✓	30
				20
				10

Plotted

645.97 N3890

6.1	399	✓	Item 3E
6.1	399	✓	Item 11W
6.4	396	✓	
6.5	395	✓	
6.6	394	✓	
6.6	394	✓	
6.6	394	✓	
6.6	394	✓	

Plotted

645.97 N3890

4900

6.4 39.6 ✓

80

6.3 39.7 ✓

60

6.0 40.0 ✓

40

5.6 40.4 ✓

20

5.1 40.9 ✓

4800

5.3 40.7 ✓
Item 11 E

4782

5.1 40.9 ✓
Item 3 W

4810

5.2 40.8 ✓
Item 11 E
Item 3 W

20

5.3 40.7 ✓

40

5.3 40.7 ✓

60

5.6 40.4 ✓

80

5.9 40.1 ✓

Plotted

Plotted

N3880

4900

20

40

60

4920

4900

4880

60

4760

70

80

90

4800

10

21

Plotted

Plotted

645.97 N3880

6.1 39.9 ✓

6.4 39.6 ✓

6.3 39.7 ✓

6.0 40.0 ✓
Item 11 W.
Item 3 E.

N3870

5.9 40.1 ✓
Item 11 W.
Item 3 E.

5.9 40.1 ✓

5.6 40.4 ✓

5.2 40.8 ✓
Item 11 E.
Item 3 W.

645.97 N3900

5.2 40.8 ✓
Item 3 W.
Item 11 E

5.4 40.6 ✓

5.2 40.8 ✓

5.1 40.9 ✓

5.1 40.9 ✓

5.1 40.9 ✓

4.9 41.1 ✓

N3900

6.38 675.13

668.75

4860

73

4884

Plotted.

16.4 58.7 ✓

18.9 56.2 ✓

13.5 61.6 ✓ Item 11 E.

645.97

N3910

4737

50

60

70

80

90

4801

Plotted.

5.1 40.9 ✓ Item 11 E.

5.1 40.9 ✓ T1.3 W

5.1 40.9 ✓

5.1 " ✓

5.1 " ✓

5.1 " ✓

4.9 41.1 ✓

675.13

4816

12.8 62.3 ✓

645.97

N3920

4712

20

30

40

50

60

70

80

90

4806

Plotted

5.6 40.4 ✓ Item 11 E.

5.3 40.7 ✓

5.3 40.7 ✓ ✓

5.2 40.8 ✓ ✓

5.1 40.9 ✓

5.1 40.9 ✓

5.1 40.9 ✓ ✓

4.9 41.1 ✓ ✓

0.0 46.0 ✓

666.69

2.9 63.8 ✓ Item 11 W.

N3930

645.97 N3930

4660		6.6	39.4 ✓
70	↑	6.8	39.2 ✓
80		5.8	40.2 ✓
90		5.7	40.3 ✓ ↓
4700	Plotted	5.9	40.1 ✓ ↓
10		5.7	40.3 ✓ ↓
20		5.5	40.5 ✓ ↓
30		5.4	40.6 ✓ ↓
40		5.1	40.9 ✓ ↓
50		5.0	41.0 ✓ ↓
60			3.9

666.69

4790	↓	1.1	65.6 ✓ Item 114
------	---	-----	-----------------

645.97 N3940

4660	↑	6.5	39.5 ✓ Item 115
70		6.1	39.9 ✓
80		6.4	39.6 ✓
90		6.3	39.7 ✓
4700	Plotted	6.0	40.0 ✓
10		5.9	40.1 ✓
20		5.7	40.3 ✓ ↓
30		5.3	40.7 ✓ ↓
35		5.1	40.9 ✓ ↓
T.P.		6.66	639.31 ←

666.69

4750	↓	8.3	58.4 ✓
T.P.		1.65	663.16
		0.71	652.51
		11.36	651.80
		13.21	639.30
			Record 639.31 ←

End Feb 20-1953

Bottom Item 3 Excavation
 (Top was previous final Book 421 p 23-26)
 or original ground if no previous final

Final X Sections

Mar 10 - 1935
 Elliott Notes
 Simpson T.
 So per Hd. Ch.
 Remmen R. Ch.

Item 3

B.M.	2.72	631.56	628.84	
T.P.	0.47	619.59	12.44	619.12
Set B.M.			11.40	608.19
	0.51	608.70		
			12.19	596.51
	1.00	597.51		
		W.S. 1511		
		N 3340		
E 5010		10.4	87.1	
5006		18.2	79.3	
5003		19.5	78.0	
		N 3330		
5003		15.0	82.5	
5009		10.7	86.8	
20		10.7	86.8	
30		10.3	87.2	
40		10.6	86.9	
50		10.3	87.2	
60		10.0	87.5	

Plotter
 ↓

Plotter
 ↓

5070	9.3	88.2	
80	9.3	88.2	
5090	9.4	88.1	
5100	9.8	87.7	
10	6.3	91.2	
20	2.7	94.8	
		N 3320	
5120	10.5	98.0	
10	3.0	94.5	
5100	5.5	92.0	
5090	6.2	91.3	
80	5.9	91.6	
70	6.2	91.3	
60	5.9	91.6	
50	7.0	90.5	
40	7.3	90.2	
30	6.7	90.8	
20	7.0	90.5	
10	7.2	90.3	
5003	16.3	81.2	

Plotter
 ↑
 ↓

Plotter
 ↓

house notes

Bottom Item 3 Excavation
 (Top was previous final Book 421 p 23-26)
 or original ground if no previous final

Final Sections

Mar 10 - 1933
 Elliott Notes
 Simpson T.
 So per Hd. Ch.
 Remmen R.Ch

Item 3

B.M.	2.72	631.56	628.84	
T.P.	0.47	619.59	12.44	619.12
Set B.M.		11.40	608.19	
	0.51	608.70		
		12.19	596.51	
	1.00	597.51		
		11.5, 15.1		
		N 3340		
E 5010		10.4	87.1	↓
5006	↓	18.2	79.3	↓
5003	↓	19.5	78.0	↓
		N 3330		
5003	↑	15.0	82.5	
5009	↑	10.7	86.8	
20	↓	10.7	86.8	
30	↓	10.3	87.2	↓
40	↓	10.6	86.9	↓
50	↓	10.3	87.2	↓
60	↓	10.0	87.5	↓

5070	9.3	88.2	↓
80	9.3	88.2	
5090	9.4	88.1	
5100	9.8	87.7	↓
10	6.3	91.2	↓
20	2.7	94.8	
		N 3320	
5120	10.5	98.0	↓
10	3.0	94.5	↓
5100	5.5	92.0	↓
5090	6.2	91.3	↓
80	5.9	91.6	
10	6.2	91.3	
60	5.9	91.6	
50	7.0	90.5	
40	7.3	90.2	
30	6.7	90.8	
20	7.0	90.5	
10	7.2	90.3	
5003	16.3	81.2	↓

Plot

Plot

house notes

Item 3

29

597.51

N3310

609.21

N3300

5003	↑		15.5	92.0	✓
5005			15.5	82.0	✓
5015			1.5	96.0	✓
20			0.8	96.7	✓
30			0.1	97.4	✓
T.P.	11.99	609.21	0.29	597.22	
40	Plotted		11.3	97.9	✓
50		11.6	97.6	✓	
60		11.8	97.4	✓	
70		10.5	98.7	✓	
80		10.3	98.9	✓	
90		10.4	98.8	✓	
5100			11.4	97.8	✓
10			9.5	99.7	✓
20		↓	8.8	00.4	
			N3300		
5120	Plotted		5.5	03.7	✓
10		6.2	03.0	✓	
5100		6.6	02.6	✓	

5090

80

70

60

50

40

30

21

16

09

05

5003

5003

5008

Check

B.M.

Set B.M.

5.65 613.84

5.4 03.8

4.5 04.7

3.5 05.7

5.0 04.2

4.4 04.8

3.9 05.3

5.4 03.8

5.7 03.5

11.9 97.3

15.0 94.2

23.2 86.6

23.9 85.3

N3290

22.5 86.7

9.7 99.5

1.02 608.19

5.37 608.45

Plotted

Plotted

Page 28

608.19

Bottom Item 3 Excavation
(Top was previous finds or orig. ground)

N 3290

596.78

N 3320

	0.53	608.98	608.45	
4997		17.7	91.3	✓
94		16.6	92.4	✓
94 also		10.3	98.7	✓
83		3.9	95.1	✓

Plotted

N 3300

4980		7.3	0.17	Page out
88		12.0	97.0	✓

↑

4955			
60			
70			
80			
90			
96			

Plotted

+6.4 03.2

+1.1 97.9

3.7 93.1

7.1 89.7

8.2 88.6

10.5 86.3

12.7 84.1

N 3330

T.P.	0.59	596.78	12.79	596.19
89		4.3	92.5	✓
93		5.0	91.8	✓
97		15.6	81.2	✓

Plotted

↓

4997			
91			
88			
80			

↑

14.5 82.3

10.2 86.6

9.5 87.3

11.3 85.5

10.7 86.1

7.1 89.7

8.6 88.2

5.6 91.2

2.0 94.8

3.7 93.1

N 3310

97		12.7	84.1	✓
95		12.4	84.4	✓
92		5.7	91.1	✓
90		5.2	91.6	✓
80		1.6	95.2	✓
70		0.0	96.8	✓
60		+6.6	603.4	✓

Plotted

↑

↓

74			
70			
65			
60			
55			
50			
40			

Plotted

↓

Orig. Ground

596.78 N3340

W.S. 14.2 582.6 ✓
 4997 22.8 74.0 ✓
 4992 14.4 82.4 ✓

Plotted

N 3350

4997 26.0 70.8 ✓
 4993 25.4 71.4 ✓

Plotted

N 3360

4997 27.6 69.2 ✓

Plotted

N 3370

4997 29.0 67.9 ✓

Plotted

4600

10

20

24

4600

10

20

30

40

50

B.M. 11.68 599.68 ✓

1.38 598.30 ✓

9.47 607.77 ✓

5.1 02.7 ✓

4.9 02.9 ✓

+5.0 12.8 ✓ 0.6

N 3880

4.9 02.9

5.0 02.8

4.7 03.1

4.3 03.5

3.9 03.9

+4.3 12.1

Plotted

Plotted

Lower Etc. Used
 F1300k No 395-47
 Taken Jan. 13-33

607.77 N3870

607.77 N3860

4600	4.7	03.1	↑
10	4.4	03.4	
20	4.6	03.2	
30	4.7	03.1	
40	4.5	03.3	
50	4.8	03.0	
60	4.9	02.9	
70	4.1	03.7	↓
80	4.6	03.2	↓
90	2.3	05.5	↓
4702	+7.4	15.2	↓

Plotted

Lower Elev. Road 395-47

N3860

4750			0.6
740	+3.9	11.7	↓
730	+3.0	10.8	↓
720	+1.1	08.9	↓
710	3.4	04.4	↓
700	4.4	03.4	↓

Plotted

4690	4.9	02.9	↑
680	4.9	02.9	
670	4.5	03.3	
660	4.7	03.1	
650	4.6	03.2	

Duplicate

Lower Elev. Road 325
475
607

Mar 11-1933

B.M.	1.00	638.42		637.42
	0.27	625.83	12.86	625.56
	1.71	616.22	11.32	614.51

N3850

4790	1.4	14.8	↑
80	3.5	12.7	↓
70	5.7	10.5	↓
60	9.0	07.2	↓
50	10.5	05.7	↓
40	11.5	04.7	↓
30	12.0	04.2	↓
20	12.8	03.4	↓
4710	13.6	02.6	↓

Plotted

Lower Elev. Page 26

	616.22	N3840		
4810	↑	1.4	14.8 ✓	
4800		2.8	13.4 ✓	
4790		4.7	11.5 ✓	
80		5.9	10.3 ✓	
70	Plotted	7.6	08.6 ✓	
60		9.4	06.8 ✓	
50		11.0	05.2 ✓	
40		11.8	04.4 ✓	
30		12.4	03.8 ✓	
20		12.9	03.3 ✓	
10		14.3	01.9 ✓	
4700		↓	17.0	99.2 ✓

		N3830	
4800 (above 0.6)	↑	2.0	14.2 ✓
4760 (above 0.6)		9.0	07.2 ✓
50	Plotted	11.9	04.3 ✓
40		13.7	02.6 ✓
30		22.3	93.9 ✓
20		21.1	95.1 ✓
		↓	

	616.22	N3830	
4710	↑	19.9	96.3 ✓ ✓
4700	Plotted	18.8	97.4 ✓ ✓
		N3820	
4710	↑	21.2	95.0 ✓ ✓
20	Plotted	21.8	94.4 ✓ ✓
30		23.8	92.4 ✓ ✓
40		24.8	91.4 ✓ ✓
50		24.1	92.1 ✓ ✓
4760		↓	15.2

March 16 - 1933

B.M.	0.30	637.72	637.42
Set B.M.		12.65	625.07
	0.64	625.71	
Back #13		12.90	612.81
Set B.M.			

Bottom Item 3 Final Sections
 (Top was original ground)
 N3810

B.M	1.07	613.88	612.81
4910		2.6	04.3 ↓
20	Plotted ↑	10.4	03.5 ↓ Pernick
27		11.3	02.6 ↓ Pernick
28		17.8	96.1 ↓
4930		18.6	95.3 ↓
N3820			
4940		16.8	97.1 ↓
30	Plotted ↑	11.7	02.2 ↓
20		6.7	07.2 ↓
10		4.8	09.1 ↓
4900		2.3	11.6 ↓
4890		6.3	09.6 ↓
80		2.5	41.4 ↓
B.M.	0.45	625.52	625.07
70		9.8	15.7
60		10.0	15.5
50		12.3	13.2
40	↓	12.5	13.0

All Elev. ch for Plotting - G.B.A.

Elliott
 Simpson
 Soper
 Kemmen

Mar 16 - 1933

34

625.52	N3820	
4830	11.1	14.4
20	13.3	12.2
10	15.1	10.4
4800	16.1	09.4
4790	19.1	06.4 ✓
80	22.6	02.9 ✓
4770	26.0	99.5 ✓
N3830		
4810	10.2	15.3
20	9.0	16.5
30	7.9	17.6
40	6.2	19.3 ✓
50	5.3	20.2 ✓
60	4.0	21.5
70	3.2	22.3
80	3.6	21.9
90	6.0	19.5 ✓
4900	6.0	19.5 ✓

Original ground
 Elev. 40
 G.B.A.
 The original ground
 for Final Set G.P.C. n.

Item 3

625.52 N3830

4910		4.9	20.6	✓
20	↑	7.1	18.4	✓
B.M.	333	616.14	612.81	
25	Potted	2.4	13.7	✓
30		2.0	14.1	✓
35		12.3	03.8	✓
40		12.7	03.4	✓
50		13.2	02.9	✓

Cont. on page 61

N3840

4980	↑	18.7	97.4	✓	
70		11.2	04.9	✓	
60		10.7	05.4	✓	
50	Potted	6.9	09.2	✓	
40		4.0	12.1	✓	
30		1.1	15.0	✓	
		625.52			
20			5.6	19.9	✓
10		1.7	23.8	✓	
4900	↓	1.7	23.8	✓	

Item 3

35

625.52 N3840

4890	↑	2.3	23.2	✓
80		2.8	22.7	✓
70		3.6	21.9	✓
60	Potted	4.6	20.9	✓
50		5.7	19.8	✓
40		7.2	18.3	✓
30		8.1	17.4	✓
20		9.1	16.4	✓
10		10.3	15.2	✓
4800	↓	11.9	13.6	✓

Lower file
on page 33

End Mar 16-1933

N3850

Start Mar 17-1933

B.M.	3,41	616.22	612.81	
4997			584.0	✓
94	Potted	25.5	90.7	✓
90		21.4	94.8	✓
80		12.0	04.2	✓
70		5.2	11.0	✓
60		1.5	14.7	✓

Item 3

36

616.22

N3850

628.19

N3860

4950		0.7	15.5 ✓
B.M.	3.12	628.19	625.07
40		10.1	18.1 ✓
30		4.0	24.2 ✓
20		4.6	23.6 ✓
10		3.3	24.9 ✓
4900		2.8	25.4 ✓
4890		1.9	26.3 ✓
80		3.2	25.0 ✓
70		3.6	24.6 ✓
60		3.3	24.9 ✓
50		5.5	22.7 ✓
40		6.2	22.0 ✓
30		6.8	21.4 ✓
20		5.5	22.7 ✓
10		8.0	20.2 ✓
4800		11.0	17.2 ✓
4790	↓	14.2	14.0 ✓

Plotted

4760		9.5	18.7
70		8.5	19.7 ✓
80		8.9	19.3 ✓
83		0.1	28.1 ✓ Darnick
90		0.7	27.5 ✓ "
4800		3.4	24.8 ✓
10		1.6	26.6 ✓
20		0.7	27.5 ✓
30		+2.0	30.2 ✓
33		+3.9	32.1 ✓
34		+8.1	36.3 ✓ Darnick
B.M.	1.55	638.97	637.42
40		+0.8	39.8 ✓ "
50		9.3	29.7 ✓
60		9.1	29.9 ✓
70		7.9	31.1 ✓
80		4.3	34.7 ✓
90		5.8	33.2 ✓
4900	↓	5.1	33.9 ✓

^{level}
638.97

N3860

4910			5.6	33.4	✓
20	↑		4.5	34.5	✓
30			4.9	34.1	✓
35			6.6	32.4	✓
40	Plotted		12.7	26.3	✓
50			13.1	25.9	✓
60			15.4	23.6	✓
65			13.2	25.8	✓
70			18.4	20.6	✓
B.M.	3.41	616.22		612.81	
74			2.2	14.0	✓
80			5.3	10.9	
87			8.3	09.9	
90			14.3	01.9	
95			16.5	99.7	
96	↓		20.5	95.7	
			N3870		
49 97	Plotted		18.3	97.9	✓
96			13.9	02.3	✓

616.22

N3870

4987	↑		1.0	15.2	✓
B.M.	155	638.97		637.42	
80			19.7	19.3	✓
70			15.5	23.5	✓
60			6.9	32.1	✓
50			5.4	33.6	✓
40			0.8	38.2	✓
49 30			1.0	38.0	✓
B.M.	6.73	644.15		637.42	
4850			44.2	2.9	41.3
40			2.9	41.3	✓
30	Plotted		5.2	39.0	✓
20			6.3	37.9	✓
10			6.7	37.5	✓
4800			7.8	36.4	✓
4790			9.9	34.3	✓
80	↓		15.3	28.9	✓
B.M.	6.37	627.92		621.55	

Item 3

38

N3870

627.92

4770	1.5	26.4	✓
60	6.0	21.9	✓
50	8.2	19.7	✓
40	8.7	19.2	✓
30	9.0	18.9	✓
20	9.0	18.9	✓
10	9.2	18.7	✓

Plotted

N3870

644.15

N3880

4790	8.0	36.2	✓
80	9.2	35.0	✓
70	13.5	30.7	✓
4760	14.6	29.6	✓
50	627.92	7.7	20.2
40	8.8	19.1	✓
30	8.9	19.0	✓
20	9.1	18.8	✓
10	9.0	18.9	✓
4700	9.1	18.8	✓
90	9.1	18.8	✓
80	9.2	18.7	✓
70	9.6	18.3	✓
60	10.4	17.5	✓

Plotted

N3880

N3880

626.97

N3890

B.M.	1.90	626.97	625.07
4997	19.5	07.5	✓
95	16.7	10.9	✓
93	10.1	16.9	✓
80	+1.8	28.8	✓
	1.55	638.97	637.42
4970	6.8	32.2	✓
B.M.	6.73	644.15	637.42
4800	6.0	38.2	✓

Plotted

4997	9.9	17.1	✓
95 also	8.6	18.4	✓
95	4.7	22.3	✓
4988	3.6	35.4	✓
B.M.	6.73	644.15	637.42
4770	8.4	35.8	✓
60	11.8	32.4	✓
B.M.	6.37	627.92	621.55
55	+5.5	33.4	✓
50	4.9	23.0	✓

Plotted

N3890

Mar 20 - 1933

627.92 N3890

4740		5.3	22.6	1
30	↑	8.7	19.2	1
20		9.5	18.4	✓
10		9.2	18.7	1
4700		9.2	18.7	1
4690		9.2	18.7	1
80	Plotted	9.2	18.7	1
70		9.4	18.5	1
60		9.3	18.6	1
50		9.3	18.6	1
40		9.3	18.6	1
30	↓	10.8	17.1	1

N3900

4750		+9.4	37.3	1	
40	↑	+0.5	28.4	1	
30	Plotted	4.7	23.2	1	
20		7.9	20.0	1	
10		9.4	18.5	1	
700		↓	9.5	18.4	1

Item 3

39

627.92 N3900

4690		9.5	18.4	1
80	↑	9.4	18.5	1
70	Plotted	9.4	18.5	1
60		9.4	18.5	1
50		9.4	18.5	1
40		9.3	18.6	1
30		↓	9.2	18.7

N3910

4630	↑	9.6	18.3	✓
40		9.7	18.2	1
50		9.6	18.3	1
60		8.9	19.0	✓
70		9.1	18.8	1
80	Plotted	4.7	23.2	1
90		6.1	21.8	1
4700		3.5	24.4	1
10		+2.9	30.8	✓
15		+7.9	35.8	✓
20		+7.4	35.3	1
30	↓	+10.6	38.5	✓

Final sections
Item 3
Mar. 18 - 1933

Elliott
Simpson
Super
Remmed

615.28 N3350

B.M.	13.00	613.00	600.00
	2.59	615.28	0.31 612.69
			N3370
4730		13.5	01.8 ✓
40		13.8	01.5
50		17.0	98.3 ✓
60		18.4	96.9
70		19.8	95.5
			N3360
90		22.3	93.0 ✓
80		18.1	97.2
70		15.7	99.6
60		14.1	01.2 ↓
50		14.1	01.2 ↓
40		11.2	04.1 ↓
30		10.0	05.3 ↓
47 20		9.6	05.7 ↓

Plotted

Plotted

4710	4.3	11.0	✓ Page 45
20	7.2	08.1	
30	6.2	09.1	
40	6.7	08.6	
50	8.9	06.4	
60	10.8	04.5	
70	13.0	02.3	✓
80	15.1	00.2	✓
90	19.1	96.2	✓
4800	19.8	95.5	✓
10	21.6	93.7	✓
20	22.4	92.9	✓ $\frac{421}{10}$
			N3340
4840	19.9	95.4	✓
30	18.3	97.0	
20	16.4	98.9	✓
10	14.6	00.7	
4800	15.1	00.2	
4790	15.0	00.3	

Plotted

Plotted

615.28 N3340

615.28 N3330

4780	↑	12.2	03.1
70		9.0	06.3
60		5.8	09.5
50		5.0	10.3
40		+2.0	17.3
35	Plotted	3.6	11.7
30		4.2	11.1
20		4.4	10.9
10		1.6	13.7
4700			1.3
4690		2.5	12.8
4680	↓	3.2	12.1

N3330

4680	Plotted	1.8	13.5
90		0.0	15.3
4700		+0.4	15.7
10		11.4	16.7
20		↓	0.1

4730	↑	1.2	14.1	✓	
40		1.2	14.1	✓	
T.P.	9.14	614.54	9.88	605.40	✓
50		1.0	13.5	✓	
60		3.4	11.1	✓	
70		7.2	07.3	✓	
80		8.5	06.0	✓	
90		9.0	05.5	✓	
92	Plotted	5.0	09.5	✓	
4802		4.7	09.8	✓	
04		9.3	05.2	✓	
10		9.6	04.9		
20		11.3	03.2		
30		10.4	04.1	✓	
T.P.	1.57	603.76	12.35	602.19	✓
40		2.0	01.8	✓	
50		5.8	98.0	✓	
60		8.8	95.0	✓	
70	↓	covered			

Start Mar 20 - 1933

42

Same Party

603.76

N3330

N3320

4880

8.8 95.0

B.M.

9.43 617.62

608.19

90

8.7 95.1

4840

11.7 05.9

4900

8.3 95.5

30

10.2 07.4

10

7.9 95.9

20

7.2 10.4

20

8.0 95.8

10

7.8 09.8

30

8.5 95.3

4800

7.8 09.8

N3320

90

7.3 10.3

4950

0.6 03.2

80

7.8 09.8

40

0.3 03.5

70

7.9 09.7

30

1.5 02.3

60

5.5 12.1

20

1.4 02.4

50

3.3 14.3

10

2.5 01.3

N3310

4900

2.9 00.9

4750

1.4 16.2

4890

3.8 00.0

60

2.8 14.8

80

2.1 01.7

70

3.9 13.7

70

1.9 01.9

80

4.7 12.9

60

2.6 01.2

90

4.1 13.5

50

1.3 02.5

4800

4.7 12.9

10

5.4 12.2

End Mar 18

1933

617.62

N3310

4820	↑	5.9	11.7	↓
30		6.1	11.5	↓
38		6.7	10.9	↓
40		1.6	16.0	↓
47		1.6	16.0	↓
50		9.2	08.4	↓
60		9.4	08.2	↓
70		6.6	11.0	↓
75		12.2	05.4	↓
80		13.8	03.8	↓
90		13.6	04.0	↓
4900		12.2	05.4	↓
10		12.5	05.1	↓
20		11.2	06.4	↓
24		5.1	12.5	↓
30		12.0	05.6	↓
40		12.9	04.7	↓
40 also		10.7	06.9	↓
50	↓	11.3	06.3	↓

[Handwritten signature]

617.62

N3300

4950	↑	10.5	07.1	'
40		5.3	12.3	'
30		5.2	12.4	'
20		5.7	11.9	'
10		8.6	09.0	'
4900		8.5	09.1	'
4890		5.5	12.1	'
80		6.6	11.0	'
70		4.0	13.6	'
60		4.1	13.5	'
50		2.0	15.6	'
40		2.7	14.9	'
50-13.M	↓	1.18	616.44	'

[Handwritten signature]

Encl Mar 20-1933

Mar 22 - 1933

Item 3

Elliott
Simpson
Soper
Remmen

N3300

B.M. 7.16 617.02 609.86

4950 9.2 07.8

60 11.9 05.1

70 13.2 03.8

4980 15.5 01.5

B.M. 0.96 625.35 624.39

N3890

5003 14.7 10.6

06 9.2 16.1

10 5.3 20.0

16 3.4 21.9

N3880

5003 24.8 00.5

06 18.0 07.3

10 13.2 12.1

20 10.4 14.9

T.P. 2.50 614.98 12.87 612.48

plotted

plotted

plotted

Carbon
Paper

Showing Overbreak after last
finals were taken

614.98 N3870

5003 16.3 98.7

06 13.1 01.9

15 2.7 02.3

N3860

5003 19.3 95.7

05 15.8 99.2

12 13.1 01.9

N3850

5003 28.9 586.1

plotted

plotted

Showing overbreak after
last finals were taken

44

Final X sections
 Mar 24. 1933

B.M.	3.15	620.19	617.04
			N3320
4625		11.0	09.2 O.G.
30		10.4	09.8
40		9.8	10.4 ✓ ↓
50		7.3	12.9 ✓ ↓
60		6.5	13.7 ✓ ↓
70		4.8	15.4 ✓
80		3.2	17.0 ✓
4690		4.4	15.8 O.G. ↓

plotted

→ O.G. E. to 4740

			N3330
4670		6.2	14.0 ✓
60		8.0	12.2 ✓ ↓
50		10.7	09.5 ✓ ✓
40		9.7	10.5 ✓ ↓
30		11.6	08.6 ✓ ↓
T.P.	2.62	610.08	12.73 607.46
25		5.4	04.7 ✓ ↓

plotted

610.08 N3330 ✓
 4620 5.0 05.1 ✓ ✓
 ↪ O.G. west to toe

			N3340
4590		10.5	99.6 ✓ ↓ O.G.
4600		9.8	00.3 ✓
10		7.2	02.9 ↓
20		6.9	03.2 ✓
25		6.7	03.4 ✓ ↓
30		3.5	06.6 ✓ ↓
40		3.6	06.5 ✓ ↓
50		3.1	07.0 ✓ ↓
60		10.5	10.6 ✓ ↓
70		12.3	12.4 ✓

plotted

			N3350
4700		13.2	13.3 ✓ Page 40
4690		10.6	10.7 ✓ ↓
80		0.4	09.7 ✓ ↓
70		0.4	09.7 ✓ ↓
60		2.0	08.1 ✓ ↓

plotted

610.08

N3350

4650	1.8	09.3	✓✓
40	3.2	06.9	✓✓
30	5.2	04.9	✓✓
20	5.9	04.2	✓✓
10	8.9	01.2	✓✓
4600	10.9	99.2	✓✓
90	12.9	97.2	✓✓
4580	13.2	96.9	0.6 ✓

~~plotted~~

N3360

4580	13.6	96.5	0.6 ✓
90	12.2	97.9	✓
4600	12.1	98.0	✓
10	8.9	01.2	✓
20	6.0	04.1	✓
30	6.0	04.1	✓
40	4.1	06.0	✓
50	1.5	08.6	✓
60	2.1	08.0	✓
70	1.5	08.6	✓
80	2.5	07.6	✓

~~plotted~~

610.08

N3360 ✓

46

4690	1.6	08.5	✓
------	-----	------	---

O.G.E. to 4710

N3370

O.G.E. to 4720

4680	3.1	07.0	✓✓
20	2.1	08.0	✓✓
60	1.3	08.8	✓
50	3.4	06.7	✓
40	4.7	05.4	✓✓
30	5.6	04.5	✓✓
20	5.6	04.5	✓✓
10	9.1	01.0	✓
4600	14.7	95.4	✓✓
70	15.7	94.4	✓✓
80	13.6	96.5	✓
		0.6	

~~plotted~~

Final Sections
April 10-1933

47

B.M.	0.93	651.31 650.93	³⁸ 650.00
			N3200
E5060		4.8	646.5 ✓ ↓
50		5.2	46.1 ✓ ↓
40		6.4	44.9 ✓ ↓
30		6.4	44.9 ✓ ↓
20		6.5	44.8 ✓ ↓
12		7.9	43.4 ✓ ↓
05		17.2	34.1 ✓ ↓
50 03		17.2	34.1 ✓ ↓
4997		16.7	34.6 ✓ ↓
95		16.7	34.6 ✓ ↓
90		6.2	45.1 ✓ ↓
80		4.1	47.2 ✓ ↓
77		3.2	48.1 ✓ ↓
68		+2.7	54.0 ✓ ↓

Photo

	651.31 650.93	N3210
4966	+4.9	56.2 ✓ ↓
70	2.8	48.5 ✓ ↓
80	7.8	43.5 ✓ ↓
90	9.7	41.6 ✓ ↓
94	12.3	39.0 ✓ ↓
4997	17.5	33.8 ✓ ↓
5003	21.2	30.1 ✓ ↓
04	11.5	39.8 ✓ ↓
12	12.5	38.8 ✓ ↓
14	7.9	43.4 ✓ ↓
20	6.9	44.4 ✓ ↓
30	6.4	44.9 ✓ ↓
40	6.2	45.1 ✓ ↓
50	5.7	45.6 ✓ ↓
60	5.4	45.9 ✓ ↓

Photo

651.31
~~650.93~~

N3220

5060	5.5	45.8	✓	↓
50	6.0	45.3	✓	↓
40	6.4	44.9	✓	↓
30	6.5	44.8	✓	↓
20	14.7	36.6	✓	↓
10	20.4	30.9	✓	↓
06	19.1	32.2	✓	↓
50 03	28.5	22.8	✓	↓
49 97	20.5	30.8	✓	↓
92	9.1	42.2	✓	↓
80	8.3	43.0	✓	↓
72	7.0	44.3	✓	↓
49 66	11.3	52.6	✓	↓

Plotted

N3230

4978	6.5	44.8	✓	↓
80	12.8	38.5	✓	↓
90	16.1	35.2	✓	↓
73	22.6	28.7	✓	↓
77	25.2	26.1	✓	↓

Plotted

651.31
~~650.93~~

N3230

T.P.	0.59	639.02 638.64	12.88	638.43 638.05
↑				
Not changed				
↓				
5013			12.1	26.9 ✓ ↓
20			11.2	27.8 ✓ ↓
30			12.5	26.5 ✓ ↓
40			7.1	31.9 ✓ ↓
50			4.1	34.9 ✓ ↓
60			2.3	36.7 ✓ ↓

Plotted

N3240

68			9.2	29.8 ✓ ↓
60			9.9	29.1 ✓ ↓
T.P.	0.33	626.53 626.15	12.82	626.20 625.82
50			10.1	26.6 ✓ ↓
40			2.4	24.1 ✓ ↓
30			4.6	21.9 ✓ ↓
20			4.7	21.8 ✓ ↓
50 10			5.8	20.7 ✓ ↓

Plotted

Not changed

53
626.75 N32.50

↑
Not changed

50	10	9.0	17.5	✓
14		7.7	18.8	✓
20		8.9	17.6	✓
30		10.6	15.9	✓
40		9.6	16.9	✓
48		7.1	19.4	✓
52		3.6	22.9	✓
60		4.5	22.0	✓
65		3.2	23.3	✓

Plotted

N 3260

50	60	7.3	19.2	✓
53		7.7	18.8	✓
50		10.5	16.0	✓
Check on H.I.		12.1	614.4	614.5 W.S.
12.54	638.36		626.20	
	651.36		625.82	
12.92	650.98	0.30	638.06	44
	662.22		650.39	
11.83	661.84	0.97	650.01	
			658.52	
B.M.		3.70	658.14	658.52

Plotted

Final Sections
Nov 17-1933

Elliott
Simpson
Seper
Remmen

50

638.21 N3270

B.M.	1.27	669.59	668.32	4863	+2.5	40.7	
	0.25	657.36	12.48 657.11	56	+1.8	40.0	
	0.21	644.70	12.87 644.49	54	+8.0	46.2	
Set B.M.	2.67	638.21	9.16 635.54	50	+7.9	46.1	

N3270

4966		14.4	23.8		T.P.	11.35	644.17	5.39	632.82	✓
60		11.7	26.5			4.06	648.02	0.21	643.96	✓
50		8.1	30.1		40			2.8	45.2	
47		9.8	28.4		30			8.6	39.4	
40		9.7	28.5		20			6.5	41.5	
30		10.3	27.9		10			6.8	41.2	
20		9.0	29.2		4800			5.4	42.6	
10		8.8	29.4		4790			11.8	36.2	
4900		7.8	30.4		80			12.6	35.4	
4895		10.1	28.1		70			12.4	35.6	
90		9.9	28.3		60			13.0	35.0	
80		3.9	34.3		55			9.6	38.4	
70		5.5	32.7		50			12.8	35.2	
66		5.5	32.7		40			12.4	35.6	
					20			13.0	35.0	

Plotted

Plotted

May 17

648.02

N3270

4720	15.6	32.4	✓
10	19.1	28.9	✓
4700	22.5	25.5	✓
90	21.9	26.1	✓
80	16.1	31.9	✓
70	13.5	34.5	✓

Plotted

N3260

4680	13.8	34.2	✓
90	19.9	28.1	✓
4700	21.6	26.4	✓
10	19.9	28.1	✓
20	16.3	31.7	✓
30	11.4	36.6	✓
40	8.8	39.2	✓
50	7.0	41.0	✓
60	7.9	40.1	✓
70	8.4	39.6	✓
80	8.6	39.4	✓
90	1.2	46.8	✓

Plotted

51

648.02

N3260

4800	2.4	46.4	✓
10	1.9	46.1	✓
20	2.9	45.1	✓
30	3.9	44.1	✓

May 18 - 1933

B.M.	11.09	655.58 ✓	644.49
	9.7	665.3 ✓	655.6

4840	7.2	58.1	✓
48	6.6	58.7	✓
48 Too	+3.1	68.4	✓
53	+3.1	68.4	✓
B.M.	11.09	655.58	644.49
60	14.6	41.0	✓
70	16.6	39.0	✓
80	18.8	36.8	✓
90	14.0	41.6	✓
4900	19.0	36.6	✓
10	19.7	35.9	✓
20	2.1	53.5	✓

Plotted

655.58 N3260

4930	18.2	37.4	↓
40	18.6	37.0	↓
50	19.7	35.9	↓
60	22.3	33.3	↓
68	25.8	29.8	↓

Plotted

N3250

4974	17.4	38.2	↓
70	16.5	39.1	↓
60	15.2	40.4	↓
50	16.9	38.7	↓
40	15.8	39.8	↓
30	14.1	41.5	↓
20	15.2	40.4	↓
10	14.6	41.0	↓
4900	13.5	42.1	↓
4890	12.8	42.8	
80	12.4	43.2	
70	8.3	47.3	
65	6.2	49.4	

Plotted

655.58

N3250

13.0	668.6	0.0	655.6	
4860		1.7	66.9	
50		3.1	65.5	
37		16.3	52.3	↓
28		17.4	51.2	↓
20		5.1	63.5	
10		8.2	60.4	
B.M.	8.33	652.29	643.96	
4800		2.5	49.8	↓
4790		5.4	46.9	↓
82		6.5	45.8	↓
80		1.8	50.5	
70		4.7	47.6	
60		5.2	47.1	↓
50		8.5	43.8	↓
40		9.2	43.1	
30		13.5	38.8	
20		18.0	34.3	
10		20.4	31.9	

Plotted

Plotted

	652.29	N3250	
4700		23.3	29.0
4690		21.9	30.4 ↓
4680		15.7	36.6 ↓

(Don't Ink in 3240 and 3230 yet) → N3240

4680		14.1	38.2	
90		19.5	32.8	
4700		18.8	33.5 ↓	
10		15.4	36.9	
20		13.5	38.8	
30		11.2	41.1	
40		5.8	46.5 ↓	
50		4.4	47.9	
60		0.7	51.6	
T.P.	10.93	662.77 ✓	0.45	651.84 ✓
70		9.0	53.8	
80		7.1	55.7	
90		6.4	56.4 ↓	
4800		4.8	58.0	
10		2.8	60.0 ↓	

	662.77	N3240		
	7.0	669.8	0.0	462.8
4820			7.1	62.7
30			6.1	63.7
40			7.9	61.9
50			9.5	60.3
B.M.	11.09	655.58		644.49
60			0.5	55.1 ↓
70			3.0	52.6
80			5.3	50.3
90			6.3	49.3
4900			6.0	49.6 ↓
10			6.4	49.2
20			9.0	46.6 ↓
30			12.5	43.1 ↓
40			10.4	45.2 ↓
50			9.2	46.4 ↓
60			10.2	45.4 ↓
70			9.6	46.0 ↓
79			13.0	42.6

(Don't list in 3230)
yet

655.58

N 3230

54

4980		14.1	41.5	
70		10.0	45.6	↓
60		8.5	47.1	↓
50		5.6	50.0	↓
40		4.6	51.0	
30		6.6	49.0	↓
23		6.2	49.4	↓
16		+5.8	61.4	↓
10		5.5	50.1	↓
4900		4.6	51.0	
4895		4.9	50.7	↓
	669.8			
90		13.3	56.5	
80		12.5	57.3	
70		4.3	65.5	↓
60		4.7	65.1	↓
50		3.1	66.7	↓
40		2.1	67.7	
30		3.5	66.3	

669.8	N 3230	
4820	3.9	65.9 ↓
10	3.5	66.3 ↓
4800	6.0	63.8
	662.77	
4790	2.1	60.7
80	4.5	58.3 ↓
70	5.9	56.9
60	7.8	55.0
50	4.5	58.3
40	5.0	57.8
39	9.6	53.2 ↓
30	13.4	49.4 ↓
20	20.5	42.3
10	24.3	38.5 ↓
4700	26.6	36.2 ↓
4690	27.2	35.6 ↓
86	26.6	36.2 ↓
	12.85	649.92 ↓ 650 ±

At Etc. CA for plotting 9-25-32
Box

End May 18
Continued on p. 58

Final Cross-sections under Rock emb

June 3, 1933

55

N 3980

N 3990

Simpson
Osborne
Soper
Kammen

B.M.	13.20	639.61	626.41
5300		14.0	25.6 ✓
5290		13.9	25.7 ✓
80		14.0	25.6 ✓
70		14.2	25.4 ✓
60		13.6	26.0 ✓
50		13.4	26.2 ✓
40		13.9	25.7 ✓
30		13.4	26.2 ✓
20		13.0	26.6 ✓
10		13.6	26.0 ✓
5200		13.3	26.3 ✓
5190		12.6	27.0 ✓
85		11.3	28.3 ✓
80		7.8	31.8 ✓

These levels apparently over fill
 of 0.75 ft. at the Rock emb.
 for 0.75 ft. at the Rock emb.
 11/11/33
 800 m. ft.

Plotted

N 3990

5170	0.0	39.6
80	3.9	35.7

	5190	7.3	32.3
	5200	11.0	28.6
	10	10.9	28.7
	20	12.4	27.2
	30	13.1	26.5
	40	13.3	26.3
	50	13.6	26.0
	60	13.8	25.8
	70	14.2	25.4
	80	14.3	25.3
	90	14.3	25.3
	5300	14.4	25.2
	10	14.5	25.1
	20	14.8	24.8
	30	14.3	25.3
	40	14.3	25.3

Plotted

Plotted on Profile 9-26-1934 C.B.H.
 same note as preceding page.

639.61

N4000

5340	13.7	25.9
30	13.9	25.7
20	14.2	25.4
10	14.5	25.1
5300	14.3	25.3
5290	14.0	25.6
80	14.2	25.4
70	13.8	25.8
60	13.6	26.0
50	13.2	26.4
40	13.0	26.6
30	12.5	27.1
20	11.8	27.8
10	9.0	30.6
5200	5.7	33.9
5190	0.2	39.4

plotted

Plotted on profile 9-26-34 CCH

N4010

5200	0.4	39.2
04	0.5	39.1

639.61

N4010

5210	4.5	35.1
20	11.2	28.4
30	12.5	27.1
40	12.9	26.7
50	13.3	26.3
60	13.5	26.1
70	13.8	25.8
80	13.9	25.7
90	13.8	25.8
5300	13.7	25.9
10	14.0	25.6
20	14.1	25.5
30	13.9	25.7
40	13.5	26.1
50	13.7	25.9

plotted

Plotted on profile 9-26-34 CCH

Same note as on 8-7-55

N4020

5345	8.1	31.5
40	9.6	30.0
35	13.1	26.5

639.61

N4020

5330	13.6	26.0	
20	13.8	25.8	
10	13.6	26.0	
5300	12.9	25.7	
5290	13.8	25.8	✓
80	13.5	26.1	✓
70	13.7	25.9	✓
60	13.8	25.8	✓
50	14.0	25.6	✓
40	12.6	27.0	✓
30	7.1	32.5	✓
20	3.8	35.8	✓
17	0.4	39.2	✓
	N4030		
5235	0.3	39.3	
40	0.2	39.4	
50	1.8	37.8	✓
60	1.3	38.3	✓
70	3.0	36.6	✓

plotted

$\frac{39.3}{69} = 0.57$
 apparently
 our 60 is 5.7
 39.3
 69

639.61

N4030

5280	4.0	35.6	✓
90	10.3	29.3	✓
5300	12.8	26.8	
10	12.6	27.0	
20	13.3	26.3	
27	13.0	26.6	
32	5.7	33.9	

$\frac{39.3}{69}$
 see

N4040

5320	4.4	35.2	
13	10.6	29.0	
10	10.4	29.2	
5300	12.0	27.6	
5290	6.6	33.0	✓
80	2.4	37.2	✓
75	0.2	39.4	✓

plotted

N4050

5310	2.2	37.4	
5300	0.7	38.9	
5296	0.5	39.1	

N 3220

June 22 - 1933

58

B.M. 0.0 650.0 650.0

4690 5.2 44.8 ✓

93 12.5 37.5 ✓

4698 13.4 36.6 ✓

4700 12.1 37.9 ✓

10 9.1 40.9 ✓

20 3.1 46.9 ✓

4730 11.6 51.6 ✓

photo

Final X sections
Aug. 14, 1933

N3170 ✓

B.M.	0.0	668.5	668.5
5003		12.7	55.8
06		12.4	56.1
12		7.1	61.4
20		5.6	62.9
26		5.1	63.4
30		2.3	66.2

N3160 ✓

5003		11.9	56.6
08		9.5	59.0
20		9.2	59.3
30		2.4	66.1

N3150 ✓

5003		11.0	57.5
10		6.0	62.5
20		3.8	64.7
31		2.3	66.2

plotted

668.5

N3140 ✓

59

5003		7.0	61.5
10		0.9	67.6
20		0.0	68.5
B.M.	0.68	684.32	683.64
30		12.5	71.8
32		8.1	76.2
40		4.4	79.9

N3130 ✓

5003		0.0	84.3
20		7.1	77.2
11		6.6	77.7
05		14.3	70.0
5003		16.8	67.5

plotted

N3120 ✓

B.M.	13.16	676.80	683.64
4997		12.2	84.6
5003		20.3	76.5
08		13.5	83.3
12		7.3	89.5
20		9.6	87.2
22		7.4	87.4
28		3.2	93.6

696.80

N3110 ✓

Set B.M. 12.97

709.35

0.42

696.38 ✓

4997

19.2

90.2 ✓

5003

21.5

87.9 ✓

12

14.1

95.3 ✓

17

12.3

97.1 ✓

22

13.5

95.9 ✓

31

5.3

04.1 ✓

N3100 ✓

5018

4.9

04.5 ✓

14

8.9

00.5 ✓

5003

15.1

94.3 ✓

4997

15.5

93.9 ✓

88

7.4

02.0 ✓

B.M.

16.82

713.20

696.38 ✓

N3090 ✓

4991

7.4

05.8 ✓

4996

12.6

00.6 ✓

4997

19.1

94.1 ✓

5003

15.9

97.3 ✓

05

13.4

99.8 ✓

13

7.8

05.4 ✓

713.20

N3080 ✓

60

4990

4.2

09.0 ✓

97

8.0

05.2 ✓

5003

8.8

04.4 ✓

05

6.9

06.3 ✓

10

4.7

08.5 ✓

N3070 ✓

5003

+0.3

13.5 ✓

5003

3.6

09.6 ✓

4997

3.5

09.7 ✓

93

0.1

13.1 ✓

End Aug 14

collected

collected

at planting

at planting

Final X Sections Item 11

March 2, 1933

N 3830

B.M. 4.32 584.84 580.52

4997 4.6 80.2 ✓

90 4.6 80.2 ✓

80 5.3 79.5 ✓

75 5.0 79.8 ✓

70 2.0 82.8 ✓

58 +13.5 98.3 ✓

N 3840

4997 4.8 80.0 ✓

90 +5.0 89.8 ✓

Copy from
108
114

Item 1-E.

Item 3-W.

Copy from
108
114

Item 3-W.

Final Cross-sections, Item 3
Aug. 19, 1933

B.M.	0.591	705.771		705.18
T.P.	0.39	693.34	12.82	692.95
T.P.	4.02	684.13	13.23	680.11

N 3220

E 4760		21.6	62.5	✓
70		23.0	61.1	✓
80		21.2	62.9	✓
90		16.4	67.7	✓
95		19.4	64.7	✓
A 800		19.4	64.7	✓
10	plotted	16.9	67.2	✓
20		14.5	69.6	✓
30		9.9	74.2	✓
40		13.2	70.9	✓
50		12.2	71.9	✓
60		12.9	71.2	✓
67		10.4	73.7	✓
70		12.2	71.9	✓

684.13 ✓

N 3210

E 4870	8.6	75.5	✓
	6.5	78.7	✓
	60	76.4	✓
	50	77.6	✓
	40	77.3	✓
	30	74.1	✓
	20	72.5	✓
	10	72.6	✓
A 800	14.5	69.6	✓
A 790	10.7	73.4	✓
	80	66.0	✓
	75	65.0	✓
	65	70.2	✓

plotted

N 3200

A 780	12.0	72.1	✓
	8.9	75.2	✓
A 800	10.2	73.9	✓
	6.1	78.0	✓
	20	76.5	✓

Elliott
Simpson
Seper
Salgado

Final X Sections
Sept 13-1933

N3140

^u
683.33

N3130

64

B.M.	11.69	^u 683.33	671.64	
5217			12.2	71.1 ✓
5200			8.6	74.7 ✓
5190			10.6	72.7 ✓
80			12.6	70.7 ✓
70			14.0	69.3 ✓
60			15.3	68.0 ✓
50			14.7	68.6 ✓
40			14.0	69.3 ✓
30			13.3	70.0 ✓
20			12.2	71.1 ✓
10			11.1	72.2 ✓
5100			9.2	74.1 ✓
5090			7.7	75.6 ✓
80			9.5	73.8 ✓
70			7.5	75.8 ✓
60			5.9	77.4 ✓
50			2.0	81.3 ✓
46			+3.8	87.1 ✓

potted

T.P.	12.01	^u 695.17	0.17	683.16	
5033			5.3	89.9 ✓	
40			3.9	91.3 ✓	
50			10.0	85.2 ✓	
60			13.0	82.2 ✓	
		^u 683.33			
70			3.2	80.1 ✓	
80			5.0	78.3 ✓	
90			5.8	77.5 ✓	
5100			2.0	76.3 ✓	
10			8.0	75.3 ✓	
20			10.7	72.6 ✓	
30			11.1	72.2 ✓	
40			11.5	71.8 ✓	
50			12.0	71.3 ✓	
60			8.9	74.4 ✓	
68			7.6	75.7 ✓	
70			3.3	80.0 ✓	

potted

683.33

N3130

5180 5.1 78.2 ✓ ✓

5210 9.3 74.0 ✓ ✓

N3120

5190 +2.9 86.2 0.6 ✓

87 3.2 80.1 ✓

80 2.9 80.4 ✓

70 2.1 81.2 ✓

60 0.5 82.8 ✓

* 695.2

50 9.7 85.5 ✓ ✓

40 9.4 85.8 ✓ ✓

30 10.5 84.7 ✓ ✓

20 11.8 83.4 ✓ ✓

10 11.6 83.6 ✓ ✓

5100 11.2 84.0 ✓ ✓

5090 11.9 83.3 ✓ ✓

80 10.2 85.0 ✓ ✓

70 9.6 85.6 ✓ ✓

60 8.5 86.7 ✓ ✓

potted

Lower Elev. Page 69

695.2

N3120

6.3 88.9 ✓ ✓ Duplicate 2.69

+0.7 96.5 ✓ ✓

+5.2 700.4 ✓ ✓

N3110

+9.1 04.3 ✓ ✓

+3.1 98.3 ✓ ✓

1.7 93.5 ✓ ✓

1.4 93.9 ✓ ✓

2.1 93.1 ✓ ✓

2.2 93.0 ✓ ✓

2.5 92.7 ✓ ✓

2.7 92.5 ✓ ✓

1.6 93.6 ✓ ✓

3.7 91.5 ✓ ✓

5.7 89.5 ✓ ✓

7.7 87.5 ✓ ✓

9.2 86.0 ✓ ✓

10.6 84.6 ✓ ✓

11.7 83.5 ✓ ✓

4.1 91.1 ✓ ✓

See Page 68 for Lower Elev. taken Oct 10-13 Mac note Page 68

0.6

potted

5050

40

32

5035

40

50

60

70

80

90

5100

10

20

30

40

50

60

68

73

695.2

N3100

5157 1/2	+0.1	95.3	O.G.
50	5.5	89.7	
40	5.5	89.7	
30	5.0	90.2	
20	3.5	91.7	
10	1.3	93.9	
5100	0.0	95.2	
5090	+2.0	97.2	
80	+4.3	99.5	
70	+7.2	02.4	
60	+9.2	04.4	
50	+11.0	06.2	
40	+9.7	04.9	
30	+14.0	09.2	

Plotted

✓ will use 66
 ✓ at plotting
 ✓

B.M.	6.22	707.54	701.32
E 4920			
10			
4900			
4890			
85			
80			
4880			
90			
4900			
10			
20			
30			
40			
4910			
20			

Plotted

N3940			
21.4	686.1		8/5/33
17.0	90.5		
19.3	88.2		
19.0	88.5		
18.0	89.5		
18.5	89.0		
N3950			
6.3	701.2		
5.9	01.6		
7.5	00.0		
10.7	696.8		
18.8	88.7		
	89.7		
23.5	84.0		
26.3	81.2		
N3960			
1.4	706.1		
4.9	02.6		

$\frac{44.5}{2.3} = 82.7$
 8/5/33

	707.54	N3960	
4930		8.4 99.1	✓
T.P.	2.70	698.77 ✓	11.47 696.07 ✓
40		7.3 91.5	✓
50		12.1 86.7	✓
60		11.7 87.1	✓
65		19.2 79.6	✓

N3970

4985		16.0 82.8	✓
72		8.3 90.5	✓
60		5.8 93.0	✓
50		2.3 96.5	✓
40		0.1 98.7	✓

N3980

4950		+3.0 701.8	✓
60		+1.5 00.3	✓
70		2.0 696.8	✓
80		4.6 94.2	✓
90		5.8 93.0	✓
97		15.6 83.2	✓

Plotted

at station N.

	698.77	N3990	
4997		16.5 82.3	✓
95		16.5 82.3	✓
93		12.1 86.7	✓
90		10.0 88.8	✓
80		2.0 96.8	✓
70		+4.7 03.5	✓

N4000

4970		+6.5 05.3	✓
80		0.1 98.7	✓
90		8.4 90.4	✓
95		12.5 86.3	✓
97		13.3 85.5	✓

Plotted

N4010

4997		8.5 90.3	✓
95		8.9 89.9	✓
90		5.0 93.8	✓
80		+4.7 703.5	✓

N4020

4997		5.8 693.0	✓
------	--	-----------	---

Final X section

Oct. 10, 1933

Lowden
Remmers
Salgado

709.21 N 3100

68

BM	HD4	709.21	705.17
			N 3090
E 5070		7.1	02.1
80		9.5	699.7
90		11.1	98.1
99		12.6	96.6
5110		6.6	02.6
20		7.5	01.7
			N 3100
5158		13.8	95.4
50		19.3	89.9
40		19.8	89.4
30		19.0	90.2
20		17.6	91.6
10		15.2	94.0
5100		14.0	95.2
5090		11.3	97.9
80		9.7	99.5
70		7.0	02.2

Plotted

Plotted

Plotted

5060			50	04.2
			50	36
			40	05.6
			4.7	04.5
T.P.	124	699.25	11.20	698.01
				N 3110
5040			1.0	98.2
50			5.6	93.6
60			5.4	93.8
70			6.3	92.9
80			6.7	92.5
90			8.6	90.6
5100			9.2	90.0
10			8.9	90.3
20			9.4	89.8
30			10.5	88.7
40			12.0	87.2
50			13.5	85.7
60			15.9	83.3
70			16.9	82.3
74			8.2	91.0

Plotted

Plotted

Plotted

699.25

N 3120

5080

14.0 685.2

See
Page
65

70

14.0 85.2

60

12.6 86.6

50

10.3 88.9

40

7.0 92.2

N 3130

5040

7.7 91.5

Lower Etc.
on Page 64

50

13.6 85.6

54

15.6 83.6

B.M. 11.65 712.97

701.32

N 3960

E 4850

4.6 708.4

60

5.0 08.0

70

5.0 08.0

80

3.8 09.2

90

5.9 07.1

4900

4.5 08.5

N 3970

4930

10.6 02.4

20

4.7 08.3

10

3.1 09.9

4900

+0.9 13.9

4890

+2.0 15.0

80

3.2 09.8

70

4.6 08.4

60

5.6 07.4

50

5.5 07.5

Final Cross-Sections.
Oct. 16, 1933

69

Plotted

Plotted

Final X Sections of Downstream Rock
 April 11 - 1934
 Elliott-Soper-Remmen

N 3830

B.M. 480 579.85 ✓ 575.05

579.85

N. 3860 is orig. ground

N. 3850

E 4515

4.0 75.8 ✓ ^{8/1/30}

4515

4.5 75.3 ✓

4490

3.7 76.1 ✓

4500

4.9 74.9 ✓

85

4.6 75.2 ✓

4480

4.7 75.1 ✓

60

4.6 75.2 ✓

60

4.8 75.0 ✓

48

4.7 75.1 ✓

40

10.4 69.4 ✓

38

7.6 72.2 O.G.

20

16.4 63.4 ✓

4410

19.4 60.4 O.G.

N 3840

N 3820

4437

9.6 70.2 O.G. ✓

4515

5.1 74.7 ✓

52

4.8 75.0 ✓

4500

5.2 74.6 ✓

60

4.5 75.3 ✓

4480

4.8 75.0 ✓

80

4.8 75.0 ✓

65

4.8 75.0 ✓

4500

4.3 75.5 ✓

60

5.7 74.1 ✓

15

4.5 75.3 ✓

40

12.2 67.6 ✓

20

18.0 61.8 ✓

4398

24.5 55.3 O.G. ✓

Platting of G.P.H.

Cl. for platting
 Sept 26-34 G.P.H.

South of here rock is placed
 to theoretical lines.

Final X Sections
 (Wharfed portion at E,
 end of spillway crest.)

July 5, 1934
 Elliott
 Simpson
 Seper
 Remmen

N4200

757.57

N 4180

B.M.	7.60	757.57 ✓	749.97
E 5048		19.0	738.6 ✓ <small>277.8/32</small>
5046 ^E		19.0	738.6 ✓
"		17.6	740.0 ✓
5040		11.9	745.7 ✓
5030		4.4	753.2 ✓
5025		2.3	755.3 ✓
23		+2.7	760.3 ✓
20		+4.9	762.5 ✓
15		+8.8	766.4 ✓ <small>at spillway</small>

Plotted Sept 26-34 - CBA

N 4190

5044 ^E		18.4	739.2 ✓
43		18.4	739.2 ✓
42 ^E		17.0	740.6 ✓
40		14.7	742.9 ✓
30		4.6	752.0 ✓
20		+2.0	760.3 ✓
18		+5.8	763.4 ✓
13 ^E		+9.3	766.9 ✓ <small>at spillway</small>

Plotted

5013	+7.0	764.6 ✓
16	+6.1	763.7 ✓
21	+2.0	759.6 ✓
22	1.3	756.3 ✓
28	4.1	753.5 ✓
33 ^E	9.6	748.0 ✓
40	16.1	741.5 ✓
40	17.4	740.2 ✓
41	17.6	740.0 ✓

Plotted Sept 26-34 CBA

N 4210

5037 ^E	16.0	741.6 ✓
36 ^E	15.9	741.7 ✓
36	14.0	743.6 ✓
30	8.1	749.5 ✓
25	5.7	751.9 ✓
20	1.7	755.9 ✓
16	2.9	754.7 ✓
13 ^E	0.5	757.1 ✓

Plotted
 27

N4215

757.57

E 5036

15.4 742.2 ✓

35

15.4 742.2 ✓

34⁵

13.6 744.0 ✓

30

12.0 745.6 ✓

27

11.0 746.6 ✓

24

9.4 748.2 ✓

21

9.4 748.2 ✓

Plotted Sept 26-34
CBA

Note: In addition to the excavations shown by the above sections there was excavated a 1' x 1' cut off trench 24' long, ^{west end} along E edge Eler. 743[±] to 740.8[±]

Final X Sections of Hyd. Fill at time of change from Hyd. Fill to Rolled Emb.

Aug 15, 1934

73

Convent
Simpson
Sobor
Isabelle

Downstream Beach

Core Wall Staff 725.8

See FB 443

N4215

757.57

E 5036	15.4	742.2	✓
35	15.4	742.2	✓
34 ⁵	13.6	744.0	✓
30	12.0	745.6	✓
27	11.0	746.6	✓
24	9.4	748.2	✓
21	9.4	748.2	✓

Plotted Sept 26-34
CBA

Note: In addition to the excavation shown by the above sections there was excavated a 1' x 1' cut off trench 24' long, ^{at right angle} along E edge Eler. 743[±] to 740.8[±]

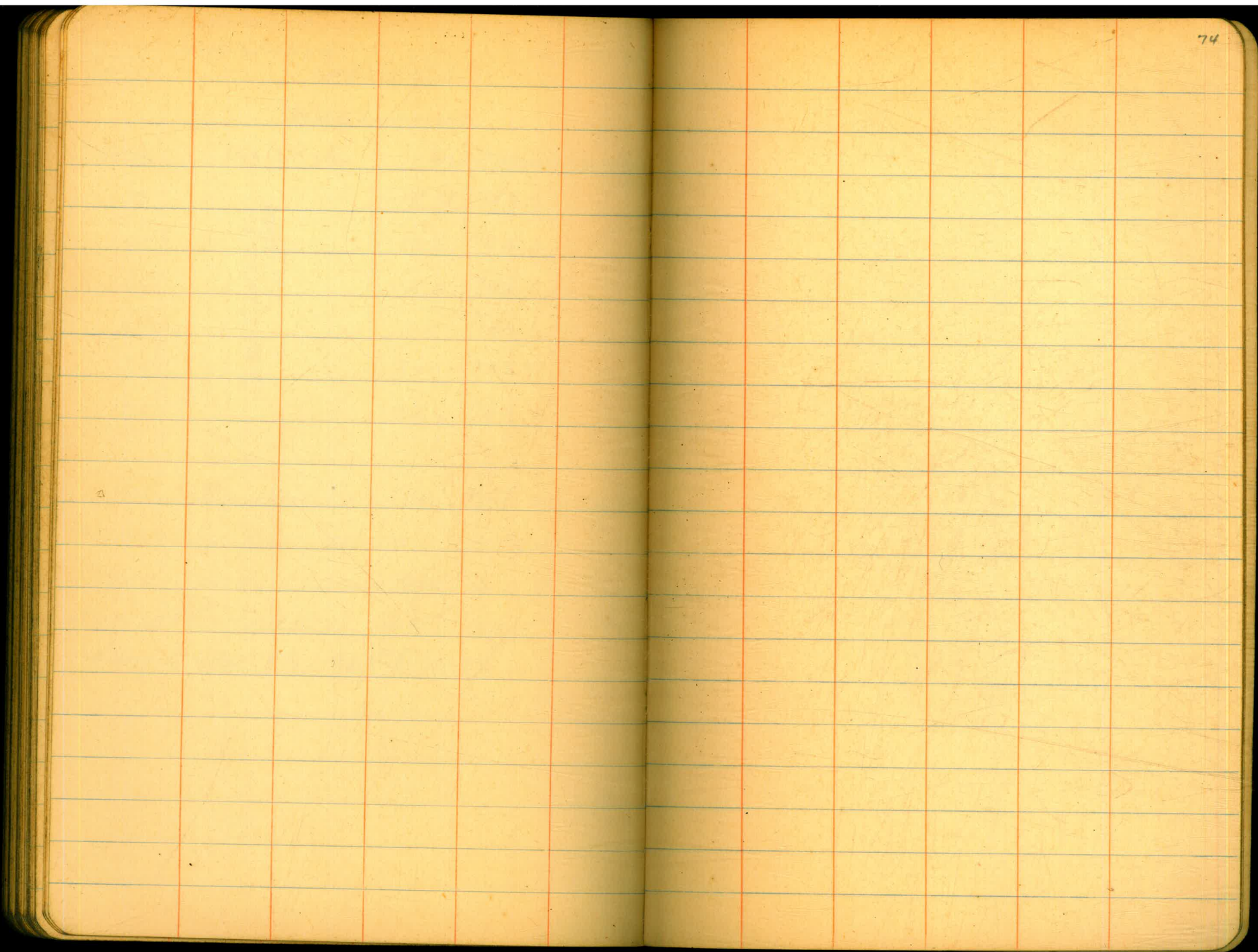
Final X Sections of Hyd. Fill at time of change from Hyd. Fill to Rolled Emb.
Aug 15, 1934

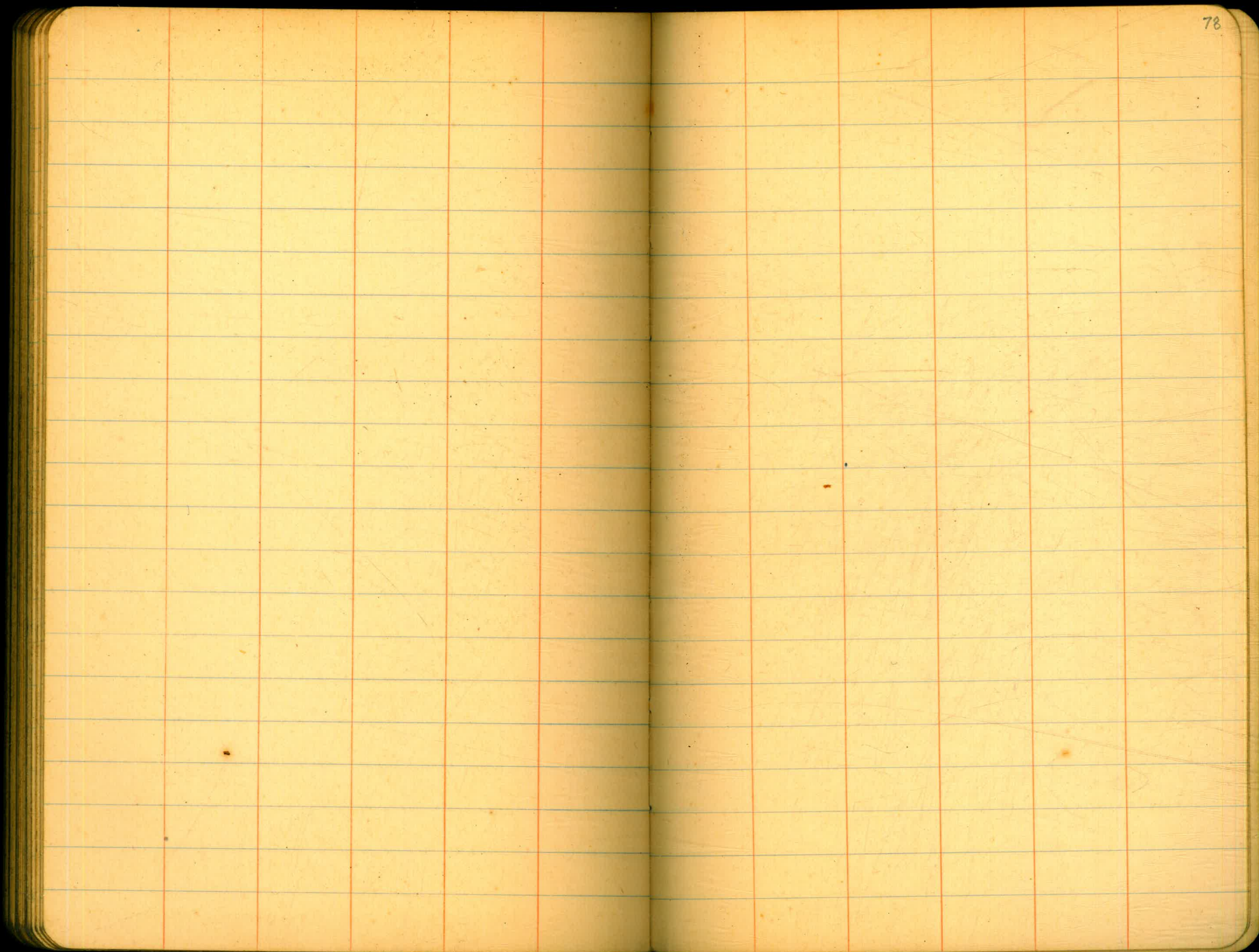
73
Converse
Simpson
Sober
Isabelle

Downstream Beach

Core Wall Staff 725.8

See FB 443





539.66

-0.75

538.91

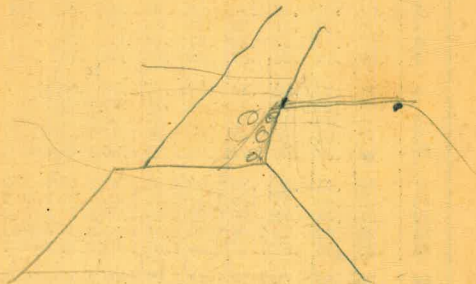


TABLE IX.—CALCULATION OF EARTHWORK.

Width	HEIGHT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.83
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.06	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if w = 16.2 and h = 5.3, cu. yds. = 1.48 + .028 + .089 = 1.597 cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) = h, and 1/2 the roadbed = w, add the triangles formed by taking the distance out to each break in turn (=w's) by the difference between the cuts (or fills) on each side of it (=h's) always subtracting the outer from the inner.

10.2
3.24
8.21

32 DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING. 11.5
250 16.2
Roadway 16 feet wide. Side Slopes 1 on 1 1/2. 4.7
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20 - 16) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

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