416
CONDUIT

380

FIELD

F.B. 416

## TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

| Degrees. | DEGREES. | | ¼ DEGREE. | | ½ DEGREE. | | ¾ DEGREE. | | Degrees. |
|---|---|---|---|---|---|---|---|---|---|
| | Lat. | Dep. | Lat. | Dep. | Lat. | Dep. | Lat. | Dep. | |
| 0 | | | 100.00 | 0.44 | 100.00 | 0.87 | 99.99 | 1.31 | 89 |
| 1 | 99.98 | 1.75 | 99.98 | 2.18 | 99.97 | 2.62 | 99.95 | 3.05 | 88 |
| 2 | 99.94 | 3.49 | 99.92 | 3.93 | 99.91 | 4.36 | 99.88 | 4.80 | 87 |
| 3 | 99.86 | 5.23 | 99.84 | 5.67 | 99.81 | 6.10 | 99.79 | 6.54 | 86 |
| 4 | 99.76 | 6.98 | 99.73 | 7.41 | 99.69 | 7.85 | 99.66 | 8.28 | 85 |
| 5 | 99.62 | 8.72 | 99.58 | 9.15 | 99.54 | 9.58 | 99.50 | 10.02 | 84 |
| 6 | 99.45 | 10.45 | 99.41 | 10.89 | 99.36 | 11.32 | 99.31 | 11.75 | 83 |
| 7 | 99.25 | 12.19 | 99.20 | 12.62 | 99.14 | 13.05 | 99.09 | 13.49 | 82 |
| 8 | 99.03 | 13.92 | 98.97 | 14.35 | 98.90 | 14.78 | 98.84 | 15.21 | 81 |
| 9 | 98.77 | 15.64 | 98.70 | 16.07 | 98.63 | 16.50 | 98.56 | 16.93 | 80 |
| 10 | 98.48 | 17.36 | 98.40 | 17.79 | 98.33 | 18.22 | 98.25 | 18.65 | 79 |
| 11 | 98.16 | 19.08 | 98.08 | 19.51 | 97.99 | 19.94 | 97.90 | 20.36 | 78 |
| 12 | 97.81 | 20.79 | 97.72 | 21.22 | 97.63 | 21.64 | 97.53 | 22.07 | 77 |
| 13 | 97.44 | 22.50 | 97.34 | 22.92 | 97.24 | 23.34 | 97.13 | 23.77 | 76 |
| 14 | 97.05 | 24.21 | 96.92 | 24.62 | 96.81 | 25.04 | 96.70 | 25.46 | 75 |
| 15 | 96.59 | 25.88 | 96.48 | 26.30 | 96.36 | 26.72 | 96.25 | 27.14 | 74 |
| 16 | 96.13 | 27.56 | 96.00 | 27.98 | 95.88 | 28.40 | 95.76 | 28.82 | 73 |
| 17 | 95.63 | 29.24 | 95.50 | 29.65 | 95.37 | 30.07 | 95.24 | 30.49 | 72 |
| 18 | 95.11 | 30.90 | 94.98 | 31.32 | 94.83 | 31.73 | 94.69 | 32.14 | 71 |
| 19 | 94.55 | 32.56 | 94.42 | 32.97 | 94.26 | 33.38 | 94.12 | 33.79 | 70 |
| 20 | 93.97 | 34.20 | 93.82 | 34.61 | 93.67 | 35.02 | 93.51 | 35.43 | 69 |
| 21 | 93.36 | 35.84 | 93.20 | 36.24 | 93.04 | 36.65 | 92.88 | 37.06 | 68 |
| 22 | 92.72 | 37.46 | 92.55 | 37.86 | 92.39 | 38.27 | 92.22 | 38.67 | 67 |
| 23 | 92.05 | 39.07 | 91.88 | 39.47 | 91.71 | 39.87 | 91.53 | 40.27 | 66 |
| 24 | 91.35 | 40.67 | 91.18 | 41.07 | 91.00 | 41.47 | 90.81 | 41.87 | 65 |
| 25 | 90.63 | 42.26 | 90.45 | 42.66 | 90.26 | 43.05 | 90.07 | 43.44 | 64 |
| 26 | 89.88 | 43.84 | 89.69 | 44.23 | 89.49 | 44.62 | 89.30 | 45.01 | 63 |
| 27 | 89.10 | 45.40 | 88.90 | 45.79 | 88.70 | 46.17 | 88.50 | 46.56 | 62 |
| 28 | 88.29 | 46.95 | 88.09 | 47.33 | 87.88 | 47.72 | 87.67 | 48.10 | 61 |
| 29 | 87.46 | 48.48 | 87.25 | 48.86 | 87.04 | 49.24 | 86.82 | 49.62 | 60 |
| 30 | 86.60 | 50.00 | 86.38 | 50.38 | 86.16 | 50.75 | 85.94 | 51.13 | 59 |
| 31 | 85.72 | 51.50 | 85.49 | 51.88 | 85.26 | 52.25 | 85.04 | 52.62 | 58 |
| 32 | 84.80 | 52.99 | 84.57 | 53.36 | 84.34 | 53.73 | 84.10 | 54.10 | 57 |
| 33 | 83.87 | 54.46 | 83.63 | 54.83 | 83.39 | 55.19 | 83.15 | 55.56 | 56 |
| 34 | 82.90 | 55.92 | 82.66 | 56.28 | 82.41 | 56.64 | 82.16 | 57.00 | 55 |
| 35 | 81.92 | 57.36 | 81.66 | 57.71 | 81.41 | 58.07 | 81.16 | 58.42 | 54 |
| 36 | 80.90 | 58.78 | 80.64 | 59.13 | 80.39 | 59.48 | 80.13 | 59.83 | 53 |
| 37 | 79.86 | 60.18 | 79.60 | 60.53 | 79.34 | 60.88 | 79.07 | 61.22 | 52 |
| 38 | 78.80 | 61.57 | 78.53 | 61.91 | 78.26 | 62.25 | 77.99 | 62.59 | 51 |
| 39 | 77.71 | 62.93 | 77.44 | 63.27 | 77.16 | 63.61 | 76.88 | 63.94 | 50 |
| 40 | 76.60 | 64.28 | 76.32 | 64.61 | 76.04 | 64.94 | 75.76 | 65.28 | 49 |
| 41 | 75.47 | 65.61 | 75.18 | 65.93 | 74.90 | 66.26 | 74.61 | 66.59 | 48 |
| 42 | 74.31 | 66.91 | 74.02 | 67.24 | 73.73 | 67.56 | 73.43 | 67.88 | 47 |
| 43 | 73.14 | 68.20 | 72.84 | 68.52 | 72.54 | 68.84 | 72.24 | 69.15 | 46 |
| 44 | 71.93 | 69.47 | 71.63 | 69.78 | 71.33 | 70.09 | 71.02 | 70.40 | 45 |
| 45 | 70.71 | 70.71 | | | | | | | |
| Degrees. | Dep. | Lat. | Dep. | Lat. | Dep. | Lat. | Dep. | Lat. | Degrees |
| | DEGREES | | ¾ DEGREE. | | ½ DEGREE. | | ¼ DEGREE. | | |

Published by H. S. Crocker Company, Stationers, Drawing Materials, Mathematical Instruments, etc., San Francisco.

MICROFILMED
DEC 01 1964

416

Return to City Engineers Office
City Hall, San Diego, Cal.

Crocker Quality

# FIELD BOOK

No._____

MANUFACTURED BY

H. S. CROCKER CO.

SAN FRANCISCO AND SACRAMENTO
CALIFORNIA

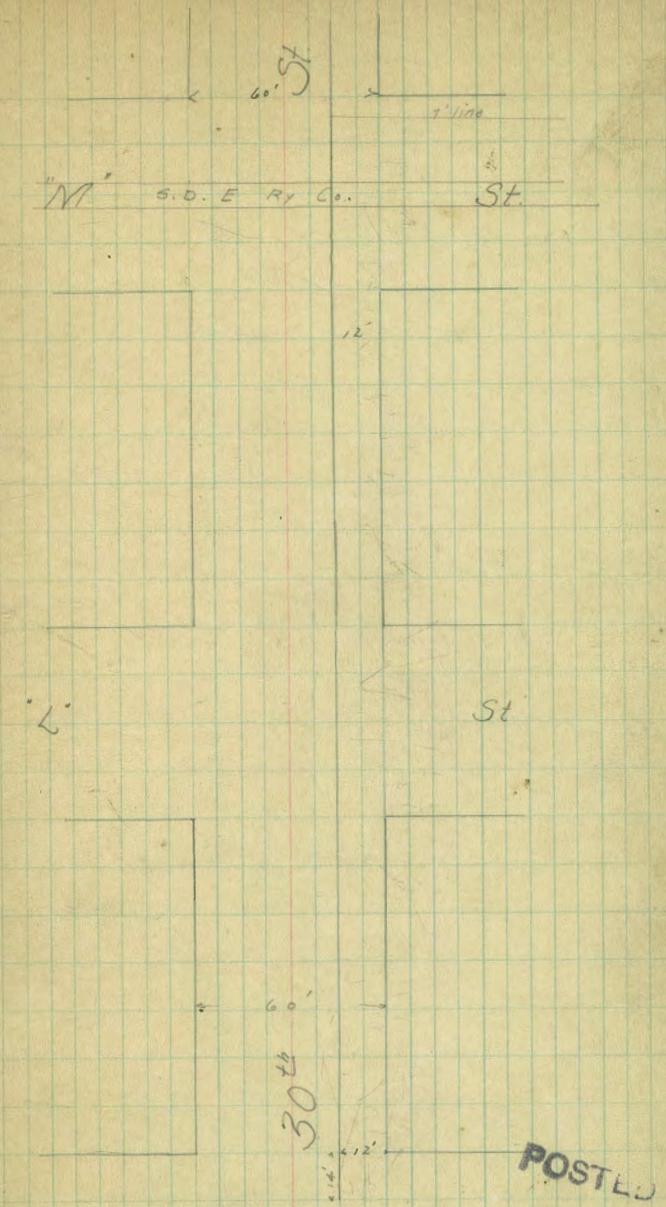
A10

Location of 30th St. drain pipe 8/21/08 { Davis, Donnan, Williams.

+17.85

7+34.83

0+00

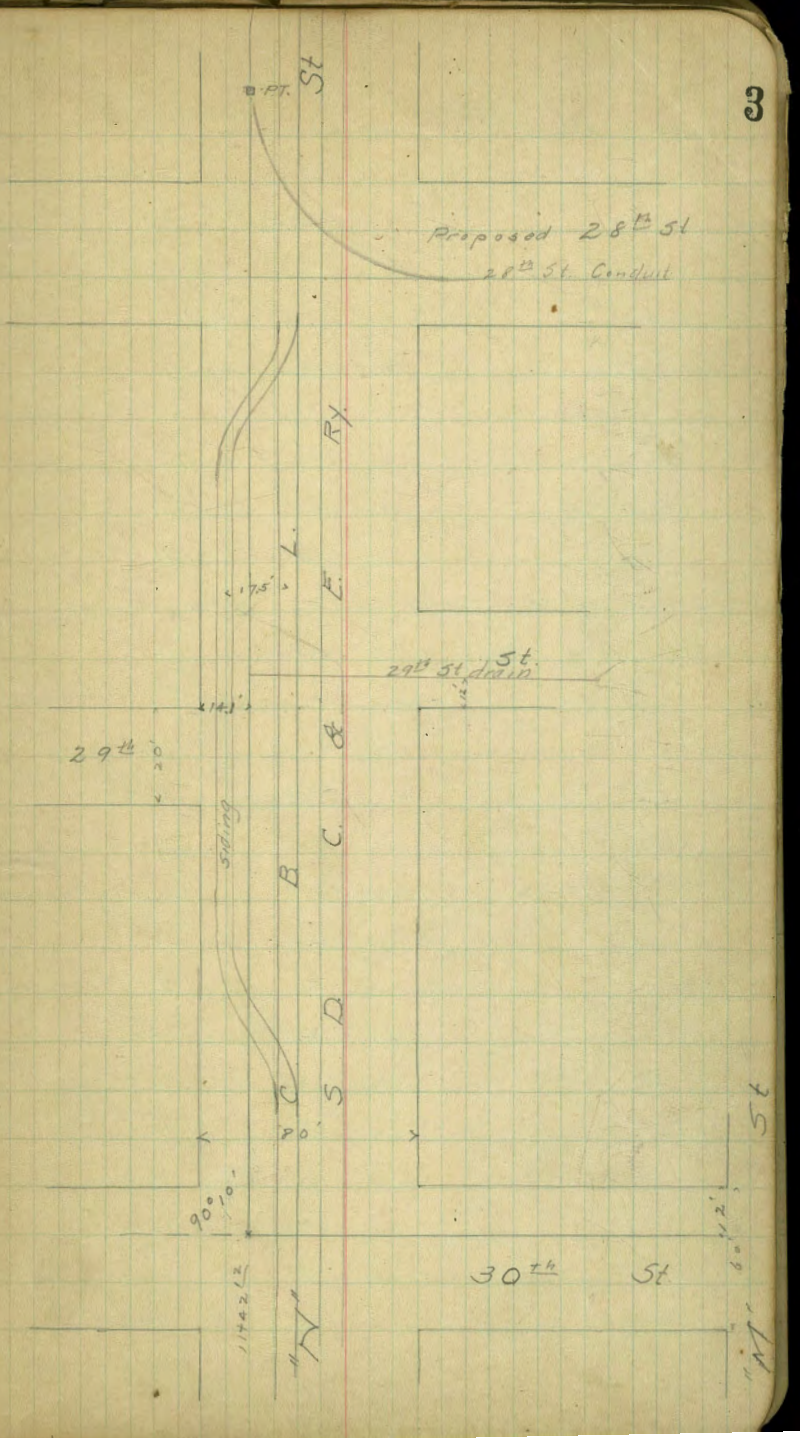


25+51.33 - P.T. 28th St Conduit - Sta 13+53.52

24+52.36

+91.95 - 29th St drain

18+35.10



Levels for 30th St drain pipe 8/31/07 Davis Dinnan Sam

| | | | | |
|---|---|---|---|---|
| | 5.74 | 79.72 | | 73.98 B.M. Spk. pole |
| 0 | | | 10.4 | 69.3 |
| 1 | | | 9.8 | 69.9 |
| 2 | | | 9.2 | 70.5 |
| 3 | | | 8.2 | 71.5 |
| 4 | | | 7.0 | 72.7 |
| 5 | | | 6.6 | 73.1 |
| 6 | | | 6.8 | 73.9 |
| 7 | | | 5.0 | 74.7 |
| +34.83 | Ctr M. St Track | | 4.6 | 75.1 |
| +60 | | | 5.2 | 74.5 |
| 8 | | | 4.5 | 75.2 |
| +75 | | | 4.1 | 75.6 |
| 9 | | | 4.9 | 74.8 |
| +50 | | | 6.5 | 73.2 |
| T.P. | 3.92 | 77.21 | 6.43 | 73.28 |
| 10 | | | 4.4 | 72.8 |
| 11 | | | 5.4 | 71.8 |
| +10 | | | 4.6 | 72.6 |
| +16.80 | Ctr S.D. | | 3.9 | 73.3 |
| +25 | | | 4.8 | 72.4 |
| +32.2 | Ctr C.B.L. | | 3.6 | 73.6 |
| +38 | | | 4.6 | 72.6 |
| △ +42.2 | | | 5.8 | 71.4 |
| +50 | | | 5.1 | 72.1 |

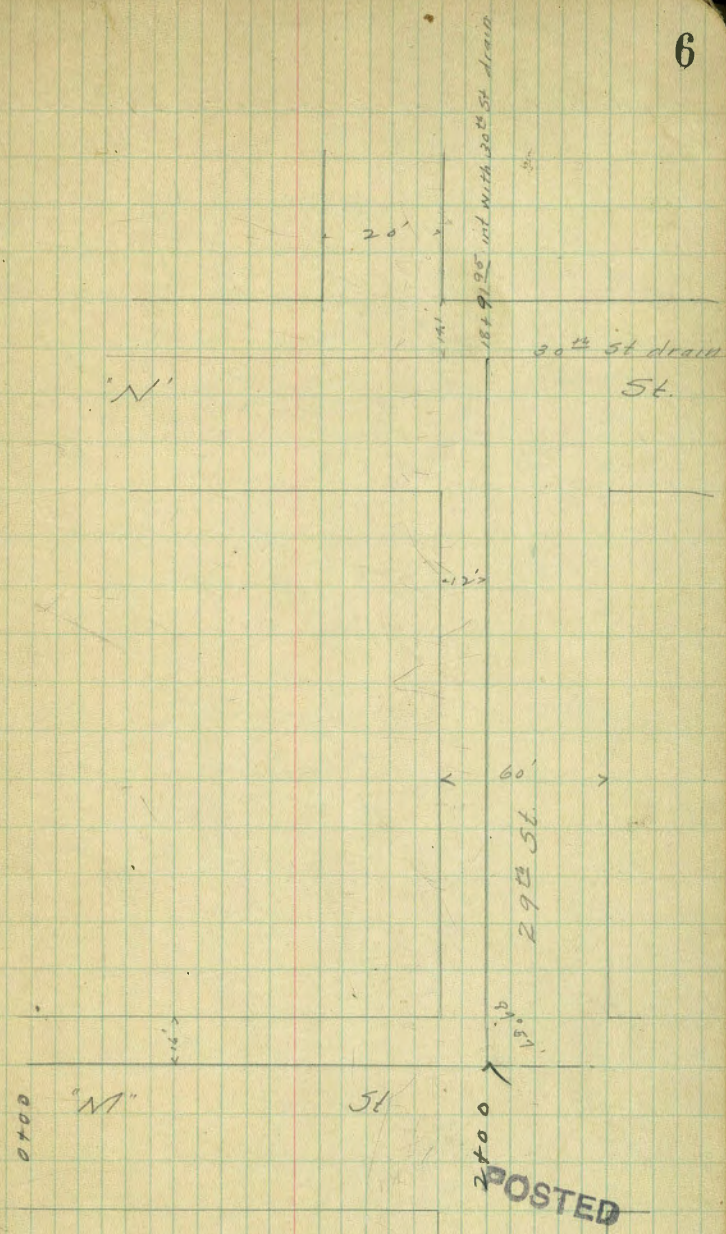
N.E. 30th and L Sts.

| | | | | |
|---|---|---|---|---|
| +70 | | | 5.4 | 71.8 |
| +74 | | | 6.2 | 71.0 |
| 12 | | | 5.8 | 71.4 |
| +8 | | | 5.0 | 72.2 |
| +16 | | | 5.1 | 72.1 |
| +25 | | | 5.8 | 71.4 |
| +65 | | | 4.7 | 72.5 |
| 13 | | | 4.3 | 72.9 |
| 14 | | | 6.2 | 71.0 |
| 15 | | | 6.8 | 70.4 |
| TP | 4.85 | 75.80 | 6.26 | 70.95 |
| +12 | | | 5.1 | 70.7 |
| +16 | | | 3.9 | 71.9 |
| +22 | | | 4.1 | 71.7 |
| +30 | | | 5.4 | 70.4 |
| 16 | | | 5.8 | 70.0 |
| 17 | | | 6.0 | 69.8 |
| +95 | | | 5.3 | 70.5 |
| 18 | | | 4.6 | 71.2 |
| +21 | | | 4.8 | 71.0 |
| +27 | | | 5.6 | 70.2 |
| 19 | | | 6.2 | 69.6 |
| 20 | | | 6.7 | 69.1 |
| 21 | | | 8.0 | 67.8 |

| | | | | |
|---|---|---|---|---|
| TR | 3.89 | 73.77 | 5.90 | 69.90 |
| 22 | | | 6.6 | 67.2 |
| 23 | | | 6.2 | 67.6 |
| +45 | | | 5.4 | 68.4 |
| 24 | | | 6.4 | 67.4 |
| +52.36 | PT Curve 24° St Cdt | | 7.6 | 66.2 |
| 25+51.33 | PT Curve 24° St Cdt. | | 9.2 | 64.6 |

Location of 29th St drain pipe 8/22/08 {Davis, Dennon, Evans

5+81.67



# Levels and Cross Sections for 29th St drain pipe

No 50

5.34 76.05 70.71

0+00
+25
+50
+75
1
+25
+50
+75
2
+17
+19
+55
+80
3
+20
+23
+28
+55
4
+40
5
+49
+57
+64
+72
+81.67 = connection with 30th St drain.

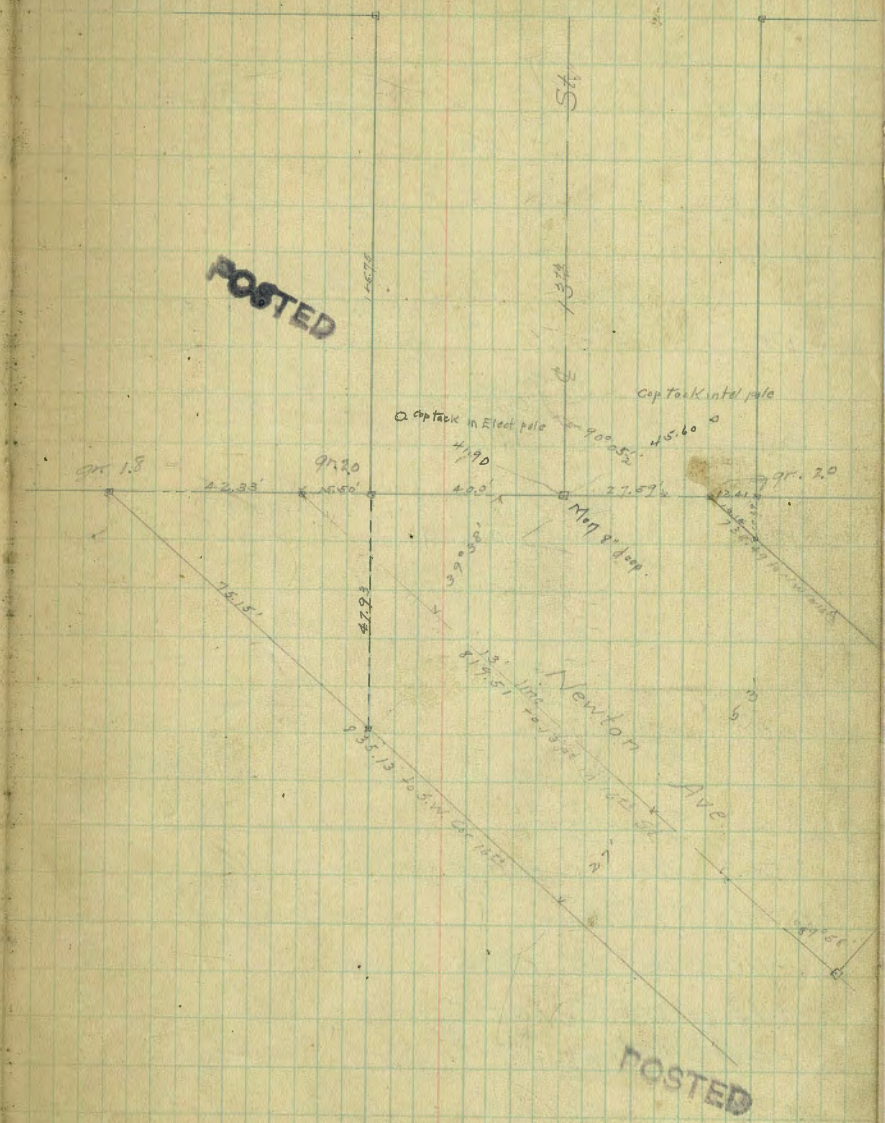
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 72.7 / 64 | 72.3 / 50 | 71.3 / 49 | 71.6 / 37 | 71.8 / 24 | 71.3 / 12 | 70.9 / 0 | 70.9 / 1 | 71.5 / 2 | 71.7 / 16 |
| 72.7 / 64 | 72.2 / 50 | 71.4 / 49 | 71.6 / 37 | 71.7 / 24 | 71.2 / 12 | 70.7 / 0 | 70.9 / 1 | 71.3 / 2 | 71.5 / 16 |
| 72.5 / 64 | 72.1 / 50 | 71.2 / 49 | 71.4 / 37 | 71.5 / 24 | 71.3 / 12 | 70.6 / 0 | 70.7 / 1 | 71.0 / 2 | 71.3 / 16 |
| 72.3 / 64 | 72.0 / 50 | 71.3 / 49 | 71.3 / 37 | 71.5 / 24 | 70.8 / 12 | 70.4 / 0 | | 71.0 / 2 | 71.3 / 16 |
| 72.5 / 64 | 72.0 / 50 | 71.1 / 49 | 71.1 / 37 | 71.5 / 24 | 71.1 / 12 | 70.5 / 0 | | 71.1 / 2 | 71.4 / 16 |
| 72.3 / 64 | 72.0 / 50 | 71.2 / 49 | 71.3 / 37 | 71.5 / 24 | 71.3 / 12 | 70.5 / 0 | 70.5 / 1 | 71.1 / 2 | 71.3 / 16 |
| 72.7 / 64 | 72.1 / 50 | 71.5 / 49 | 71.5 / 37 | 71.7 / 24 | 71.3 / 12 | 70.6 / 0 | 70.7 / 1 | 71.2 / 2 | 71.5 / 16 |
| 72.7 / 64 | 72.4 / 50 | 71.5 / 44 | 72.0 / 37 | 72.0 / 24 | 71.6 / 12 | 70.8 / 0 | 70.9 / 1 | 71.3 / 2 | 71.6 / 16 |
| 72.5 / 64 | | 71.8 / 49 | 72.2 / 37 | 72.2 / 24 | 71.8 / 12 | 71.1 / 0 | | | 71.6 / 16 |

71.7
73.0
72.9
71.5
70.1
70.0
69.2
70.1
70.0
71.4
71.5
69.9
69.3
70.5
69.6
71.1
69.6

Postal

8

Survey for the opening of Newton Ave. to 13th St. 10 Davis 15 Donnan 08 Williams.



# 15th St. Conduit Entrance
## X Sections for Wing Walls and Dam.

X Sections W side conduit

| | | | | | | |
|---|---|---|---|---|---|---|
| +33.3 | 68.3 S.S. / 2.0 | | 68.3 / 0 | 68.3 S.S. / 2.0 | | |
| +33.3 | | 67.7 S.S. / 5.0 | 66.9 / 0 | 66.6 S.S. / 2.8 | | |
| +28 | 62.6 S.S. / 12.5 | 63.7 / 6.0 | 64.0 / 0 | 65.3 S.S / 6.0 | 65.6 / 14.0 | 66.5 / 26.0 |
| +13.1 | | 61.2 Slope S. / 14.6 | 62.8 / 0 | 63.0 S.S / 10.6 | 63.0 wing / 14.0 | |
| +10.0 | 60.6 S / 20. | 60.8 / 0.0 | 61.1 / 14.0 | 61.2 / 20. | 61.9 / 30 | Same rate for 25 ft further. |
| 0+00 | | 60.3 S / 20.0 | 60.7 / 0 | 61.3 N / 20. | | |

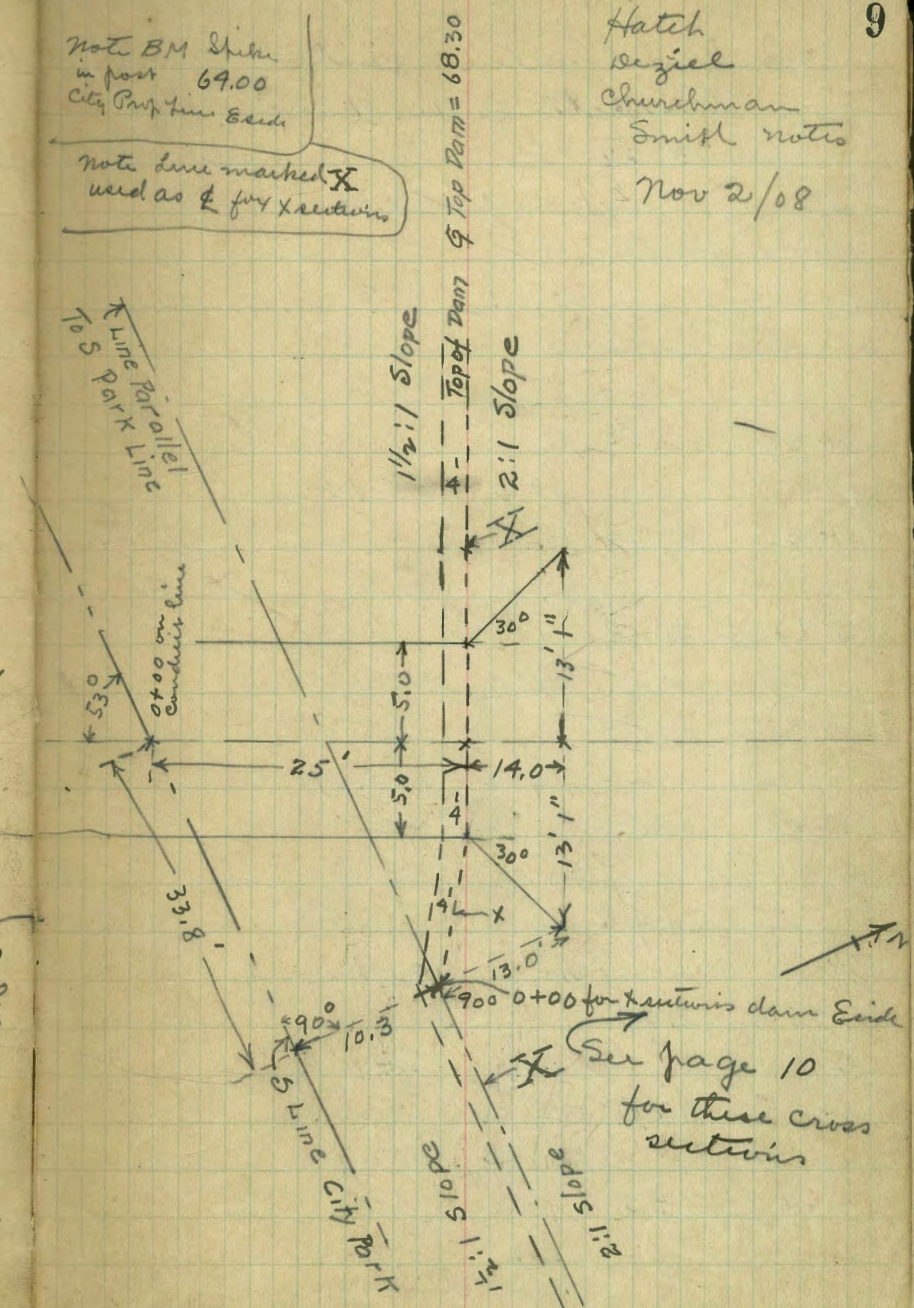
South. North

| Sta | Area. □' | A.A. □' | Vol. Cy. | 1½:1 | | 2:1 |
|---|---|---|---|---|---|---|
| 0+00 | 130.00 | | | F 8.0 / 16.0 | 7.6 / 0 | F 7.0 / 14.0 |
| 0+10 | 125.86 | 127.9 | 47.37 | F 7.7 / 15.5 | 7.5 / 0 | 7.2 / 14.2 |
| 0+13 | 83.32 | 104.5 | 11.61 | 7.1 / 14.6 | 5.5 / 0 | 5.3 / 10.6 |
| 0+28 | 51.03 | 67.2 | 37.33 | 5.7 / 12.5 | 4.3 / 0 | 3.0 / 6.0 |
| 0+33 | 7.00 | 29.0 | 5.37 | 0.6 / 4.9 | 1.4 / 0 | 1.7 / 3.4 |
| 0+33 | 0.00 | — | | 0 | 0 | 0 |
| | | | 101.68 | | | |

Note BM Spike in post 64.00 City Prop Line E side

Note Line marked X used as ℄ for X sections

Hatch
Deziel
Churchman
Smith notes
Nov 2/08




See page 10 for these cross sections

See Page 9

X sections Dam E side Conduit

| | Area □' | A.A. | □' Vol. Cy. |
|---|---|---|---|
| 0+00 | 138.27 | | |
| | | 136.8 | 101.33 |
| 0+20 | 135.35 | | |
| | | 124.1 | 91.92 |
| +40 | 112.90 | | |
| | | 112.7 | 41.74 |
| +50 | 112.55 | | |
| | | 98.0 | 54.44 |
| +65 | 83.49 | | |
| | | 77.6 | 14.37 |
| +70 | 71.69 | | |
| | | 60.7 | 22.48 |
| +80 | 49.78 | | |
| | | 44.9 | 33.26 |
| 1+00 | 40.03 | | |
| | | 32.5 | 30.09 |
| 1+25 | 24.92 | | |
| | | 21.3 | 19.72 |
| 1+50 | 17.78 | | |
| | | 16.9 | 15.64 |
| 1+75 | 16.01 | | |
| | | 12.2 | 11.29 |
| 2+00 | 8.33 | | |
| | | 7.7 | 7.13 |
| | | | 443.41 |



Base 4.0 ft. Grade level = 68.3

S side 1½:1 N side 2:1

| | | | |
|---|---|---|---|
| S.S. F 8.1 / 16.1 | F 8.4 / 10.0 | F 7.8 / 0 | F 7.2 / 14.4 N.S. |
| F 8.0 / 16.0 | | F 7.7 / 0 | F 7.5 / 15.0 |
| F 7.3 / 14.9 | F 7.0 / 0 | F 6.8 / 10.0 | F 6.3 / 12.6 |
| F 7.8 / 15.7 | F 7.0 / 0 | F 6.0 / 12.0 | |
| F 6.2 / 13.3 | F 5.9 / 0 | F 5.4 / 10.8 | |
| F 4.6 / 10.9 | F 5.3 / 10.1 | F 5.6 / 0 | F 5.1 / 10.2 |
| F 3.1 / 8.6 | F 4.4 / 4.5 | F 4.5 / 0 | F 4.8 / 9.6 |
| F 3.1 / 8.6 | F 3.8 / 3.5 | F 4.0 / 0 | F 4.0 / 8.0 |
| F 2.8 / 8.2 | F 2.8 / 0 | F 2.8 / 5.6 | |
| F 2.4 / 7.6 | F 2.2 / 0 | F 2.1 / 4.2 | |
| F 2.1 / 7.1 | F 2.0 / 0 | F 2.1 / 4.2 | |
| F 1.1 / 5.6 | F 1.4 / 0 | F 1.6 / 3.2 | |

POSTED

| | Area □' | A.A. □' | Vol. Cy. |
|---|---|---|---|
| 2+25 | 7.09 | | Brt. Forward 443.41 |
| | | 5.3 | 4.90 |
| 2+50 | 3.62 | | |
| | | 1.8 | 1.67 |
| 2+75 | 0 | | 449.98 Cy. |

449.98
101.68
551.66 Total Cy in Dam.

1st Dam

Base 4.0 ft,
S side 1½:1 N Side 2:1



| F1.1 | F1.2 | F1.3 |
|---|---|---|
| 5.6 | 0 | 2.6 |
| F0.7 | F0.7 | F0.7 |
| 5.0 | 0 | 1.4 |
| 0 | 0 | 0 |

## Evans & N Sts.

4.22 69.23 65.01 BM

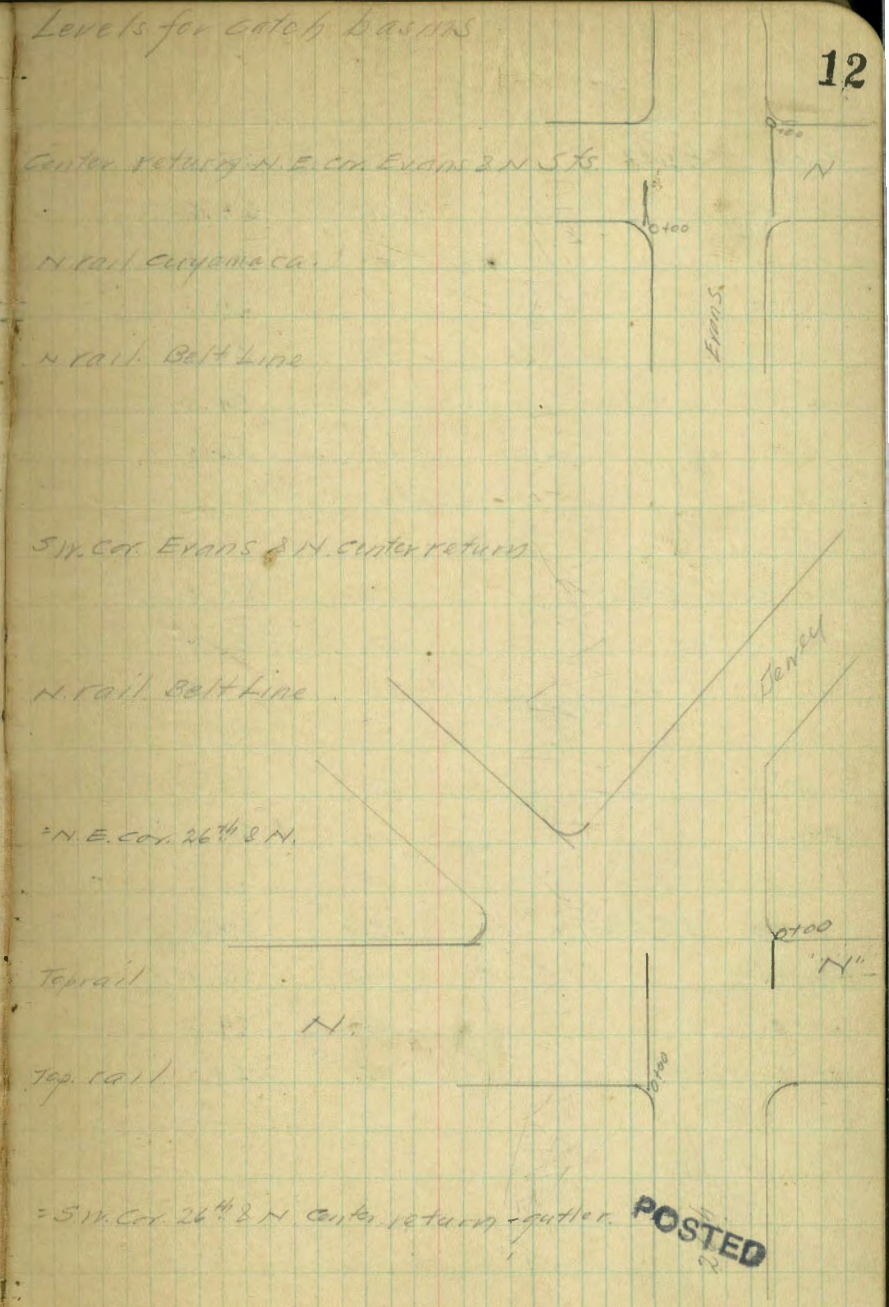
| | | | |
|---|---|---|---|
| 0+00 | CB#14 ✓ | 5.3 | 64.0 |
| 0+12 | | 4.7 | 64.6 |
| +27 | | 4.5 | 64.8 |
| +36 | | 4.8 | 64.5 |
| +47 | | 3.8 | 65.5 |
| +51 | | 4.8 | 64.5 |
| +61 | | 5.3 | 64.0 |
| 0+00 | CB#15 ✓ | 5.8 | 63.5 |
| +05 | | 5.8 | 63.5 |
| +12 | | 4.5 | 64.8 |
| +18 | | 3.6 | 65.4 |

## 26th & N.

1.78 65.70 63.92 BM

| | | | |
|---|---|---|---|
| 0+00 | CB#16 ✓ | 7.1 | 58.6 |
| +19 | | 7.6 | 58.1 |
| +29 | | 8.4 | 57.3 |
| +43 | | 6.0 | 59.7 |
| +53 | | 6.4 | 59.3 |
| +60 | | 5.8 | 59.9 |
| +80 | | 6.7 | 59.0 |
| 0+00 | CB#17 ✓ | 7.0 | 58.7 |
| +15 | | 6.2 | 59.5 |
| 1+25 | | 7.0 | 58.7 |
| +30 | | 6.4 | 59.3 |

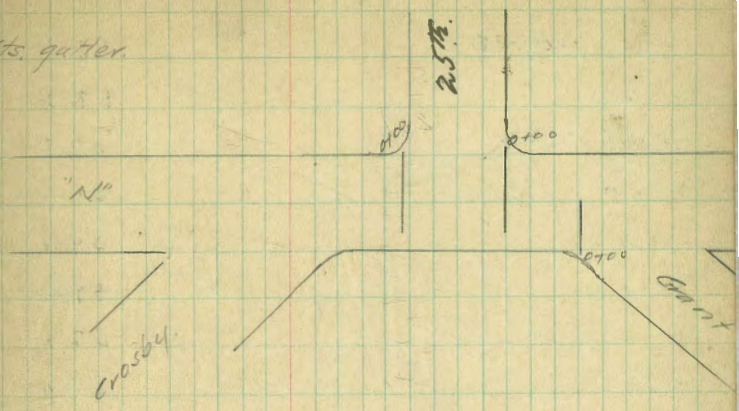
## Levels for catch basins



25th & N. 35.

| | | 0.30 | 59.24 | | 58.94 | BM. |
|---|---|---|---|---|---|---|
| 0+00 | CB #18 ✓ | | | 5.5 | 53.7 | N.E. cor. |
| 0+22 | | | | 5.6 | 53.6 | |
| +28 | | | | 5.9 | 53.3 | |
| +37 | | | | 5.0 | 54.2 | N. rail. |
| +47 | | | | 5.2 | 54.0 | |
| +52 | | | | 5.2 | 54.0 | N. rail |
| +64 | | | | 6.4 | 52.8 | |
| +76 | | | | 7.2 | 52.0 | |
| 0+00 | CB #19 ✓ | | | 5.6 | 53.6 | N.W. cor. |
| +17 | | | | 5.4 | 53.8 | |
| +36 | | | | 5.3 | 53.9 | N. rail |
| +46 | | | | 5.7 | 53.5 | |
| +52 | | | | 5.6 | 53.6 | N rail |
| +75 | | | | 6.5 | 52.7 | |
| 0+00 | CB #20 ✓ | | | 6.3 | 52.9 | N.W. cor. |
| 0+12 | | | | 5.8 | 53.4 | |
| 0+24 | | | | 4.6 | 54.6 | Top rail |
| 0+32 | | | | 4.7 | 54.5 | |

25th & N. 35. gutter



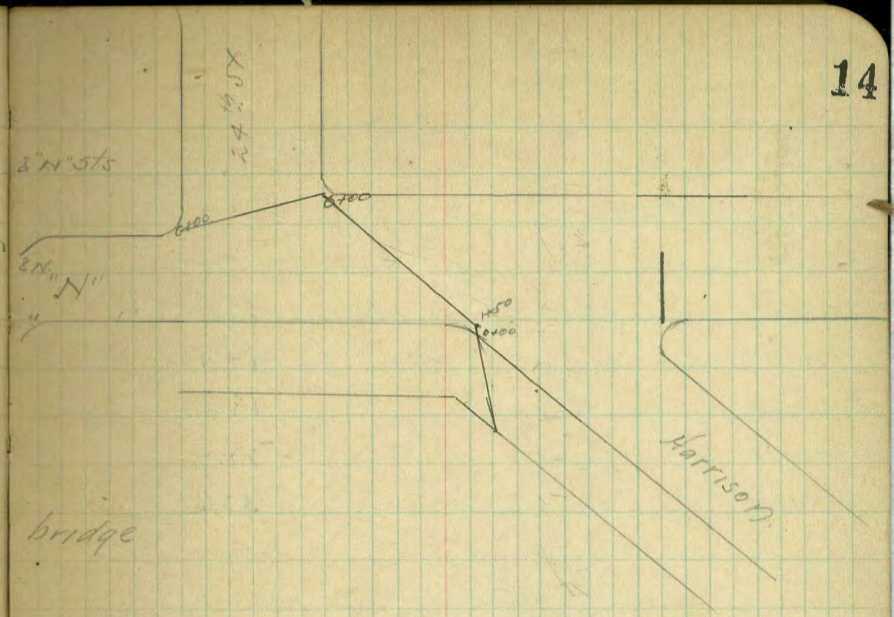

25th & N. gutter.

Grant & N.

POSTED

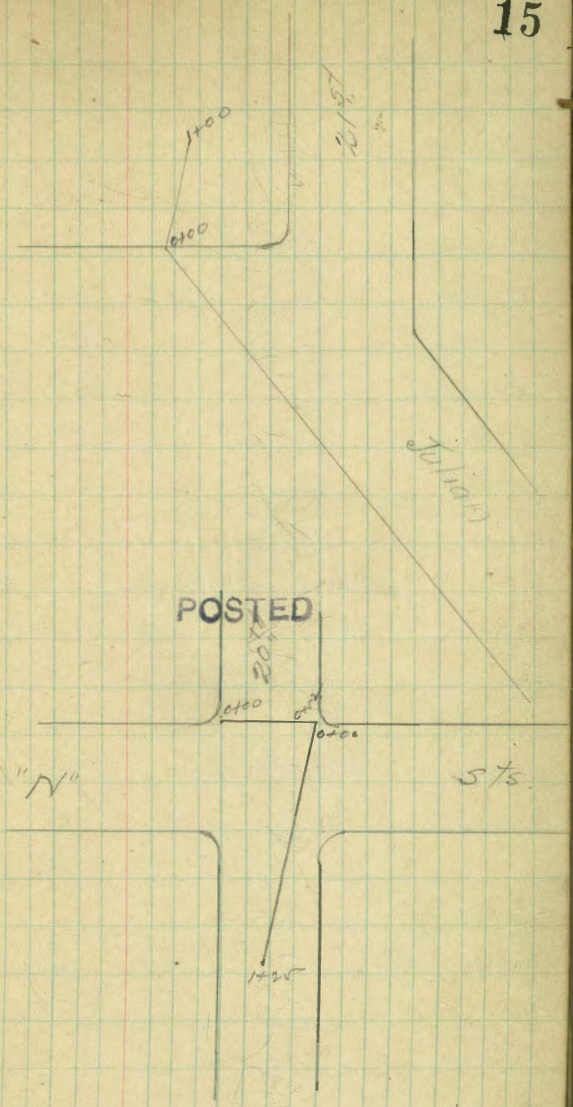
24th & "N" Sts.

| | | | | | |
|---|---|---|---|---|---|
| | 0.53 | 55.50 | | 54.97 | B.M. |
| 0+00 | CB #24 | ✓ | 6.8 | 48.7 | N.W. Cor 24 & "N" Sts |
| 0+22 | | | 6.5 | 49.0 | |
| 0+40 = | | | 7.0 | 48.5 | N.E. Cor 24 & "N" |
| 0+00 | CB#23 | ✓ | 7.0 | 48.5 | N.E. " " " " |
| +23 | | | 6.5 | 49.0 | |
| +50 | | | 6.4 | 49.1 | |
| +67 | | | 5.9 | 49.6 | |
| +68 | | | 12.1 | 43.4 | railroad bridge |
| +81 | | | 13.1 | 42.4 | |
| +82 | | | 5.6 | 49.9 | |
| +98 | | | 6.9 | 48.6 | |
| 1+15 | | | 5.8 | 49.7 | |
| 1+23 | | | 6.3 | 49.2 | |
| +34 | | | 9.2 | 46.3 | |
| +50 | | | 9.0 | 46.5 | |
| 0+00 | CB#22 | ✓ | 9.0 | 46.5 | |
| 0+10 | | | 8.8 | 46.7 | |
| 0+16 | | | 6.7 | 48.8 | |
| 0+26 | | | 6.5 | 49.0 | |
| 0+27 | | | 13.7 | 41.8 Bottom crane | at bridge |



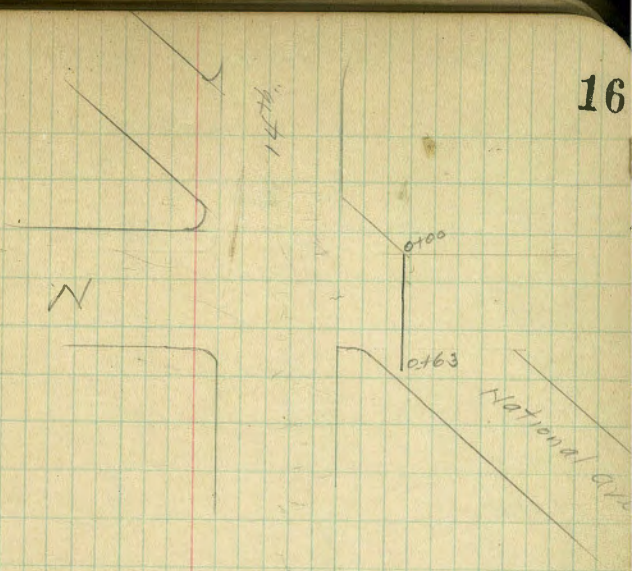
Julian Art

| | | | | | |
|---|---|---|---|---|---|
| | 0.68 | 43.53 | | 42.85 | B.M. |
| T.P. | 6.07 | 37.44 | .1216 | 31.37 | |
| 0+00 | CB#26 ✓ | | 8.5 | 28.9 | |
| 0+07 | | | 9.5 | 27.9 | |
| 0+20 | | | 10.0 | 27.4 | |
| 0+35 | | | 10.0 | 27.4 | |
| 0+50 | | | 9.3 | 28.1 | |
| 0+66 | | | 8.5 | 28.9 | |
| 1+00 | | | 5.0 | 32.4 | |
| | 20" S "N" 57. | | | | |
| | 2.84 | 37.80 | | 34.96 | B.M. |
| 0+00 | CB#28 ✓ | | 2.5 | 35.3 | N.W. Cor. 20" S N 57. gutter |
| 0+10 | | | 3.0 | 34.8 | |
| +73 | | | 2.8 | 35.0 | |
| +39 | | | 3.2 | 34.6 | |
| +52 | | | 3.1 | 34.7 | N.E. Cor. 20" S N. gutter. |
| 0+00 | CB#27 ✓ | | 3.1 | 34.7 | |
| 0+05 | | | 3.4 | 34.4 | |
| 0+14 | | | 3.4 | 34.4 | |
| 0+23 | | | 1.0 | 36.8 | Top rail cuyamaca. |
| 0+33 | | | 2.3 | 35.5 | |
| 0+38 | | | 1.2 | 36.6 | Top rail Belt Line |
| 0+46 | | | 2.3 | 35.5 | |
| 0+53 | | | 4.0 | 33.8 | |
| 0+69 | | | 5.1 | 32.7 | |
| 1+00 | | | 4.8 | 33.0 | |
| 1+14 | | | 14.5 | 23.3 | bottom di Inch |
| 1+25 | | | 15.9 | 21.9 | " |



National & "N" Sts.

| | | | | | |
|---|---|---|---|---|---|
| | 1.12 | 15.07 | | 13.95 | BM. |
| T.P. | 1.13 | 8.01 | 8.19 | 6.88 | |
| 0+00 | | | 4.6 | 3.41 | |
| 0+08 | | | 4.1 | 3.91 | |
| 0+16 | | | 5.9 | 2.11 | |
| 0+24 | | | 3.7 | 4.31 | |
| 0+34 | | | 3.6 | 4.41 | |
| 0+44 | | | 3.7 | 4.31 | |
| 0+52 | | | 4.0 | 4.01 | |
| 0+63 | | | 4.9 | 3.11 | |
| | | | | | |
| | 2.55 | 9.43 | | 6.88 | BM. |
| T.P. | 4.43 | 7.46 | 6.40 | 3.03 | |
| 0+00 = | | | 5.5 | 1.96 | N.W. Cor. 13th & N. Sts. |
| 0+15 | | | 4.8 | 2.66 | |
| +31 | | | 4.5 | 2.96 | E. rail |
| +43 | | | 5.0 | 2.46 | |
| +58 | | | 5.1 | 2.36 | N.E. Cor. 13th & N. Sts. |
| | | | | | |
| 0+00 = | | | 5.1 | 2.36 | N.E. Cr. 13th & N. centerline gutter |
| +13 | | | 4.6 | 2.86 | |
| +25 | | | 4.5 | 2.96 | |
| +38 | | | 4.4 | 3.06 | |
| +51 | | | 4.2 | 3.26 | |
| +65 | | | 4.2 | 3.26 | |




POSTED

X sec. E side 13th from "M" St. South gutter line

| | | | | |
|---|---|---|---|---|
| | 41 | | | |
| | 746 | | | |
| 0+00 | | 4.3 | 3.16 = | s. line of "M" St. |
| 0+50 | | 4.9 | 2.56 | |
| 1 | | 4.4 | 3.06 | |
| +50 | | 4.7 | 2.76 | |
| +70 | | 7.8 | -0.34 | |
| 2+00 | | 7.6 | -0.14 | |
| +50 | | 8.1 | -0.64 | |
| +92 | | 7.4 | 0.06 | |
| 3+00 | | 8.6 | -1.14 | N. Line "N" St. |
| +44 | | 3.9 | 3.56 | Top rail - bridge - |
| +50 | | 9.2 | -1.74 | bottom |
| 4+00 | | 9.9 | -2.44 | |
| +50 | | 9.8 | -2.34 | |
| 5+00 | | 10.3 | -2.84 | |
| 5+34 | | 5.1 | 2.36 Δ Pt. | intercurb lines Newton & 13th St. Top R R embankment |
| +50 | | 5.2 | 2.26 | |
| +75 | | 11.0 | -3.54 | |
| 6+14 | | 10.8 | -3.34 | |
| 6+20 | | 8.2 | -0.74 | |

POSTED

POSTED

POSTED

POSTED

Xsections for Dam at intake 15th st. —

W. side of 0+00 shown on sketch P.18

S (1½:1) N. (2:1)

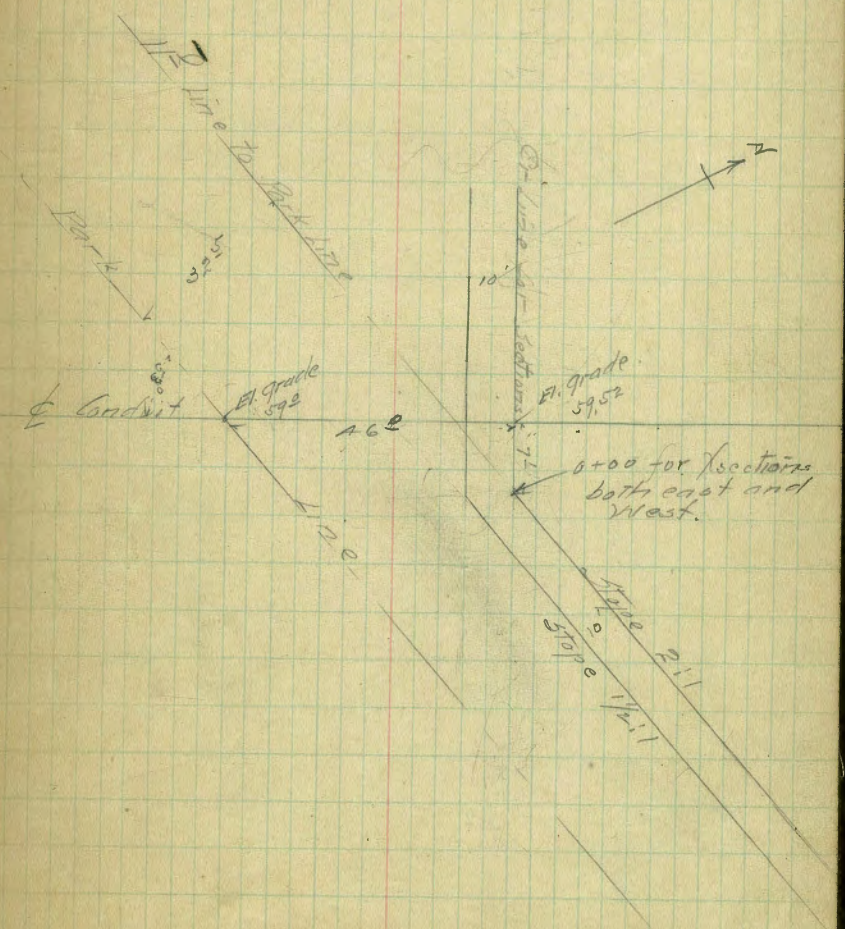
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0+00 | SS | F14.3 / 31.5 | F13.8 / 16 | F13.6 / 4 | F13.3 / 00 | F13.6 / 5 | F12.4 / 24.7 | SS | |
| 0+07 | SS | F14.1 / 31 | F14.0 / 25 | F13.5 / 15 | F13.4 / 00 | F13.5 / 27 | SS | | |
| 0+13 | SS | -13.4 / 30 | -13.4 / 28 | -13.1 / 13 | -13.1 / 0 | -13.3 / 12 | -13.7 / 27.5 | SS | |
| 0+19 | SS | -12.0 / 28 | -11.6 / 25 | -11.3 / 12 | -11.3 / 0 | -11.1 / 22.3 | SS | | |
| 0+28 | SS | -10.3 / 25.5 | -10.4 / 20 | -8.3 / 13 | -9.1 / 11 | -8.8 / 0 | -9.4 / 9 | -8.9 / 17.8 | SS |
| 0+32 | SS | -8.1 / 22 | -8.0 / 17 | -5.8 / 8 | -6.2 / 4 | -6.7 / 0 | -6.6 / 6 | -5.6 / 8 | -7.5 / 15 | SS |
| 0+35 | SS | -3.2 / 14.7 | -3.6 / 12 | -4.1 / 11 | -2.8 / 6 | -3.7 / 0 | -4.5 / 6 | -5.0 / 10 | SS |
| 0+43.4 | | | +2.6 / 10 | +1.8 / 7 | -0.0 / 0 | | | | |

Grade elev. - 74.5 Top of Dam - Conduit



Sketch showing how sections are taken for Dam at intake of 15th st Conduit

3 Hatch
12 Moore
09 Deziel



Xsections for Dam. on East side of 0+00 as shown on sketch P.18

S (1/2:1) N (2:1)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0+00 | SS | -14.4 / 31.5 | -13.8 / 20 | -13.4 / 0 | | | | | |
| 0+05 | SS | -14.3 / 31.5 | -13.8 / 20 | -13.9 / 7 | -13.9 / 0 | -13.4 / 21 | -13.7 / 27.5 | SS | ✓ |
| 0+10 | SS | -14.6 / 32 | -14.2 / 11 | -13.4 / 5 | -13.2 / 0 | -12.5 / 20 | -12.7 / 25.5 | SS | ✓ |
| 0+20 | SS | -14.1 / 31 | -13.3 / 0 | -12.0 / 15 | -12.6 / 20 | -12.0 / 24 | SS | | |
| 0+30 | SS | -14.0 / 31 | -14.1 / 19 | -13.3 / 5 | -12.5 / 0 | -11.6 / 14 | -12.3 / 20 | -12.4 / 24.8 | |
| 0+40 | SS | -13.2 / 29.5 | -13.2 / 12 | -11.9 / 5 | -11.2 / 0 | -10.9 / 15 | -11.6 / 23 | SS | |
| 0+47 | SS | -13.1 / 29.7 | -12.7 / 15 | -10.9 / 5 | -10.6 / 0 | -10.7 / 18 | -11.0 / 22 | SS | |
| 0+50 | SS | -13.5 / 30.3 | -12.6 / 15 | -11.5 / 7 | -11.1 / 0 | -10.5 / 12 | -10.8 / 21.6 | SS | |
| 0+55 | SS | -14.1 / 31 | -12.9 / 25 | -12.1 / 2 | -11.5 / 0 | -10.7 / 2 | -10.7 / 15 | -10.8 / 21.6 | SS |
| 0+70 | SS | -12.0 / 28 | -11.2 / 0 | -10.7 / 21.5 | SS | | | | |
| 1+00 | SS | -10.0 / 25 | -10.2 / 0 | -10.3 / 20.5 | SS | | | | |
| 1+25 | SS | -8.9 / 23.4 | -9.1 / 0 | -9.3 / 18.6 | SS | | | | |
| 1+50 | SS | -8.3 / 22.4 | -8.5 / 0 | -8.3 / 16.6 | SS | | | | |

POSTED



S N

| | | | | | |
|---|---|---|---|---|---|
| 1+75 | SS | -8.3 / 22.5 | -8.3 / 0 | -7.9 / 15.8 | SS |
| 2+00 | SS | -7.6 / 21.5 | -8.0 / 0 | -8.0 / 16 | SS |
| 2+25 | SS | -7.5 / 21.3 | -7.6 / 0 | -7.4 / 14.8 | SS |
| 2+50 | SS | -6.9 / 20.3 | -7.3 / 0 | -6.8 / 13.6 | SS |
| 2+75 | SS | -6.3 / 19.4 | -6.9 / 0 | -6.8 / 13.6 | SS |
| 3+00 | SS | -5.8 / 18.7 | -6.4 / 0 | -6.1 / 13.2 | SS |
| 3+25 | SS | -5.4 / 18.1 | -5.7 / 0 | -5.7 / 11.4 | SS |
| 3+50 | SS | -4.9 / 17.3 | -5.2 / 0 | -5.5 / 11 | SS |
| 3+75 | SS | -4.1 / 16.2 | -4.8 / 0 | -5.2 / 10.4 | SS |
| 4+00 | SS | -2.8 / 14.2 | -2.8 / 0 | -2.6 / 5.2 | SS |
| 4+15 | SS | -1.4 / 12.1 | -1.4 / 0 | -1.4 / 3 | SS |
| 4+30.5 | SS | -0.5 / 10.75 | 0.0 / 0 | | |

# Xsections ℄ St Bridge at 18th St.

NW 16th ℄

| | | | | |
|---|---|---|---|---|
| BM | 0.82 | 61.36 | | 60.54 |
| | 477 | 5308 | 13.25 | 24.31 |

Sec A (0+00)

| | | |
|---|---|---|
| E | 1.2 | √1.9 |
| + 3 | 1.7 | √1.4 |
| W. | 1.5 | √1.6 |

Sec B. (0+00)

| | | |
|---|---|---|
| W | 1.5 | √1.6 |
| Cr. | 2.7 | √0.4 |
| E | 1.0 | √2.1 |

0+45

| | | |
|---|---|---|
| W | 1.5 | √1.6 |
| E | 1.3 | √1.8 |

1+10

| | | | |
|---|---|---|---|
| W | Top | 3.3 | 49.8 |
| | Bottom | 5.3 | 47.8 |
| E | Top | 3.4 | 49.7 |
| | Bottom | 5.4 | 47.7 |

1+23

| | | |
|---|---|---|
| W | 5.2 | 47.9 |
| E | 4.9 | 48.2 |

1+50

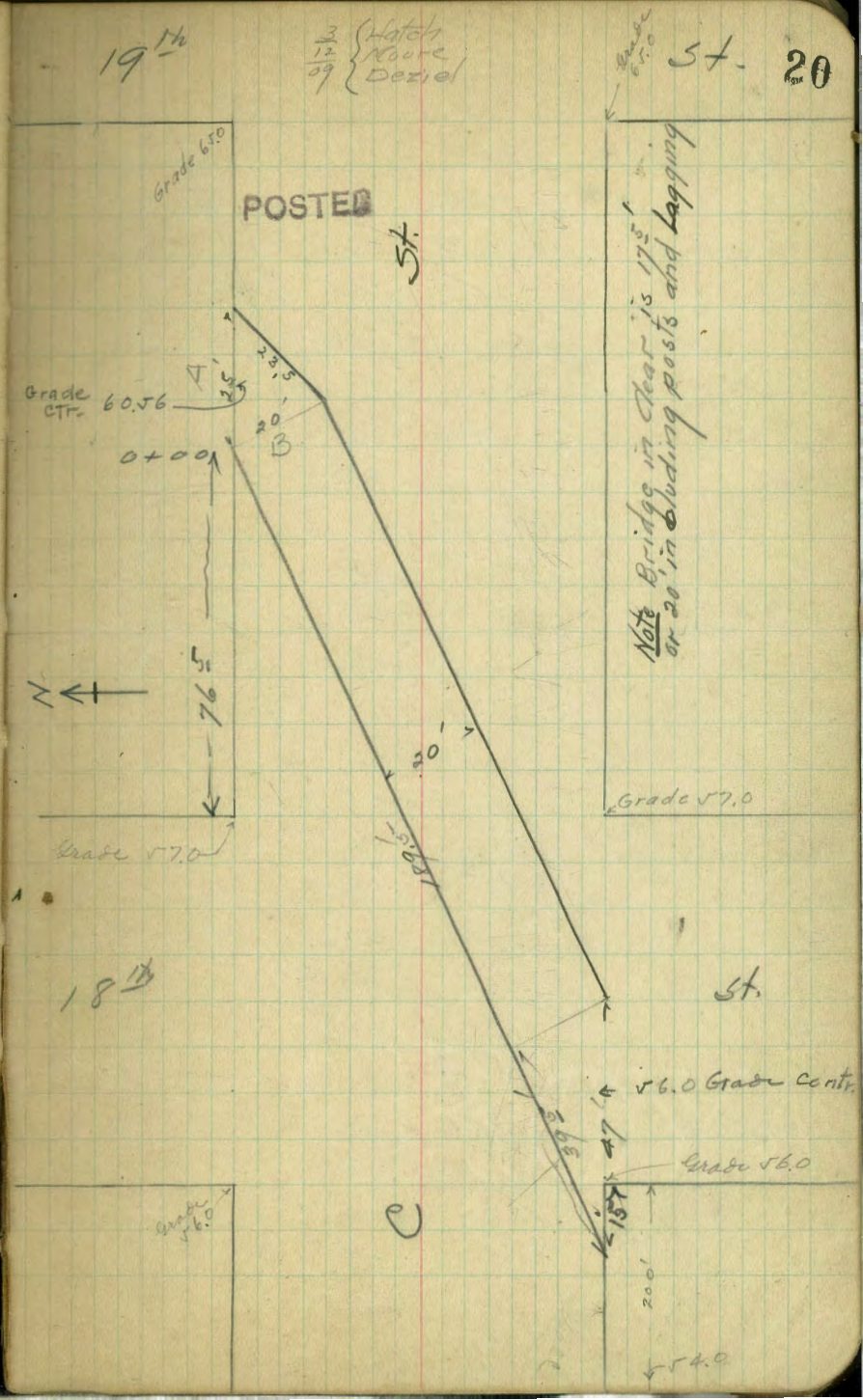
| | | |
|---|---|---|
| E | 4.9 | 48.2 |
| W | 5.2 | 47.9 |

South end.

| | | |
|---|---|---|
| W | 5.6 | 47.√ |
| Cr | 5.0 | 48.1 |
| E | 4.9 | 48.2 |

19th

3/12/09 {Hatch Moore Deziel



# Xsections Bridge at 16th D.

SW 16th D

| | | | | |
|---|---|---|---|---|
| BM | 1.03 | 56.92 | | 55.89 |
| | 1.44 | 45.28 | 13.08 | 43.84 |

Sec "E"

| | | | |
|---|---|---|---|
| E | | 5.1 | 40.2 |
| 15 | POS | 5.4 | 39.9 |
| 30 | | 4.4 | 40.9 |
| 45 | | 3.0 | 42.3 |
| W | | 0.2 | 45.1 |

Sec "D"

| | | | |
|---|---|---|---|
| W | | 3.6 | 41.7 |
| 13' | | 4.2 | 41.1 |
| 20' E | | 4.9 | 40.4 |

Sec "C"

| | | | |
|---|---|---|---|
| E | | 3.1 | 40.2 |
| Cr. | | 4.9 | 40.4 |
| W | | 3.1 | 42.2 |

25' N.

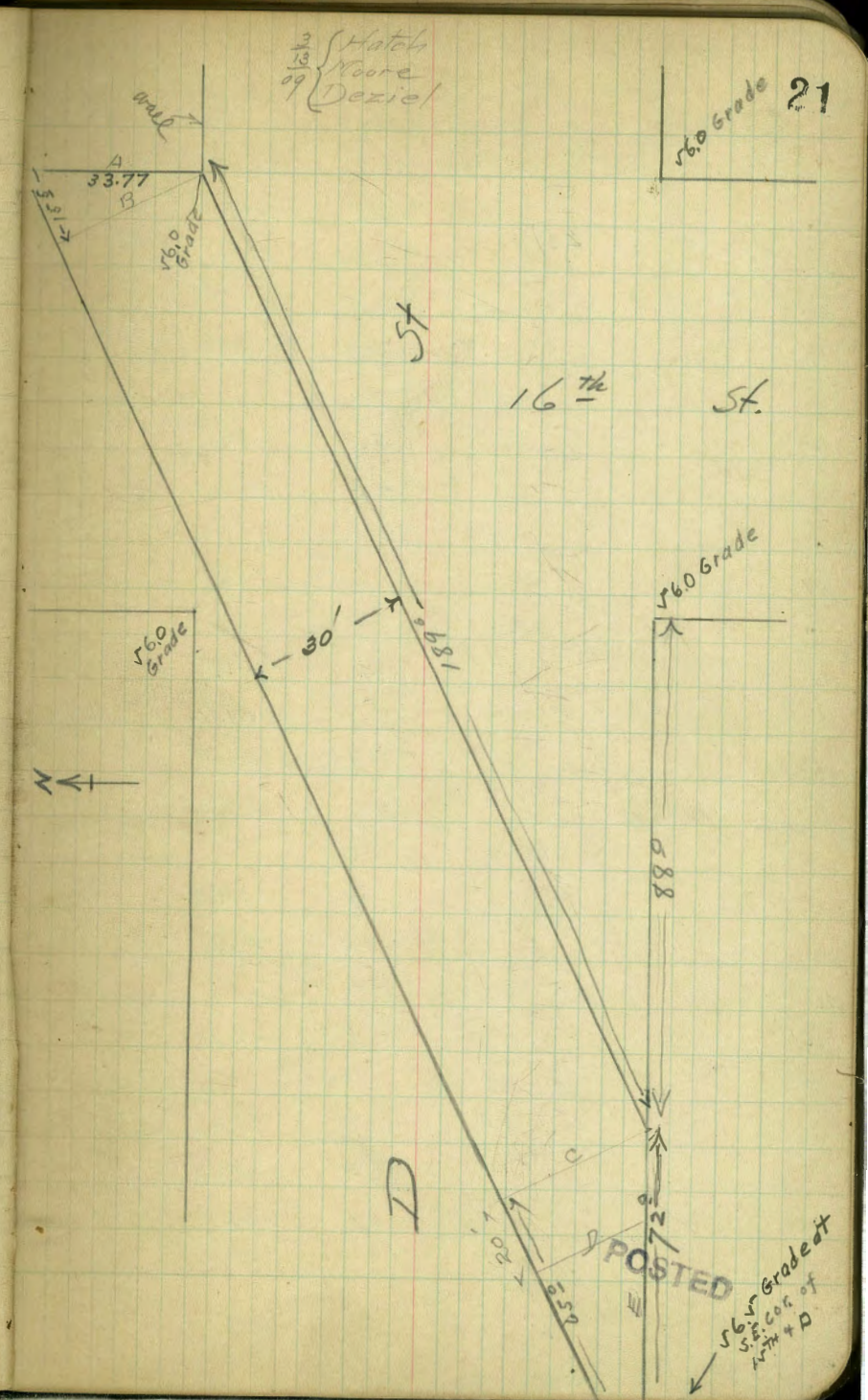
| | | | |
|---|---|---|---|
| E | | 4.7 | 40.6 |
| Cr. | | 5.0 | 40.3 |
| 22' | | 4.7 | 40.6 |
| W | | 1.9 | 43.4 |

50' N.

| | | | |
|---|---|---|---|
| E | | 4.2 | 41.1 |
| Cr. | | 4.5 | 40.8 |
| 20' | | 4.4 | 40.9 |
| W | | 2.3 | 43.0 |

3/13/09 Hatch Moore Dezial

21



45.28

75' N.

| | | |
|---|---|---|
| E | 3.5 | 41.8 |
| Cr. | 4.2 | 41.1 |
| 21' | 4.0 | 41.3 |
| W | 1.7 | 43.6 |

100' N

| | | |
|---|---|---|
| E | 2.7 | 42.6 |
| Cr. | 4.2 | 41.1 |
| 20' | 4.0 | 41.3 |
| W | 1.6 | 42.7 |

125 N

| | | |
|---|---|---|
| E | 1.4 | 42.9 |
| Cr | 3.5 | 41.8 |
| 23' | 4.2 | 41.1 |
| W | 3.1 | 42.2 |

150' N

| | | |
|---|---|---|
| E | 1.7 | 43.6 |
| Cr. | 2.7 | 42.6 |
| 20' | 3.7 | 41.6 |
| W | 3.3 | 42.0 |

175' N

| | | |
|---|---|---|
| E | 2.1 | 43.2 |
| Cr. | 2.9 | 42.4 |
| W | 2.8 | 42.4 |

45.28

189 N (Sec "B")

| | | |
|---|---|---|
| E | 2.0 | 43.3 |
| Cr | 2.8 | 42.5 |
| W | 2.4 | 42.9 |

Sec "A"

| | | |
|---|---|---|
| E | 2.0 | 43.3 |
| Cr. | 2.6 | 42.7 |
| W | 0.5 | 44.8 |

# Xsections of Bridge

15th and F.

NW 15th F.

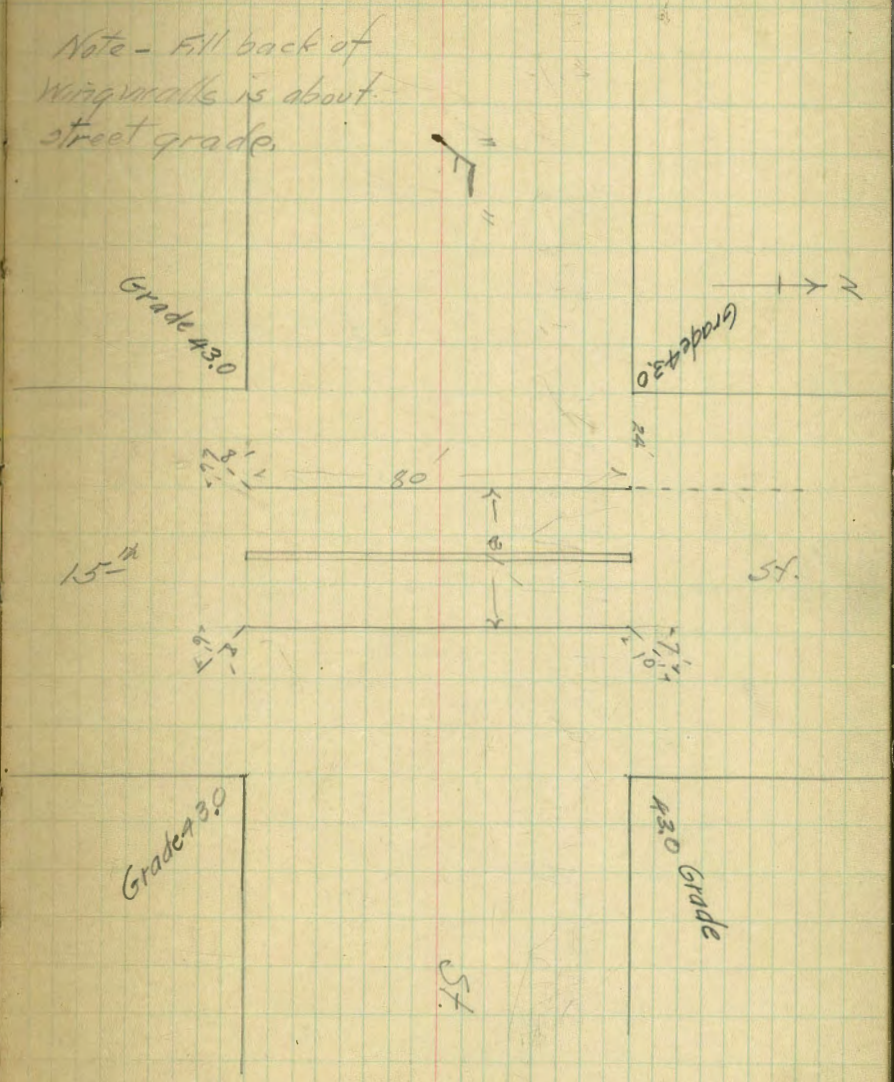
| | | | | |
|---|---|---|---|---|
| BM | 0.86 | 43.70 | | 42.84 |
| | 4.47 | 38.41 | 9.76 | 33.94 |

S. end of Bridge

| | | | |
|---|---|---|---|
| E | | 2.1 | 36.3 |
| Cr. | | 6.3 | 32.1 |
| 25' N. | | | |
| E | | 5.4 | 33.0 |
| Cr. | | 5.6 | 32.8 |
| 50' N. | | | |
| E | | 3.9 | 34.5 |
| Cr. | | 5.1 | 33.3 |
| 75' N. | | | |
| E | | 4.2 | 34.2 |
| Cr. | | 5.9 | 32.5 |
| 80' = N end. | | | |
| E | | 4.0 | 34.4 |
| Cr. | | 6.5 | 31.9 |
| T.P. | 1.83 | 35.77 | 4.47 | 33.94 |
| S. end. | | | |
| W | | 4.5 | 31.3 |
| Cr. | | 4.6 | 31.2 |
| 25' N. | | | |
| W | | 4.2 | 31.6 |
| Cr. | | 4.9 | 30.9 |

3/13/09 {Hatch Moore Deziel

Note - Fill back of Wingwalls is about street grade.



| | | | |
|---|---|---|---|
| | 35-77 | | |
| | 50' N | | |
| W | | 4.8 | 31.0 |
| Cr. | | 3.9 | 31.9 |
| | 75' N | | |
| W | | 4.7 | 31.1 |
| Cr. | | 3.5 | 32.3 |
| | 80' N = Nerd. | | |
| W | | 4.3 | 31.5 |
| Cr. | | 4.2 | 31.6 |

# Xsections of Bridge on 15th and "G"

NE 15th "G"

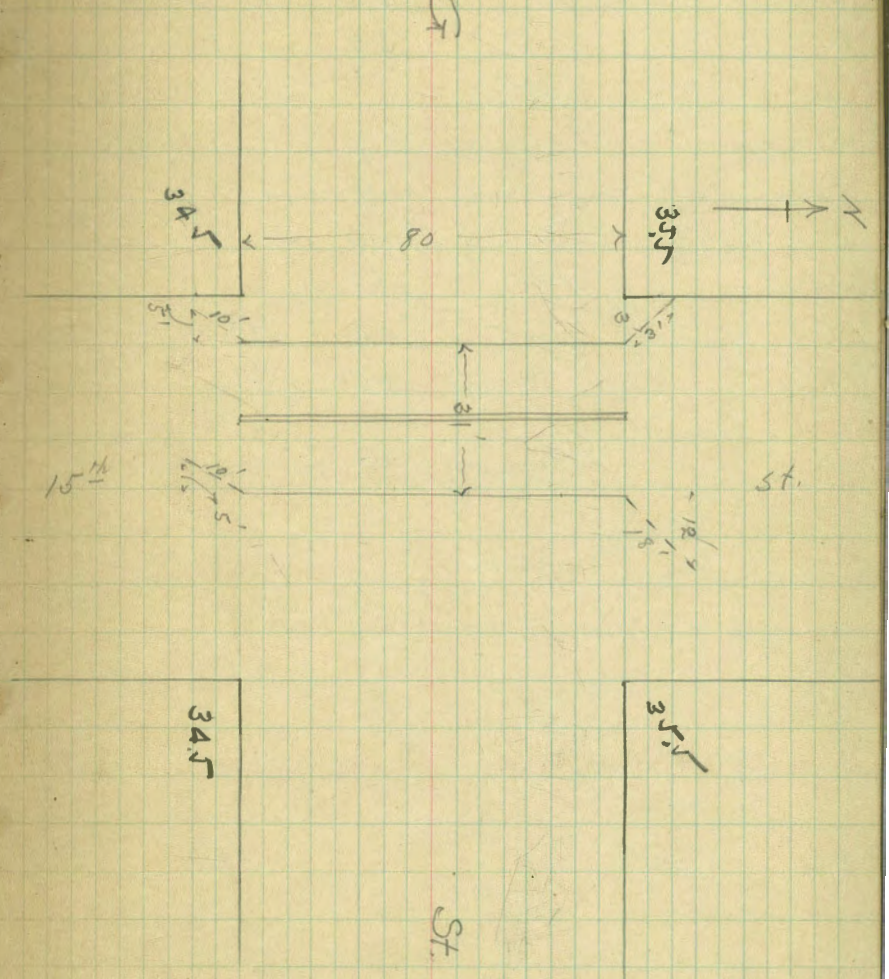
| | | | | |
|---|---|---|---|---|
| BM. | 0.75 | 36.31 | | 35.560 |
| | 3.60 | 32.43 | 7.48 | 28.83 |
| | | N end. | | |
| E | | | 3.6 | 28.8 |
| Cr | | | 3.7 | 28.7 |
| | | 5's. | | |
| E | | | 3.6 | 28.8 |
| Cr. | | | 3.5 | 28.9 |
| | | 30's. | | |
| E | | | 3.3 | 29.1 |
| Cr. | | | 3.8 | 28.6 |
| | | 55's. | | |
| E | | | 3.9 | 28.5 |
| Cr. | | | 4.2 | 28.2 |
| | | 80's = S end | | |
| E | | | 3.1 | 29.3 |
| 10'. | | | 5.0 | 27.4 |
| Cr. | | | 4.1 | 28.3 |
| BM. | 2.95 | 31.78 | 3.60 | 28.83 |
| | | N end. | | |
| W | | | 2.8 | 29.0 |
| 10' | | | 3.6 | 28.2 |
| Cr. | | | 3.1 | 28.7 |
| | | 5's | | |
| W. | | | 2.9 | 28.9 |
| 10' | | | 3.7 | 28.1 |
| Cr. | | | 2.8 | 29.0 |

POSTED

3/13/09 Hatch, Moore, Dezid



Note - Fill behind wings is about Street grade -



3178

30' S.

| | | |
|---|---|---|
| W | 3.7 | 28.1 |
| 10' | 3.5 | 28.3 |
| Cr. | 30 | 28.8 |

55' S.

| | | |
|---|---|---|
| W | 3.7 | 28.1 |
| Cr. | 3.9 | 27.9 |

80' S = S. end

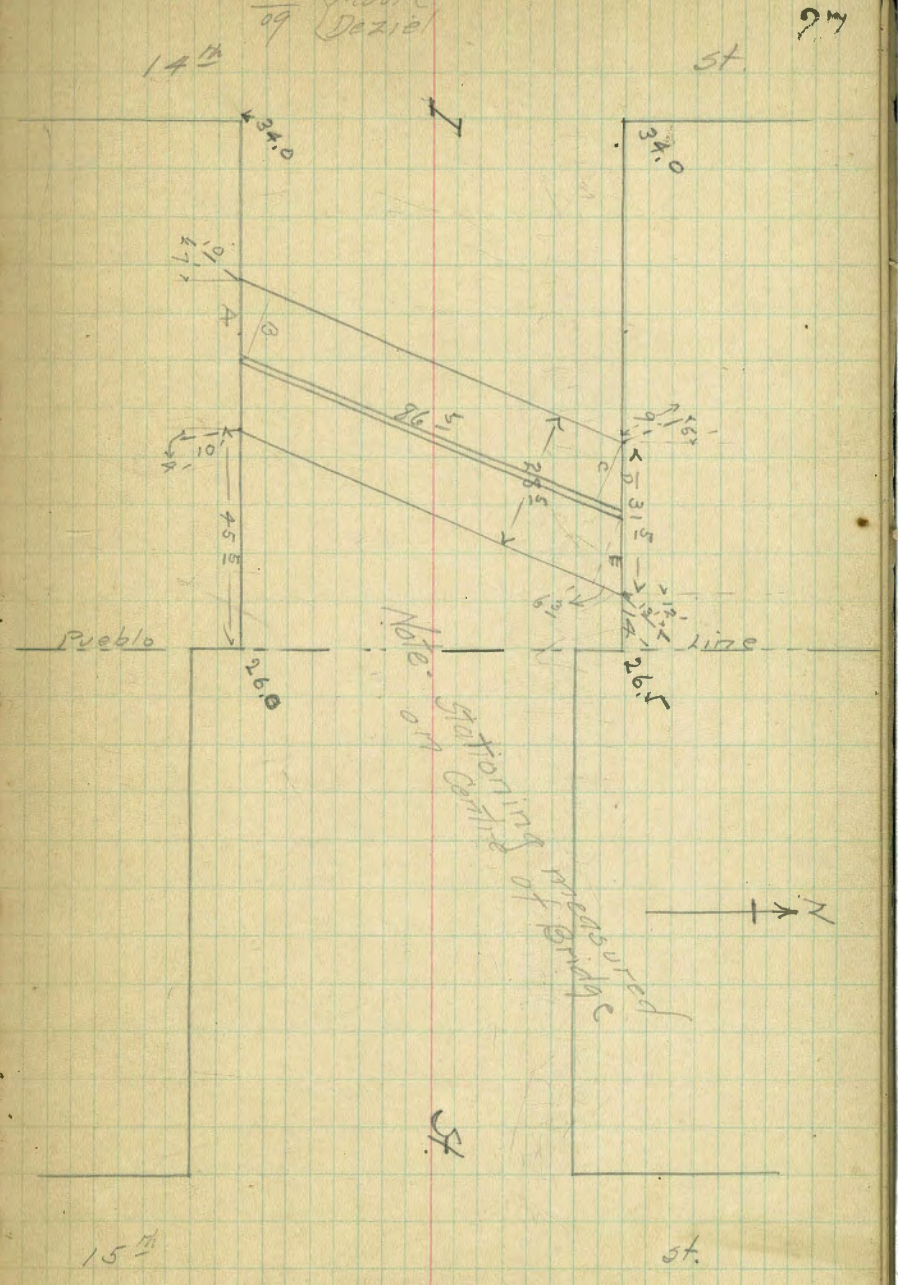
| | | |
|---|---|---|
| W | 3.6 | 28.2 |
| 10' | 4.4 | 27.4 |
| Cr. | 3.2 | 28.6 |

# Xsections of Bridge on I St. between 14th and 15th Sts.

| | | | | | |
|---|---|---|---|---|---|
| NW 15th I | | | | | |
| BM. | 4.09 | 29.57 | | 25.48 | |
| | 5.03 | 24.20 | 10.40 | 19.17 | |
| | | S end. | Sec. A | | |
| W | | | 5.6 | 18.6 | |
| 5' | | | 7.4 | 16.8 | 17.2 |
| cr. | | | 8.0 | 16.2 | |
| | | Sec. B. | | | |
| W | | | 5.9 | 18.3 | |
| 5 | | | 7.9 | 16.3 | |
| Cr. | | | 8.0 | 16.2 | |
| | | 11.5 N. | | | |
| W | | | 7.6 | 16.6 | |
| cr. | | | 8.2 | 16.0 | |
| | | 36.5 N. | | | |
| W | | | 7.4 | 16.8 | |
| cr. | | | 7.9 | 16.3 | |
| | | 61.5 | | | |
| W | | | 7.5 | 16.7 | |
| cr. | | | 8.0 | 16.2 | |
| | | 86.5 = N. end (sec C) | | | |
| W | | | 7.7 | 16.5 | |
| cr. | | | 7.2 | 17.0 | |
| | | Sec D. | | | |
| W | | | 7.7 | 16.5 | |
| cr. | | | 6.9 | 17.3 | 16.9 |
| T.P. | 3.51 | 24.29 | 3.42 | 20.78 | |

POSTED

3/13/09 Hatch, Moore, Deziel



2429

5, end of Bridge

| | | | |
|---|---|---|---|
| E | 5.1 | 19.2 | 18.3 |
| Cr. | 6.9 | 17.4 | |
| 11.5 N. | | | |
| E | 5.3 | 19.0 | |
| Cr. | 6.5 | 17.8 | |
| 36.5 N. | | | |
| E | 4.8 | 19.5 | |
| 5' | 5.7 | 18.6 | |
| Cr. | 5.4 | 18.9 | |
| 61.5 N. | | | |
| E | 4.6 | 19.7 | |
| 5' | 5.5 | 18.8 | |
| Cr. | 5.6 | 18.7 | |
| 80.5 N. | | | |
| E | 4.0 | 20.3 | |
| 7' | 5.5 | 18.8 | |
| Cr. | 4.9 | 19.4 | |
| Sec E | | | |
| E | 4.2 | 20.1 | 19.0 |
| Cr. | 6.4 | 17.9 | |

# Xsections of Bridge on 14th and J Sts

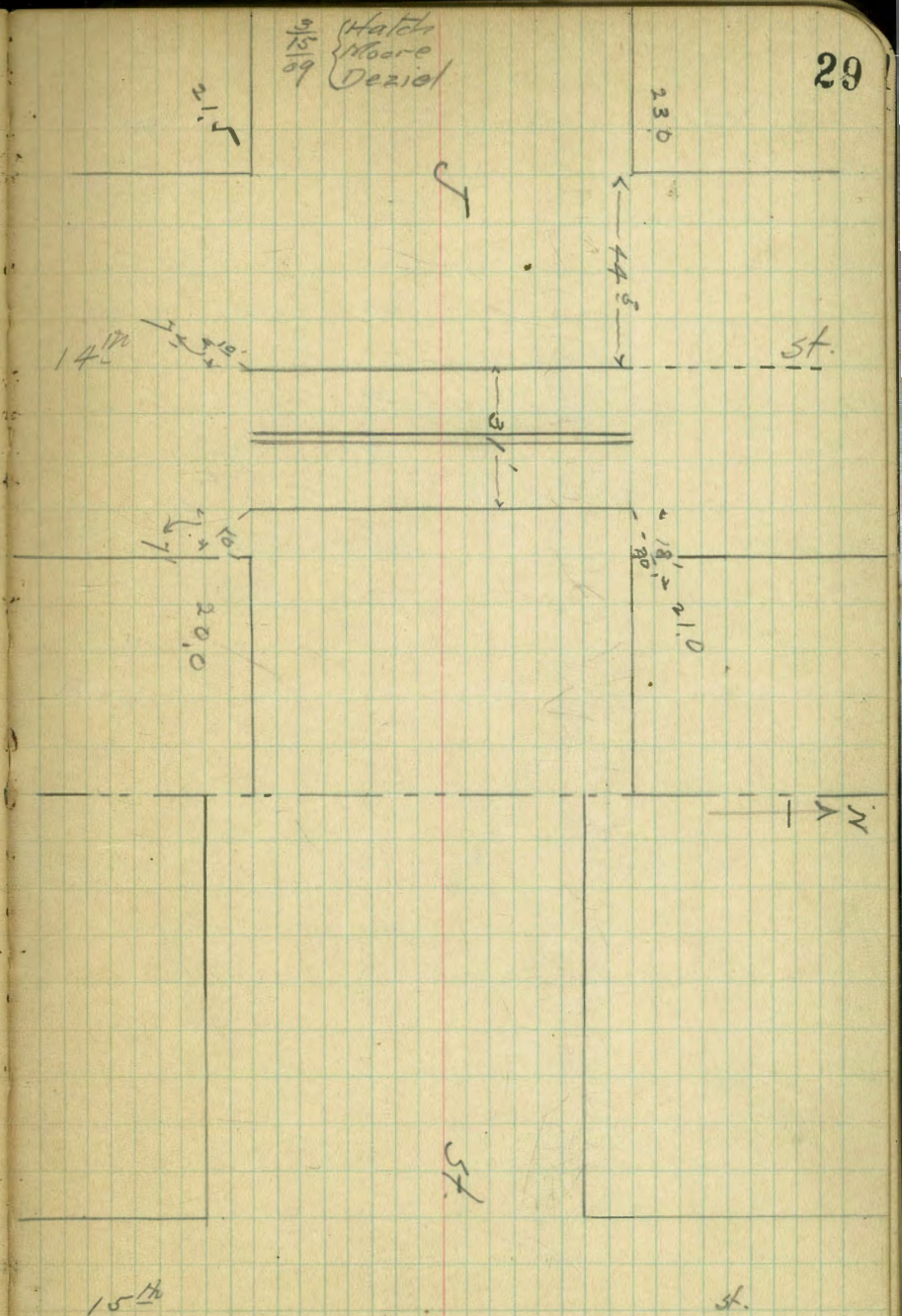
| | | | | | |
|---|---|---|---|---|---|
| BM NW 15th J | 460 | 26,56 | | 21.96 | |
| | 421 | 19.01 | 11.76 | 14.80 | |

N end of Bridge

| | | | | |
|---|---|---|---|---|
| W | | 6,8 | 12.2 | |
| 7' | | 6,6 | 13.4 | 126 |
| Cr. | | 5-6 | 13.4 | |
| | 20's. | | | |
| W | | 6.6 | 12.4 | |
| Cr. | | 6.5 | 12.5 | 12.4 |
| | 40's. | | | |
| W | | 6,5 | 12.5 | |
| Cr. | | 6.8 | 12.2 | 12.3 |
| | 60's | | | |
| W | | 6.5 | 12.5 | |
| Cr | | 7.3 | 11.7 | 12.2 |
| | 80's = S end | | | |
| W | | 6.4 | 12.6 | |
| 7' | | 7.7 | 11.3 | |
| Cr. | | 7.5- | 11.5 | 12.0 |
| Cr. | | 7.1 | 11.9 | |
| 28' | | 6.6 | 12.4 | |
| | | 5-2 | 13.8 | |
| E | | 4.8 | 14.2 | |
| | 60's of N end | | | |
| E | | 4.7 | 12,3 | |
| Cr. | | 6.5 | 12.7 | 12.5 |

POSTED

3/15/09 {Hatch Moore Dezio}



1901

40's

| | | | |
|---|---|---|---|
| E | 5.2 | 13.8 | |
| A | 5.7<br>6.5 | 13.3<br>12.5 | 12.9 |
| cr. | 6.4 | 12.6 | |

20's

| | | | |
|---|---|---|---|
| E | 5.8 | 13.7 | 13 |
| cr. | 6.4 | 12.6 | |

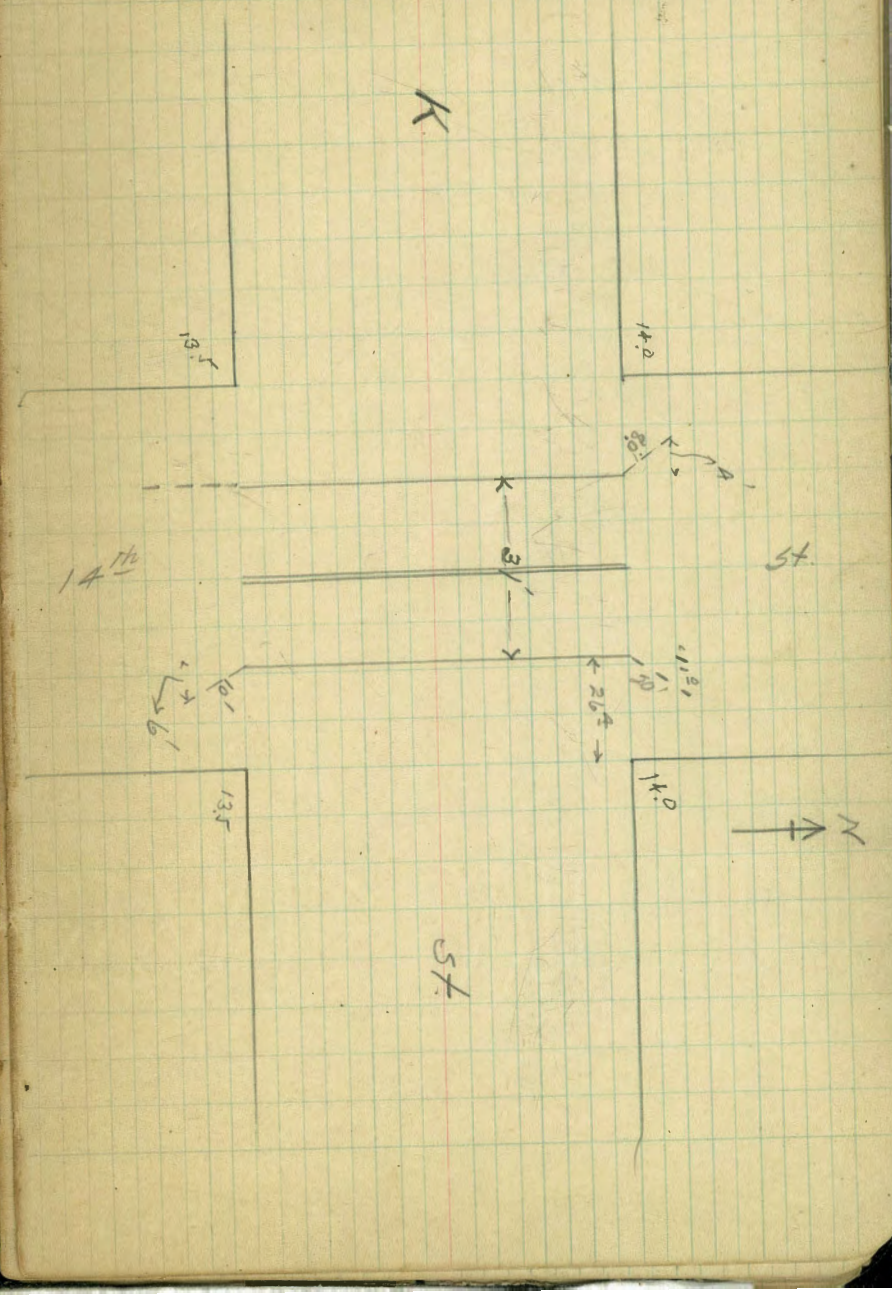
Kend.

| | | | |
|---|---|---|---|
| E | 6.4 | 12.6 | 12.5 |
| cr. | 6.1 | 12.9 | |

# Xsections of Bridge on 14th and K. Sts.

3/12/09 {Hatch Moore Deziel

| | | | | |
|---|---|---|---|---|
| NW Cor Bm 15th K. | 242 | 18.90 | | 16.48 |
| | 4.60 | 12,00 | 11.50 | 7.40 |
| | | S end. | | |
| W | | | 1,6 | 10.4 |
| 10' | | | 3,4 | 8.6 | 9.7 |
| Cr. | | | 2.8 | 9.2 |
| | | 20' N. | | |
| W | | | 2,1 | 9.9 |
| Cr. | | | 2.7 | 9.3 |
| | | 40' N. | | |
| W | | | 2,4 | 9.6 | 9.8 |
| Cr | | | 1.9 | 10.1 |
| | | 60' N. | | |
| W | | | 2,1 | 9.9 |
| Cr. | | | 1,8 | 10.2 |
| | | 80' N. = N end. | | |
| W | | | 1.3 | 10.7 | 10.2 |
| Cr | | | 2.5 | 9.5 |
| T.P. | 440 | 11,80 | 16.0 | 7.40 |
| | | S end. | | |
| E | | | 2.2 | 9.6 |
| 5' | | | 4,2 | 7.6 | 8,0 |
| Cr. | | | 3.9 | 7.9 |
| | | 20' N. | | |
| E | | | 3.0 | 8.8 |
| 4' | | | 3.9 | 7.9 |
| Cr. | | | 3,8 | 8.0 |



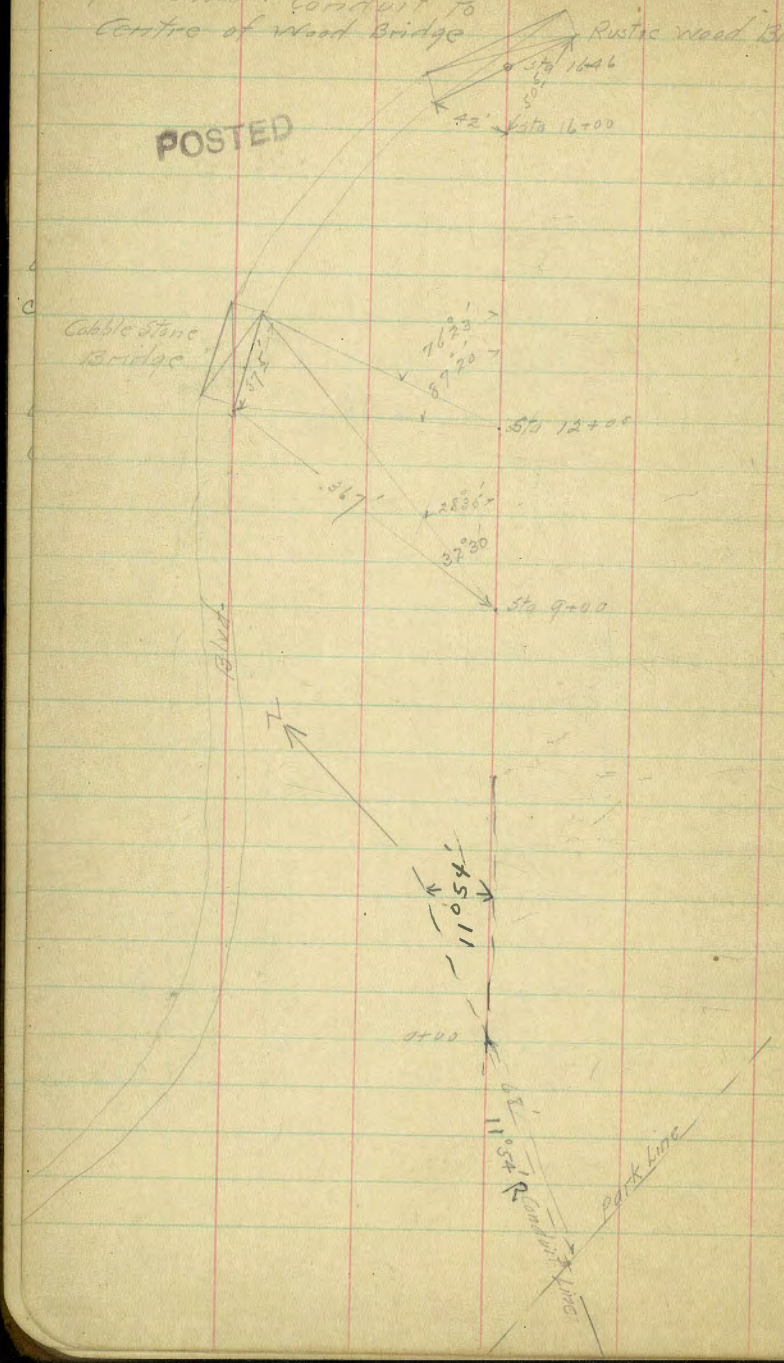
11,80

40 N

| | | | | |
|---|---|---|---|---|
| E | | 3.7 | 8.1 | 80 |
| Cr | | 4.0 | 7.8 | |
| | 60 N | | | |
| E | | 3,2 | 8.6 | |
| Cr | | 3.8 | 8,0 | |
| | 80 N = N end | | | |
| E | | 3.5 | 8.3 | 8.5 |
| Cr | | 3,1 | 8.7 | |

POSTED

Base Line for Crosssections in Park from end of Proposed Conduit to Centre of Wood Bridge



4/12/09 Hatch Moore Thomas

Cross sections of line shown on P. 33

POSTED

| | | | | |
|---|---|---|---|---|
| B.M. | 7.45 | 71.45 | | 64.00 |
| 0+00 | | | 10.6 | 60.9 |
| 0+25 | | | 8.6 | 62.9 |
| 0+50 | | | 8.1 | 63.4 |
| 1+00 | | | 6.5 | 65.0 |
| 1+36 | | | 8.3 | 63.2 |
| 1+62 | | | 6.2 | 65.3 |
| 2+00 | | | 4.3 | 67.2 |
| 2+02 | | | {1.2 / 6.1} | 67.3 / 65.1 |
| 2+20 | | | 7.8 | 63.7 |
| 2+52 | | | 7.9 | 63.6 |
| 2+67 | | | 5.8 | 65.7 |
| 3+00 | | | 5.2 | 66.3 |
| T.P. | 9.19 | 76.34 | 4.30 | 67.15 |
| 3+50 | | | 9.4 | 66.9 |
| 3+85 | | | 8.6 | 67.7 |
| 4+00 | | | 10.3 | 66.0 |
| 4+25 | | | 8.9 | 67.4 |
| 4+50 | | | 8.1 | 68.2 |
| 5+00 | | | 7.6 | 68.7 |
| 5+50 | | | 7.1 | 69.2 |
| 6+00 | | | 6.2 | 70.1 |
| 6+50 | | | 6.1 | 70.2 |
| 7+00 | | | 6.0 | 70.3 |
| 7+25 | | | 7.2 | 69.1 |

Sections to West Tangent to Beginning of Spiral to the East of Spiral of Boulevard

{+ = Cut from Gr. Elev.
− = fill " " "}

W E

34

+7.3/20 +3.4/15 +2.2/9 +1.8/7 +1.0/8 +0.8/20

+4.0/28 +1.5/26 −0.2/8 −1.7/14 −1.1/5 +0.6/15 +0.8/30

+3.3/30 0.0/30 −2.2/18 −1.2/5 −0.5/20 −0.5/56

+4.2/27 −0.7/17 −1.3/10 +1.2/8 +2.1/16 +2.4/33 +2.8/50 +3.5/70

+3.8/34 −3.6/22 −0.2/3 −1.6/14 +1.1/8 +1.9/60

+2.3/53 −1.0/41 −3.6/35 −3.8/21 −4.1/6 −3.6/14 0.0/2 +0.6/22 +0.7/43

+7.5/58 +2.4/28 +2.7/23 +0.8/13 +1.1/6 +0.2/5 −2.2/34 +2.4/39

+7.4/61 +3.0/52 +2.6/29 +3.1/14 −1.9/5 −3.0/7 +4.9/16 +4.9/36 +0.5/56

+3.2/64 +1.2/37 +0.7/7 −1.4/2 −1.1/16 +2.1/26 +2.5/62

+2.8/73 +2.0/44 +0.2/26 −0.2/8 −1.5/19 −1.8/30 +2.7/36 +2.7/64

+5.6/82 +4.4/46 +3.9/33 +1.8/10 0.0/2 +0.2/16 −0.9/20 +2.9/28 +2.8/33 +4.4/67

+2.0/59 +2.7/45 −0.9/40 −0.5/19 −1.8/14 +2.9/27 +2.8/67

+4.6/72 +3.4/59 +0.4/49 −1.2/44 0.4/19 −0.5/37 +2.9/42 +2.3/68

+5.7/75 +4.4/58 +2.7/46 +3.3/44 −1.7/29 −0.2/33 +3.2/26 +3.4/42 +3.0/70 Same for 50'

+4.1/68 +3.1/62 +1.0/57 +0.6/43 −1.2/33 −1.9/20 −0.7/7 +0.9/32 +1.3/44 +2.2/72 Same for 100'

+3.2/62 +2.3/49 +1.1/40 −1.2/33 −2.7/21 −1.3/10 +0.7/6 +0.6/33 +2.5/44 +3.2/71 Same for 100'

+3.1/77 +2.3/57 +2.7/46 −1.2/19 +0.2/16 +1.4/47 +2.6/71 +3.2/95 " " 75'

| | | | | |
|---|---|---|---|---|
| | | 76.34 | | |
| 7+32 | | | 5.3 | 71.1 |
| 7+35 | | | 2.1 | 74.2 |
| T.P. | 7.30 | 81.16 | 2.48 | 73.86 |
| 7+50 | | | 6.6 | 74.6 |
| 8+00 | | | 5.7 | 75.5 |
| 8+50 | | | 5.3 | 75.9 |
| 9+00 | | | 5.0 | 76.2 |
| 9+48 | | | 4.2 | 77.0 |
| 9+55 | | | 7.5 | 73.7 |
| 9+82 | | | 7.5 | 73.7 |
| 10+00 | | | 5.6 | 75.6 |
| T.P. | 10.65 | 87.54 | 4.27 | 76.89 |
| 10+50 | | | 10.5 | 76.0 |
| 11+00 | | | 10.6 | 76.9 |
| 11+50 | | | 8.4 | 79.1 |
| 11+86 | | | 7.0 | 80.5 |
| 11+88 | | | 9.1 | 78.4 |
| 12+00 | | | 8.5 | 79.0 |
| 12+50 | | | 6.0 | 81.5 |
| 12+75 | | | 6.5 | 81.0 |
| 13+00 | | | 5.7 | 81.8 |
| 13+50 | | | 5.8 | 81.7 |
| T.P. | 9.18 | 92.06 | 4.66 | 82.88 |
| 14+00 | | | 8.7 | 83.4 |
| 14+50 | | | 7.2 | 84.9 |



W E

$\frac{-0.4}{100}$ $\frac{-0.8}{57}$ $\frac{-0.3}{27}$ $\frac{-1.3}{15}$ $\frac{-4.9}{23}$ $\frac{-4.8}{44}$ $\frac{-3.4}{63}$ $\frac{-1.2}{63}$ $\frac{-1.9}{100}$ $\frac{+0.2}{105}$

$\frac{0.0}{100}$ $\frac{-1.1}{55}$ $\frac{-0.5}{28}$ $\frac{-0.2}{30}$ $\frac{-0.5}{50}$ $\frac{-3.4}{56}$ $\frac{-4.5}{66}$ $\frac{-3.6}{100}$ $\frac{-3.1}{135}$ $\frac{+3.3}{140}$ $\frac{+4.1}{150}$

$\frac{+0.6}{115}$ $\frac{-0.9}{62}$ $\frac{-0.9}{40}$ $\frac{-0.3}{25}$ $\frac{0.0}{48}$ $\frac{-0.5}{76}$ $\frac{-3.7}{85}$ $\frac{-3.0}{123}$ $\frac{-4.5}{133}$ $\frac{-3.0}{150}$ $\frac{+9.0}{157}$ $\frac{+14.0}{180}$ Same slope for 30'

$\frac{+1.0}{125}$ $\frac{0.0}{100}$ $\frac{-0.4}{61}$ $\frac{-1.5}{47}$ $\frac{-0.6}{41}$ $\frac{+0.5}{46}$ $\frac{0.0}{66}$ $\frac{-3.0}{76}$ $\frac{-4.0}{100}$ $\frac{-3.7}{126}$ $\frac{-0.9}{138}$ $\frac{+4.8}{145}$ $\frac{+12.4}{135}$ Same slope for 30'

$\frac{+0.5}{110}$ $\frac{0.0}{68}$ $\frac{-1.3}{50}$ $\frac{-0.2}{28}$ $\frac{-2.8}{8}$ $\frac{-4.1}{36}$ $\frac{-2.6}{48}$ $\frac{-0.6}{71}$ $\frac{-2.1}{90}$ $\frac{+1.0}{95}$ $\frac{+6.2}{100}$ $\frac{+9.0}{140}$ Same slope for 60'

$\frac{+3.3}{125}$ $\frac{+3.7}{83}$ $\frac{+3.0}{58}$ $\frac{+2.1}{35}$ $\frac{-0.5}{28}$ $\frac{+1.9}{8}$ $\frac{+1.1}{30}$ $\frac{+1.5}{54}$ $\frac{+5.8}{66}$ $\frac{+7.0}{75}$ $\frac{+8.8}{100}$ Same slope for 75'

$\frac{+1.7}{130}$ $\frac{+0.9}{51}$ $\frac{-2.6}{41}$ $\frac{-1.6}{28}$ $\frac{-0.5}{19}$ $\frac{-0.3}{38}$ $\frac{+3.3}{47}$ $\frac{+6.6}{140}$ Same slope for 50'

$\frac{+3.5}{160}$ $\frac{+3.1}{100}$ $\frac{+2.3}{85}$ $\frac{-0.5}{84}$ $\frac{-0.4}{72}$ $\frac{-1.8}{57}$ $\frac{+0.2}{50}$ $\frac{0.0}{16}$ $\frac{+0.5}{10}$ $\frac{+1.8}{12}$ $\frac{+3.6}{38}$ $\frac{+4.7}{75}$ Same slope for 75'

$\frac{+1.7}{160}$ $\frac{+0.7}{135}$ $\frac{-1.3}{130}$ $\frac{-1.0}{100}$ $\frac{+0.2}{75}$ $\frac{0.0}{49}$ $\frac{+3.0}{34}$ $\frac{+0.2}{34}$ $\frac{+1.1}{12}$ $\frac{+0.9}{8}$ $\frac{+2.9}{8}$ $\frac{+3.1}{52}$ $\frac{+4.6}{66}$ Same slope for 75'

$\frac{-0.5}{160}$ $\frac{-1.3}{125}$ $\frac{-1.6}{80}$ $\frac{+0.4}{75}$ $\frac{+0.8}{23}$ $\frac{-0.8}{23}$ $\frac{-0.8}{2}$ $\frac{+1.2}{1}$ $\frac{+1.8}{8}$ $\frac{+2.6}{44}$ Same slope for 40'

$\frac{-1.3}{180}$ $\frac{-2.6}{160}$ $\frac{-2.5}{100}$ $\frac{0.0}{88}$ $\frac{+0.7}{52}$ $\frac{+0.8}{36}$ $\frac{-1.0}{32}$ $\frac{-0.8}{21}$ $\frac{-1.9}{2}$ $\frac{+0.5}{19}$ $\frac{+2.9}{58}$ Same slope for 30'

at wing wall at Bridge – $\frac{-1.1}{190}$ $\frac{-0.5}{150}$ $\frac{+0.2}{100}$ $\frac{+0.5}{59}$ $\frac{+2.3}{32}$ $\frac{+0.5}{27}$ $\frac{+0.3}{12}$ $\frac{+2.0}{14}$ $\frac{+3.4}{28}$ $\frac{+4.7}{57}$ Same slope for 20'

$\frac{+0.2}{165}$ $\frac{-0.3}{150}$ $\frac{0.0}{100}$ $\frac{0.0}{50}$ $\frac{-1.6}{49}$ $\frac{-1.0}{37}$ $\frac{-1.4}{13}$ $\frac{-0.4}{13}$ $\frac{-0.7}{13}$ $\frac{-1.7}{20}$ $\frac{+1.3}{30}$ $\frac{+2.5}{55}$ Toe slope

$\frac{+0.9}{160}$ $\frac{+0.3}{100}$ $\frac{0.0}{43}$ $\frac{-1.0}{41}$ $\frac{-1.5}{34}$ $\frac{-0.2}{5}$ $\frac{+1.0}{31}$ $\frac{+3.0}{69}$ Toe slope

$\frac{+1.0}{155}$ $\frac{+1.4}{100}$ $\frac{+2.1}{41}$ $\frac{+0.9}{33}$ $\frac{+0.9}{14}$ $\frac{0.0}{23}$ $\frac{+1.9}{25}$ $\frac{+1.9}{48}$ $\frac{+3.0}{72}$ Toe slope

$\frac{+1.1}{150}$ $\frac{+1.8}{120}$ $\frac{+1.3}{88}$ $\frac{+1.4}{38}$ $\frac{+1.0}{5}$ $\frac{+0.4}{21}$ $\frac{-0.9}{41}$ $\frac{+0.5}{41}$ $\frac{+1.5}{61}$ $\frac{+2.3}{87}$ Toe slope

$\frac{+0.4}{155}$ $\frac{+0.9}{100}$ $\frac{+0.9}{44}$ $\frac{-0.2}{14}$ $\frac{-1.7}{18}$ $\frac{-2.1}{36}$ $\frac{+0.4}{46}$ $\frac{+1.5}{86}$ Toe slope

92.06

| | | |
|---|---|---|
| 14+75 | 6.8 | 85.3 |
| 14+80 | 8.3 | 83.8 |
| 15+00 | 8.2 | 83.9 |
| 15+50 | 7.7 | 84.4 |
| 16+00 | 5.8 | 86.3 |
| 16+46 Centre South Side Bridge | 6.0 | 86.1 |
| BM Top of 1st Floor Bolt from SE Cor of Bridge | 1.45 | 90.61 |



W E

$+\frac{5.0}{145}$ $+\frac{3.2}{100}$ $+\frac{2.4}{48}$ $+\frac{1.6}{8}$ $-\frac{0.2}{5}$ $+\frac{1.3}{14}$ $+\frac{0.4}{28}$ $+\frac{2.0}{36}$ $+\frac{3.6}{68}$ $+\frac{4.9}{92}$ Same slope for 75'

$+\frac{5.4}{78}$ $+\frac{4.5}{42}$ $+\frac{3.6}{23}$ $+\frac{1.8}{23}$ $+\frac{1.3}{9}$ $+\frac{0.6}{3}$ $+\frac{1.0}{8}$ $+\frac{2.5}{21}$ $+\frac{3.2}{63}$ $\frac{4.7}{96}$ Same slope for 60'

$+\frac{4.6}{40}$ $+\frac{3.2}{20}$ $+\frac{0.2}{10}$ $-\frac{1.0}{18}$ $+\frac{1.2}{18}$ $+\frac{1.8}{54}$ Same slope for 60'

Line taken 11' with Bridge $+\frac{0.9}{7}$ $+\frac{3.0}{9}$ $+\frac{2.9}{36}$ $+\frac{2.7}{33}$ Same slope for 100'

4
19-21
09

Watch Traverse from Station 6–12
Thomas on Baseline in Sculze Cañon
600' East.

Note These figures are elevations.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| To 5+00 | 710 / 100 | 72.9 / 120 | 72.1 / 142 | 75.9 / 200 | 80.5 / 225 | 86.3 / 300 | 89.6 / 340 | 93.2 / 385 | 95.6 / 430 | 96.0 / 450 | 113.1 / 500 |
| " 6+00 | | | | | 72.5 / 100 | | 74.9 / 200 | | 75.4 / 310 | | 82.4 / 325 |
| " 7+00 | 74.5 / 100 | 76.7 / 190 | 79.7 / 200 | 85.8 / 230 | 94.0 / 250 | 104.2 / 275 | 112.6 / 300 | | 123.0 / 350 | | 133.0 / 400 |
| " 8+00 | 80.8 / 175 | 87.3 / 200 | | 95.3 / 225 | | 105.9 / 250 | 119.8 / 300 | | 132.0 / 350 | | 143.5 / 400 |
| " 9+00 | 90.7 / 200 | 98.6 / 240 | Drain 112.6 / 300 | | 126.7 / 350 | | 141.1 / 400 | | 151.3 / 450 | | 159.5 / 500 |
| " 9+48 | 90.1 / 175 | 94.4 / 200 | | 101.9 / 250 | Drain 103.8 / 300 | Drain 105.2 / 350 | 117.9 / 400 | | 127.0 / 450 | | 133.4 / 500 |
| " 10+00 | 85.7 / 150 | | 92.5 / 200 | | 98.9 / 225 | | 109.2 / 250 | | 114.4 / 300 | | 115.7 / 350 |
| " 11+00 | 83.3 / 100 | 88.1 / 150 | 91.9 / 175 | 98.4 / 200 | | 110.8 / 225 | | 121.7 / 250 | | 129.9 / 275 | |
| " 12+00 | 89.5 / 100 | | 94.3 / 150 | | 107.3 / 175 | | 113.0 / 200 | | 130.3 / 225 | | 122.1 / 250 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| To 5+00 | 113.5 / 609 Park Line | | | | | | | | | | |
| " 6+00 | 88.9 / 350 | | 102.3 / 300 | | 114.8 / 350 | | 122.1 / 400 | | 128.0 / 440 | | 124.6 / 450 |
| " 7+00 | 142.4 / 450 | | 150.9 / 500 | | 162.3 / 560 | | 163.6 / 600 | | | | |
| " 8+00 | 167.7 / 500 | | 178.1 / 550 | | 176.0 / 600 | | | | | | |
| " 9+00 | | | | | | | | | | | |
| " 9+48 | | | | | | | | | | | |
| " 10+00 | 103.5 / 450 | | 122.3 / 475 | | 124.3 / 500 | | 137.1 / 550 | Drain 128.5 / 560 | Drain 124.5 / 580 | | 130.4 / 600 |
| " 11+00 | 173.2 / 425 | | 173.9 / 475 | | 176.0 / 525 | | 174.5 / 575 | | 179.9 / 600 | | 173.2 / 625 |
| " 12+00 | 170.0 / 325 | | 177.7 / 350 | | 184.2 / 375 | | 189.7 / 400 | Roads 191.1 / 425 | | 192.9 / 450 | 195.5 / 500 |

| | | | |
|---|---|---|---|
| To 5+00 | | | |
| " 6+00 | 124.5 / 500 | 129.9 / 550 | 147.8 / 600 |
| " 7+00 | | | |
| " 8+00 | | | |
| " 9+00 | | | |
| " 9+48 | | | |
| " 10+00 | | | |
| " 11+00 | | | |
| " 12+00 | 194.9 / 550 | 195.2 / 600 | |

POSTED

2+13.64 = Connection with Conduit at Sta 3+65.42 ,

1+08 = Connection with pipe from C.B's.

0+93.50 = E.C.

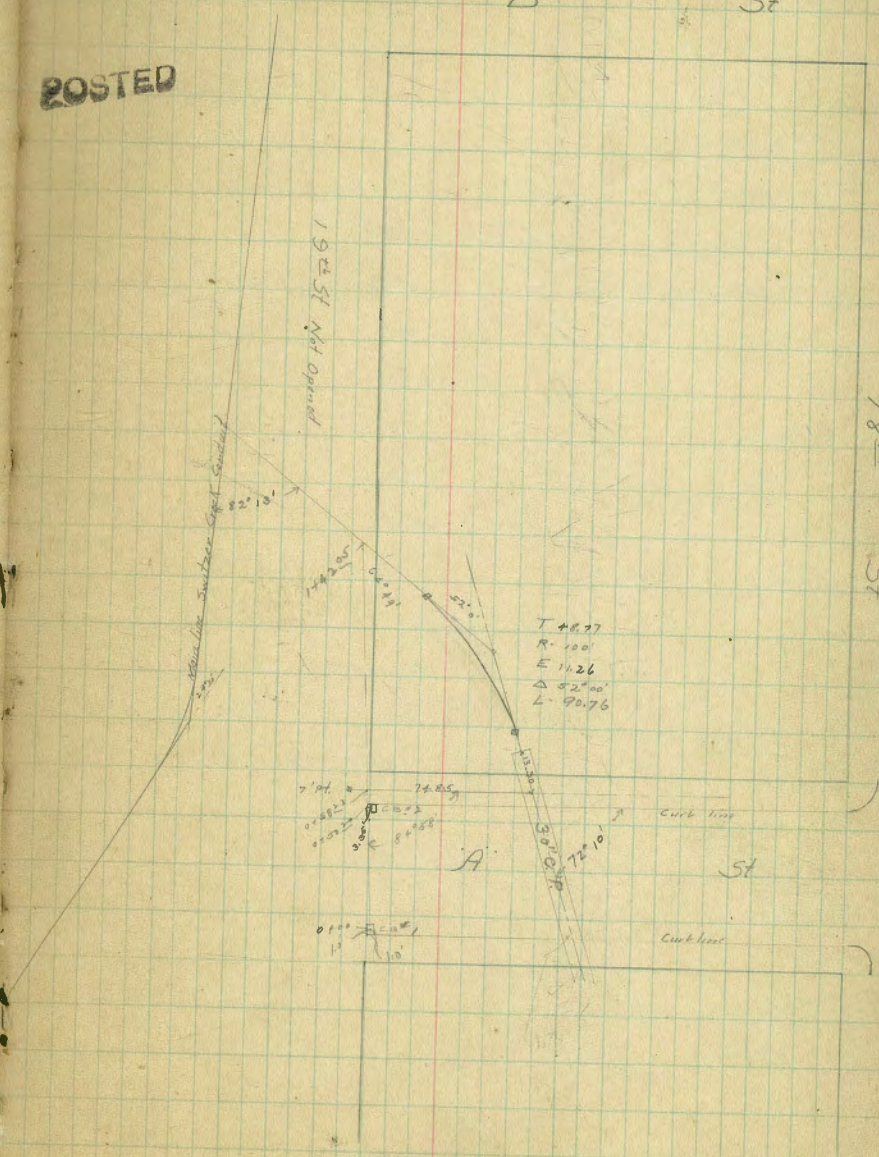
0+02.74 = P.C.

0+00 = End of Present 30" C.P.

7 / 7 / 09 { Davis / Williams / Churchman



Culvert to Connect with Switzer Creek Storm Drain



P38 sum

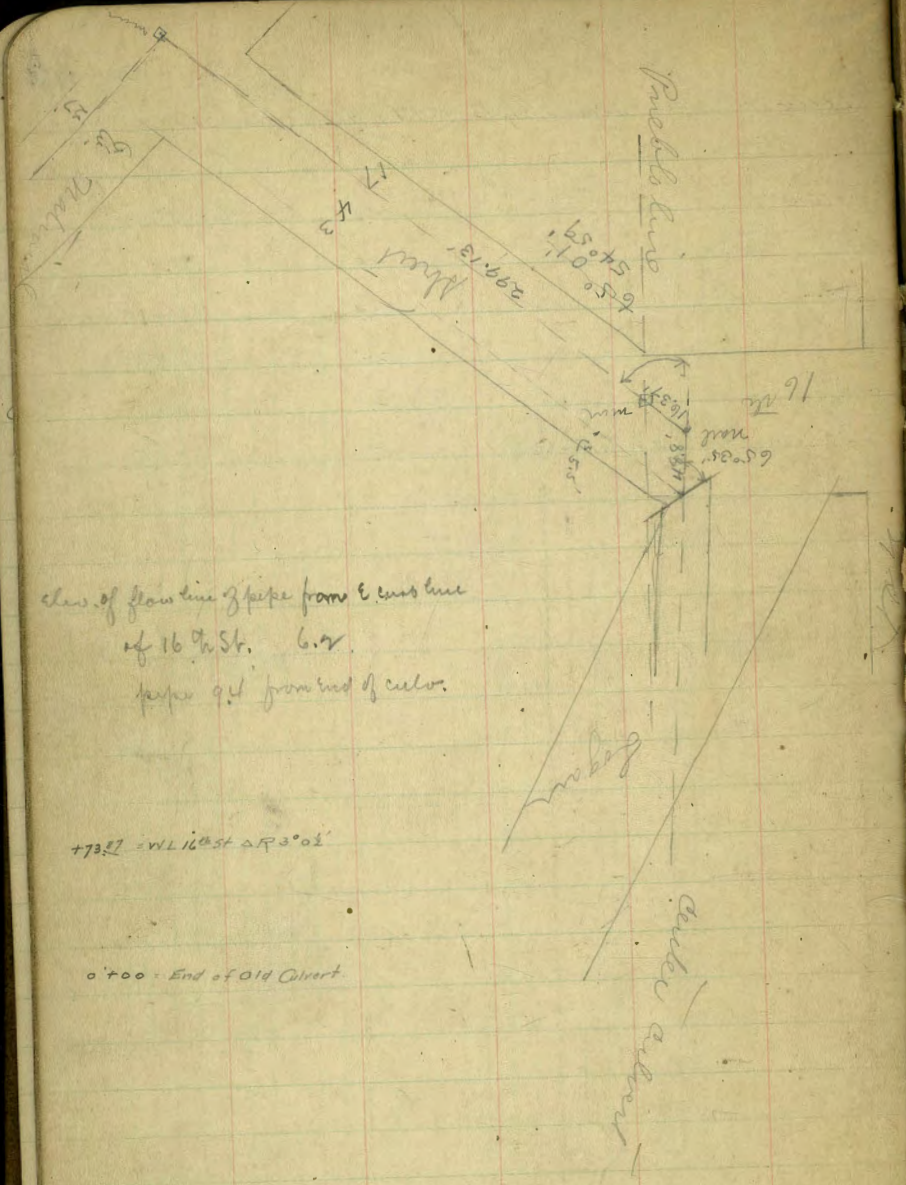
## Levels for Pipe Culvert to connect with Switzer Creek Drain

| | HI | | | |
|---|---|---|---|---|
| | 1.43 | 61.97 | | 60.54 B.M. Pig N.W. 16 C. |
| | 8.05 | 62.35 ✓ | 7.67 | 54.30 |
| | 10.96 | 72.32 ✓ | 0.99 | 61.86 |
| | 11.66 | 83.52 ✓ | 0.46 | 71.86 |
| | 2.56 | 86.91 ✓ | 0.17 | 83.35 |
| | 0.11 | 76.36 ✓ | 10.66 | 76.25 |
| 0+00 Inside bottom 30" C.P. | | | 5.42 | 70.93 |
| 0+02 71 P.C. | | | 5.0 | 71.35 |
| 0+25 | | | 6.5 | 69.85 |
| 0+48 1/2 C.C. | | | 6.5 | 69.85 |
| +70 | | | 7.0 | 69.35 |
| +93 50 E.C. | | | 4.9 | 71.45 |
| 1+08 Connection with C.B.'s | | | 5.1 | 71.25 |
| +17 | | | 6.0 | 70.35 |
| +30 | | | 9.1 | 67.25 |
| +47 | | | 12.6 | 63.75 |
| TP | 2.39 | 67.51 ✓ | 11.23 | 65.12 |
| +57 | | | 2.2 | 65.3 |
| +65 | | | 5.5 | 62.0 |
| +89 | | | 2.9 | 59.6 |
| +90 | | | 9.5 | 58.0 |
| 2+13 5th Connection with S.C.D. | | | 10.8 | 56.7 |

## Levels for Catch Basins & Pipes at 19th A - Sketch P38

| | HI 76.35 | | |
|---|---|---|---|
| 0+00 C.B. 1 | | 5.2 | 71.15 |
| 0+08 | | 4.8 | 71.55 |
| 0+35 | | 2.7 | 73.65 |
| 0+50 | | 2.5 | 73.85 |
| 1+00 | | 4.1 | 72.25 |
| 1+42 5 Connection with culvert. | | 5.1 | 71.25 |

POSTED




elev. of flow line of pipe from E curb line
of 16th St. 6.2
pipe 9.4' from end of culv.

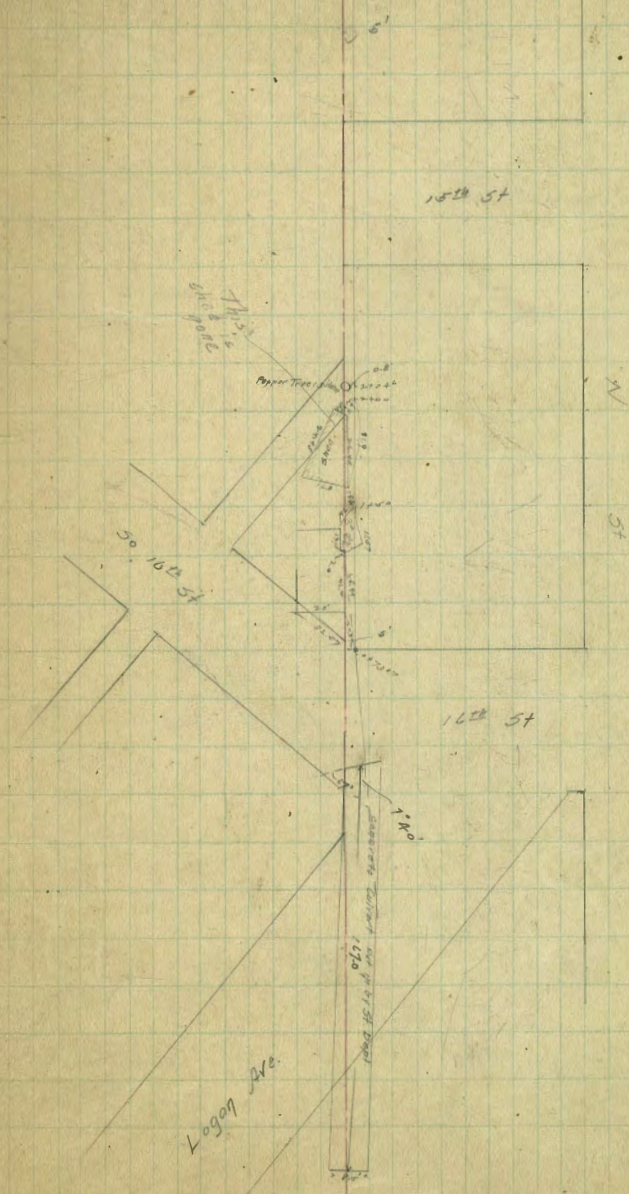
+73.87 = WL 16th St ΔR 3°0½'

0+00 = End of Old Culvert

8/1/13 { Davis Hancock Merrill



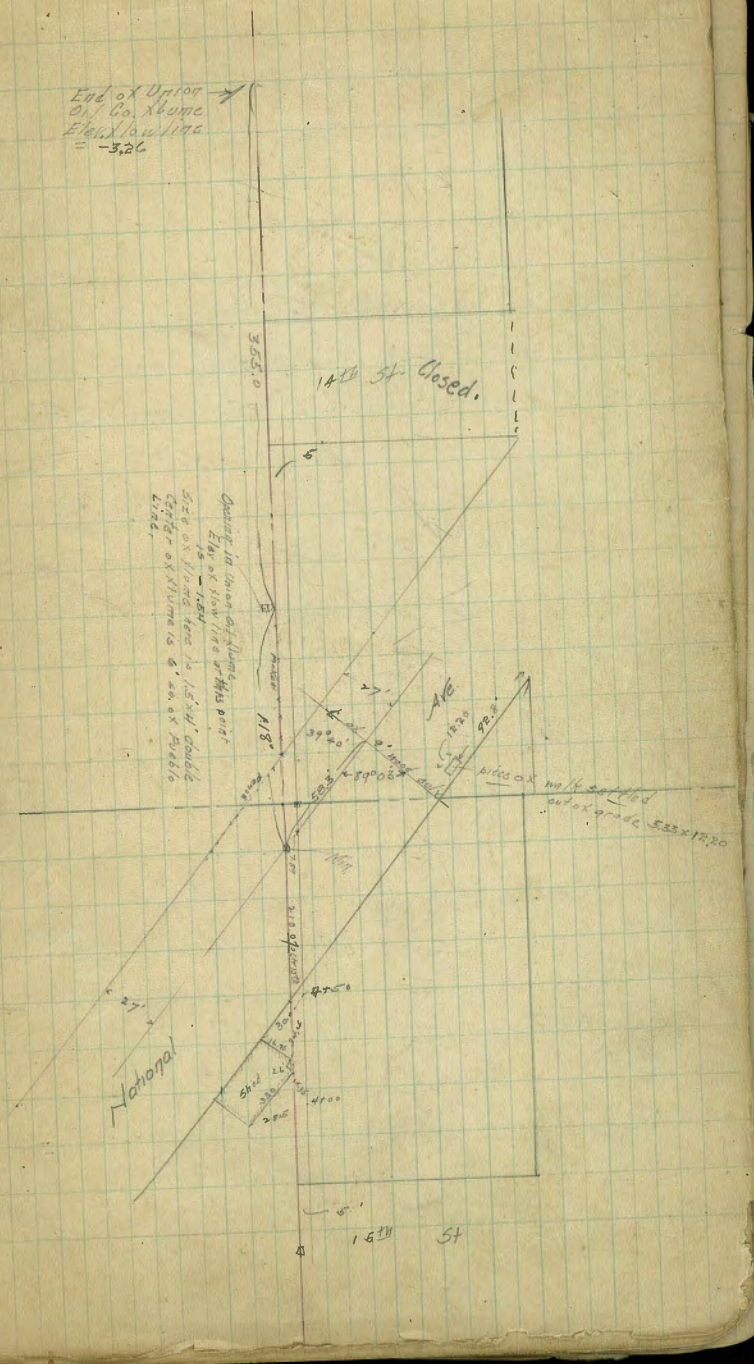
Location of Conduit from 16th & Logan to 13th & Newton



5+48.23 P.L.-E. line Hortons Add. ΔR 0°04½'

5+31.50 = Int with 13' line Nat'l Ave





On plat No. 594 L, Sta 9+49.00 P.T. is identical with Sta 9+51.02 EC of this survey, and course from this point to outlet is same as shown in this book.

10+76.54 = N. rail

+79.64 = Ctr Line
10+27.07 = N. rail N.C. Elect. Line

9+51.02 = EC

9+10.35 = CC

8+69.69 = P.C

4.63
2.64
7.27

10.53
−3.26 = dev. west ent. of
Union Oil flume

29.8
11.8
18

Levels over proposed Culvert line from 16th & Logan to 13th & Newton

| | + | H.I. | – | Elev |
|---|---|---|---|---|
| | 1.39 | 13.91 | | 12.52 BM pig N.E. 16th N. |
| 0+00 End Old Culvert Top | | | 5.2 | 8.7 |
| " " " Bot. | | | 9.3 | 4.6 |
| +16 | | | 9.2 | 4.7 |
| +16 | | | 5.3 | 8.6 |
| +35 | | | 5.4 | 8.5 |
| +56.6 = Gutr | | | 6.6 | 7.3 |
| +56.7 = Top Ct | | | 5.9 | 8.0 |
| +70 | | | 5.7 | 8.2 |
| +73.87 = W.L. 16th | | | 6.6 | 7.3 |
| T.P | 3.47 | 12.01 | 5.37 | 8.54 |
| +79 | | | 5.4 | 6.6 |
| +87 | | | 2.9 | 9.1 |
| 1 | | | 3.5 | 8.5 |
| +50 | | | 5.6 | 6.4 |
| 2 | | | 7.1 | 4.9 |
| +50 | | | 8.0 | 4.0 |
| +70 | | | 7.9 | 4.1 |
| +84 | | | 6.3 | 5.7 |
| 3 | | | 4.6 | 7.4 |
| +20 | | | 3.3 | 8.7 |
| +45 | | | 5.5 | 6.5 |
| +50 | | | 7.3 | 4.7 |
| +55 | | | 8.9 | 3.1 |
| +60 | | | 8.1 | 3.9 |

Culv. 16th + Logan
Elev. flowline, West end 4.44
" " " East " 8.01 on South
" " " W " 8.08 " north

Gregory 11/29/16



| | | H.I. 12.01 | | |
|---|---|---|---|---|
| 4 | | | 8.7 | 3.3 |
| +20 | | | 9.8 | 2.2 |
| T.P. | 4.76 | H.I. 8.35 | 8.42 | 3.59 |
| +50 | | | 4.8 | 3.6 |
| +70.2 = Top Ct No side Nat'l | | | 4.9 | 3.5 |
| +70.2 Gutr " " " | | | 5.6 | 2.8 |
| 5 | | | 5.0 | 3.4 |
| +50 | | | 5.9 | 2.5 |
| +51.8 = So Gutr Nat'l | | | 6.0 | 2.4 |
| +51.8 = " Ct " | | | 5.2 | 3.2 |
| 6 | | | 4.9 | 3.5 |
| +50 | | | 5.2 | 3.2 |
| 7 | | | 5.4 | 3.0 |
| +50 | | | 5.5 | 2.9 |
| +84.4 | | | 5.4 | 3.0 |
| +87 | | | 7.0 | 1.4 |
| 8 | | | 6.7 | 1.7 |
| +50 | | | 7.0 | 1.4 |
| T.P +69.69 = P.C. | 6.29 | 7.41 | 7.23 | 1.12 |
| 9+10.35 = CC | | | 5.2 | 2.2 |
| Top N. rail Oil Co's Track | | | 4.00 | 3.4 |
| " So " " " | | | 4.07 | 3.34 |
| 9+51.02 = E.C. | | | 4.1 | 3.3 |
| +92 | | | 4.5 | 2.9 |
| 10 | | | 4.9 | 2.5 |

141

7.41

| | | | | |
|---|---|---|---|---|
| 10+05.78 | No. Cb. Newton | | 5.05 | 2.4 |
| | " Gutr. | | 5.3 | 2.1 |
| +27.07 | No. rail Nat'l City Elect line | | 4.88 | 2.53 |
| | So " " " | | 4.78 | 2.63 |
| +44.88 | 13' Line Newton Ave | | 5.4 | 2.0 |
| +74 | | | 4.7 | 2.7 |
| +76.54 | Top No. rail Stone Co's Spur Track | | 3.47 | 3.94 |
| | " So. " " " " " | | 3.50 | 3.91 |
| +84 | | | 12.50 | -5.1 |
| 11 | | | 12.5 | -5.1 |
| T.P. | 4.59 | 8.55 | 3.45 | 3.96 |
| | | | 5.58 | 2.97 ✓ 3.00 BM NE 137 M |

7 Davis
14 Hancock
Harris

Location of Culvert from Columbia & Laurel to Connect with proposed Drain on Brickyard Cañon Road (Reynard Way) at Sta 48+90.82

4+95.60 = E.C.

+66.80 C.C.

4+38 = P.C.

3+93.20

3+26.99 E.C.

3+00.29 = C.C.

+73.29 = P.C.

+37.95 E.C.

2+08.12 C.C.

+78.29 P.C.

+76.49 = E.C.

+50.31 = C.C.

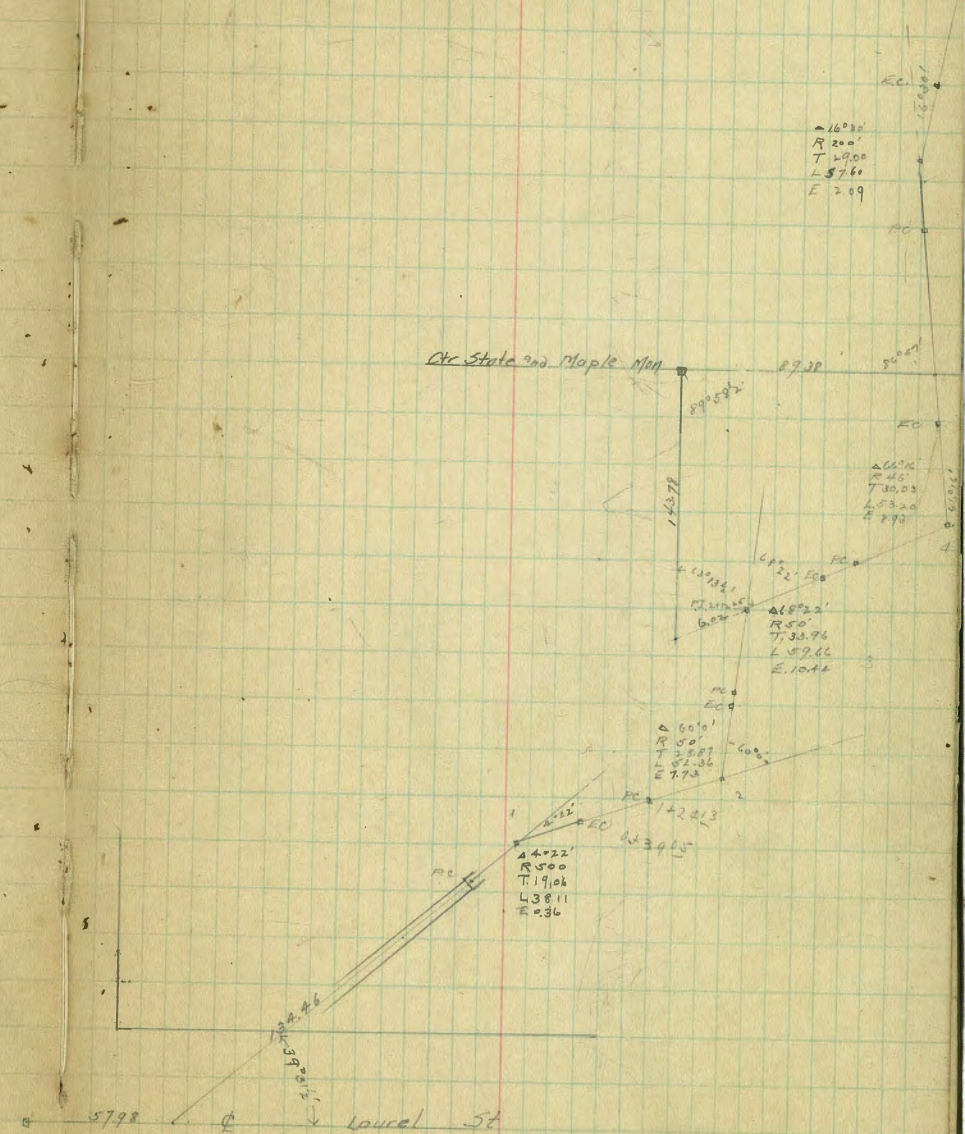
1+24.13 P.C.

+39.05 = E.C.

+20 = C.C.

0+0.94 = P.C.

0+00 End 36" C.P. Culvert.



7+68.13 = Connection with Canon Road Culvert

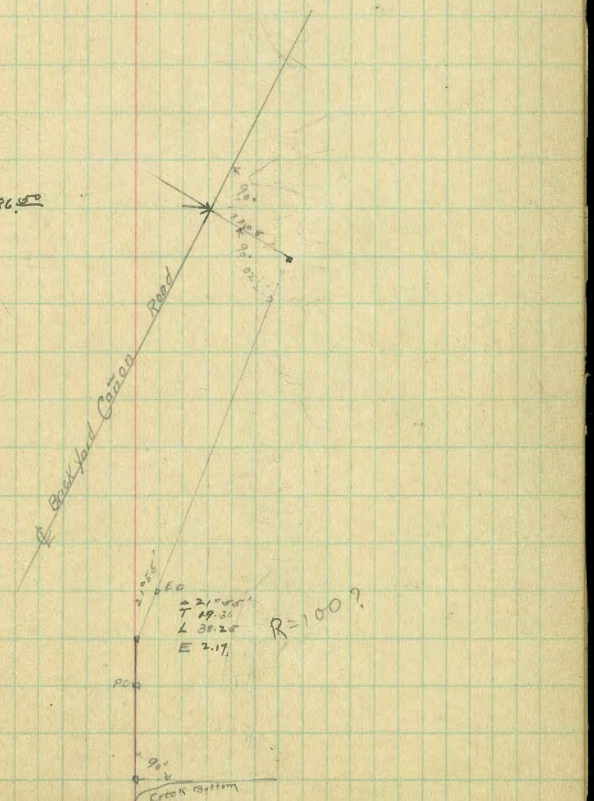
5+97.23 E.C.

+78.26 C.C

+59.49 P.C.

5+43 = Branch Culvert

B.C. Road Sta 48+86.50



Levels over line of proposed Conduit from present Conduit at State and Columbia to connect with proposed drain in B. C. Road.

1 Davis
22 Hancock
14 Hemlock

| | Left | Ctr N.T. | Right | |
|---|---|---|---|---|
| T.P. 1 | 0.76 | 57.09 | | 56.33 Mon NE India Laurel. |
| 2 | 2.02 | 46.08 | 13.03 | 44.06 × |
| | 6.34 | 40.73 | 11.69 | 34.39 |
| 0+00 = inside bottom 36" C.P. | | 29.83 | | |
| +20 C.C | | 30.5 | | |
| +39.05 EC | | 31.4 | | |
| +50 | | 32.2 | 30.8 / 3 | |
| | | 31.3 | | |
| +25.13 PC | | 31.6 | | |
| +32 | | 31.8 | | |
| +36 | | 35.4 | 31.5 / 4 | |
| +50.31 C.C | | 35.6 | 31.2 / 7 | |
| +62 | | 36.5 | 30.9 / 10 | |
| +70 | | 36.6 | 31.5 / 7 | |
| +76.40 EC | | 32.9 | 32.0 / 3 | |
| +78.29 PC | | 32.7 | 32.1 / 2 | |
| +84 | | 32.5 | | |
| +88 | | 33.2 | | |
| +96 | | 32.7 / 8 | 37.3 | |
| 2+08.12 C.C. | | 32.7 / 6 | 38.1 | |
| T.P. | 4.94 | 38.95 | 6.72 | 34.01 |
| +18 | | 33.5 | | |
| +37.95 EC | | 33.1 | | |
| +73.79 PC | | 33.8 | | |
| 3+00.39 C.C. | | 30.3 | | |
| T.P. | 8.02 | 42.53 | 4.44 | 34.51 |

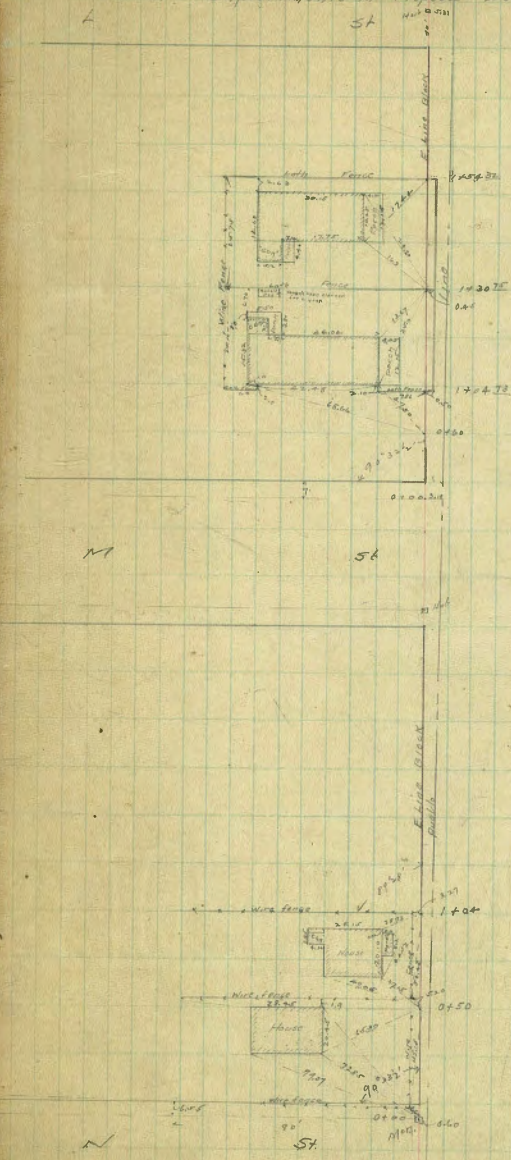
| | Left | Ctr | Right | | |
|---|---|---|---|---|---|
| 3+76.20 E.C | | 34.5 | | | |
| +87 | | 36.5 | | | |
| +90 | | 36.5 | | | |
| +70 | | 37.4 | | | |
| +96 | | 36.4 | | | |
| 4 | 36.9/2 | 37.8 | | | |
| +20 | 38.1/5 | 39.3 | | | |
| +38 P.C | 38.1/3 | 39.1 | | | |
| +66.22 C.C | 38.7/2 | 39.0 | | | |
| T.P. | 6.54 | 45.67 | | 3.45 | 39.08 |
| +82 | | 39.6 | | | |
| +95.6 E.C | | 40.6 | 39.3/3 | | |
| 5+07 | | 41.1 | 38.5/4 | | |
| +16 | | 40.6 | 39.9/2 | | |
| +43 | | 41.1 | 40.8/3 | | |
| +59.44 P.C. | | 40.4 | | | |
| +79.26 C.C. | 40.5/5 | 42.2 | | | |
| +97.80 E.C. | 41.0/5 | 42.7 | | | |
| T.P. | 1.38 | 52.61 | | 4.39 | 41.23 |
| 6+18 | 43.1/10 | 42.9 | | | |
| +32 | | 41.5 | | | |
| +35 | | 42.7 | 41.5/3 | | |
| +50 | | 46.5 | 41.6/12 | | |
| +70 | | 46.3 | | | |
| +77 | | 42.7 | 42.5/2 | | |

HI
5261

| | | Left | Ctr | Right | |
|---|---|---|---|---|---|
| 6+90 | | | 47.0 | | |
| 7 | | | 46.9 | 44.3 / 15 | |
| +37 | | | 47.2 | | |
| +50 | | | 50.1 | 46.9 / 4 46.2 / 10 | |
| +52 | | | 51.2 | | |
| +62 | | | 50.5 | | |
| +64 | | | 49.0 | | |
| +68 | Connection with B.C. Road Col. | | 48.0 | 46.7 / 12 | |
| | 10.47 | 59.49 | | 3.57 | 49.02 |
| | 6.16 | 65.91 | | 0.74 | 59.75 |
| | 2.89 | 58.41 | | 10.39 | 55.52 |
| | 1.66 | 51.52 | | 7.55 | 50.86 |
| ✓ T.P. #2 | | | | 7.46 | 44.06 ✗ |

Location of Improvements in Proposed 28th Street

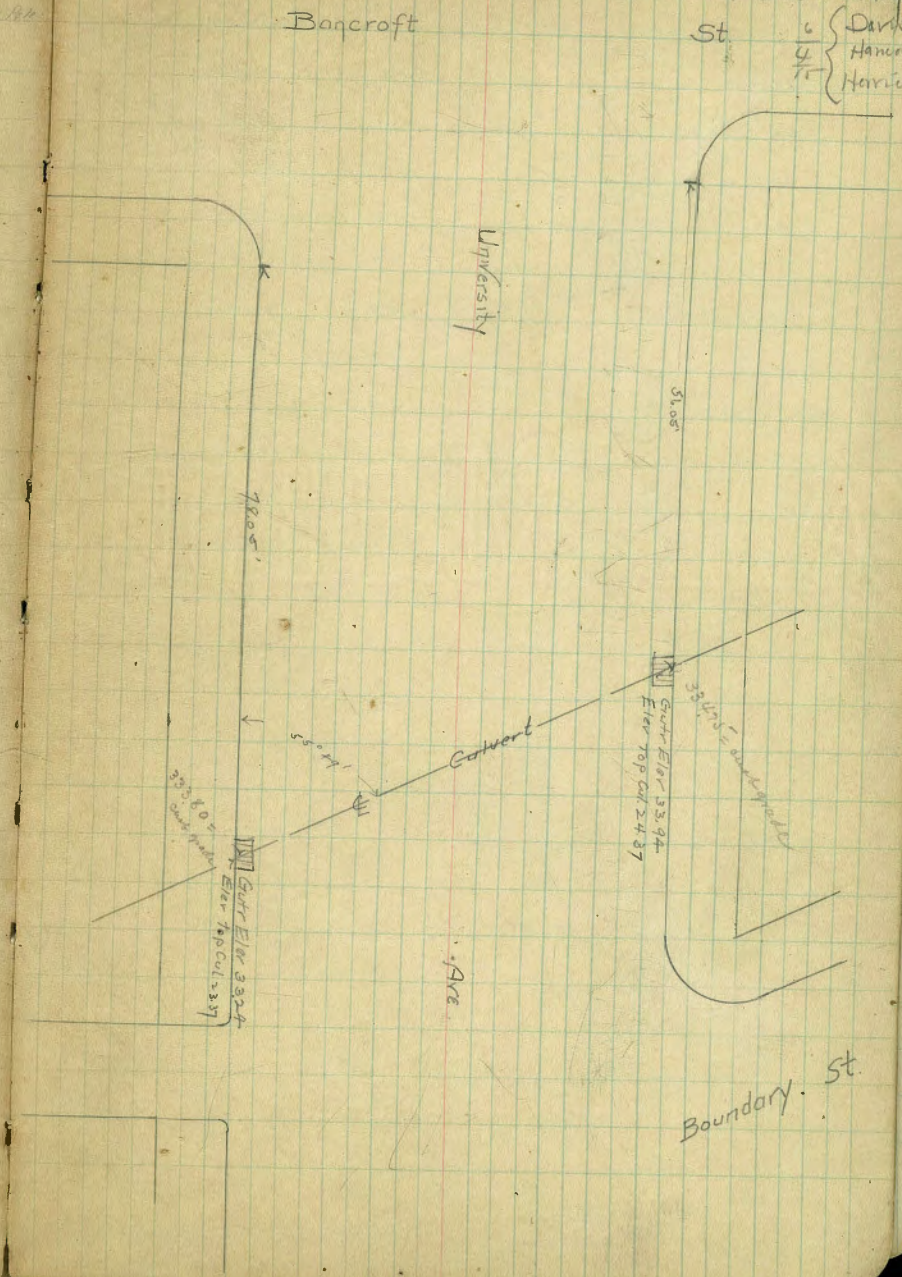
9/21/14 { Doris Hancock Harriett S. Emerson Fletcher.



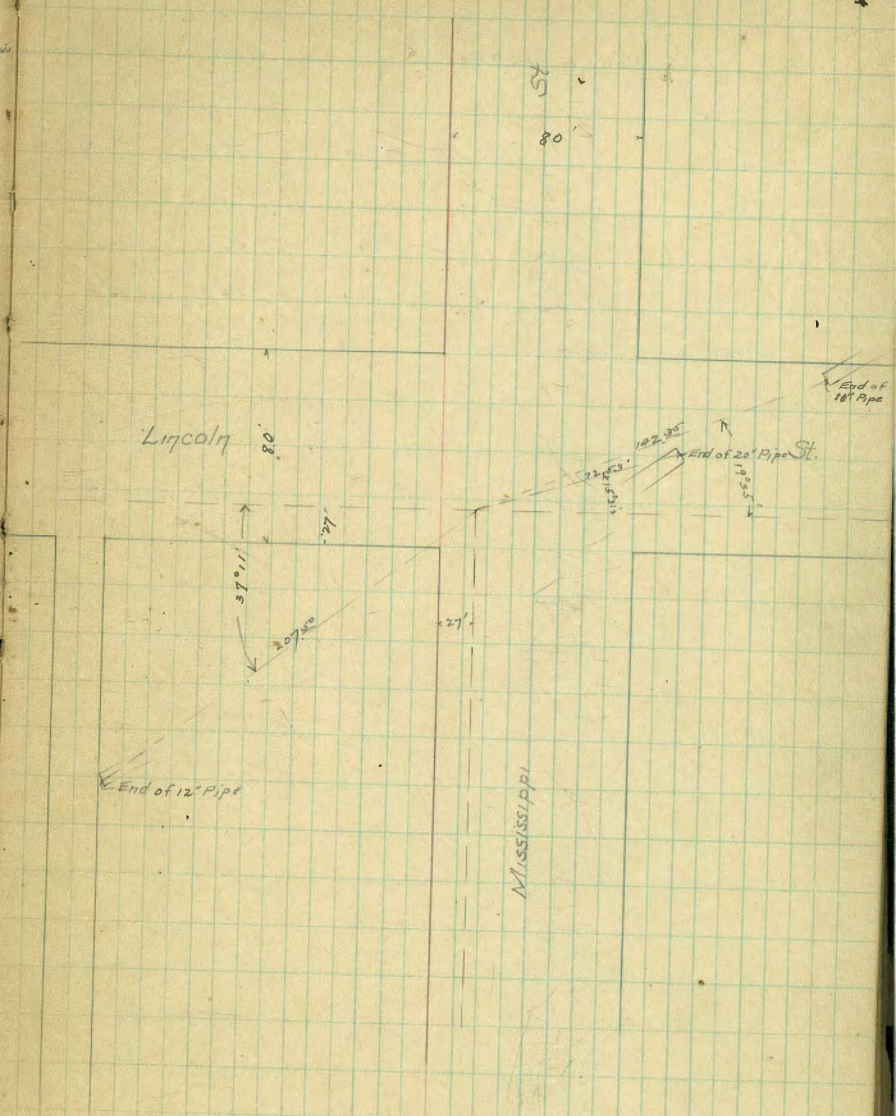
| + | HI | – | Elev. |
|---|---|---|---|
| 4.63 | 38.67 | | 34.04 BM Nw Bndy Spk Pole |
| So Gutr | | 5.43 | 33.24 |
| No " | | 4.73 | 33.94 |



Location of Catch Basins Univ. Ave. bet Bancroft & Boundary



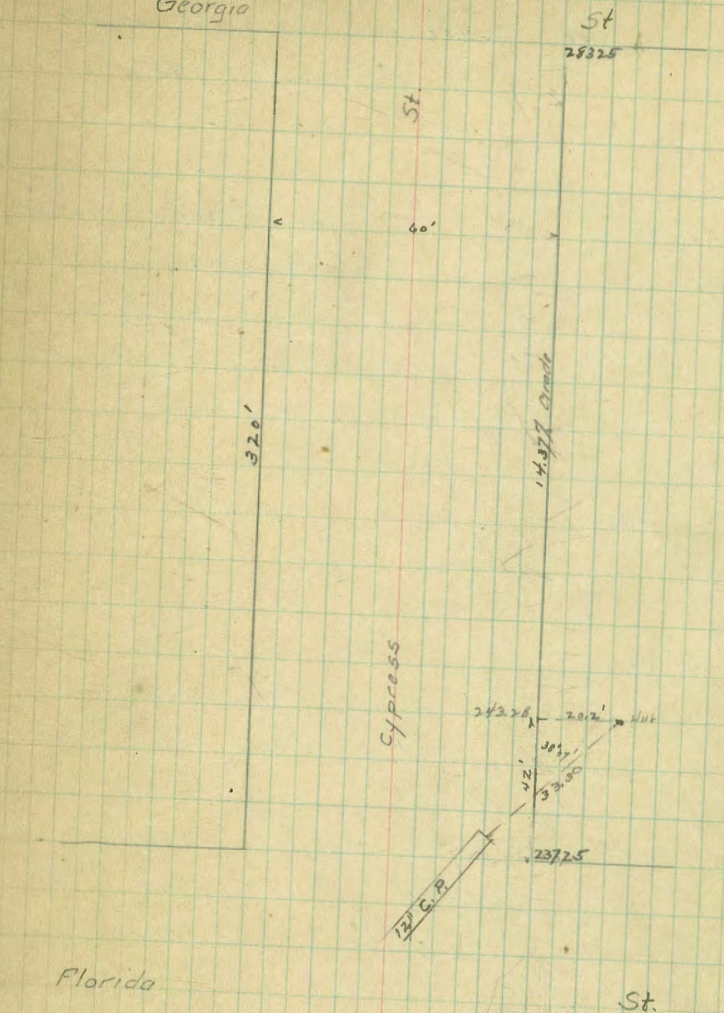
| | + | H | – | Elev |
|---|---|---|---|---|
| | 3.06 | 289.18 | | 286.12 Spk N.W. Lincoln [illegible] |
| Top and 18" Pipe | | | 10.47 | 78.71 |
| " " 20" = 0+00 | | | 12.0 | 77.18 |
| +14 | | | 4.4 | 84.8 |
| +50 | | | 4.0 | 85.2 |
| 1 | | | 4.7 | 84.5 |
| +50 | | | 4.6 | 84.6 |
| 2 | | | 5.1 | 84.1 |
| +50 | | | 6.3 | 82.9 |
| +62 | | | 6.3 | 82.9 |
| T. P. | 1.98 | 279.10 | 12.06 | 277.12 |
| +80.15 = Top end 12" Pipe | | | 9.9 | 69.20 |



6/12/15 { Davis, Hancock, Hermik

## Levels for Culvert at Cypress & Florida

| | + | HI | − | Elev | |
|---|---|---|---|---|---|
| | 1.59 | 237.59 | | 236.00 | B.M. S.W. Stake SW Cor Florida |
| 0+00 bot 12" C.P. | | | 10.24 | 27.35 | |
| +3 | | | 10.0 | 27.6 | |
| +7 | | | 7.5 | 30.1 | |
| +73 | | | 6.1 | 31.5 | |
| +127 | | | 7.4 | 30.2 | |
| +332 End proposed Cul. | | | 7.8 | 229.8 | |



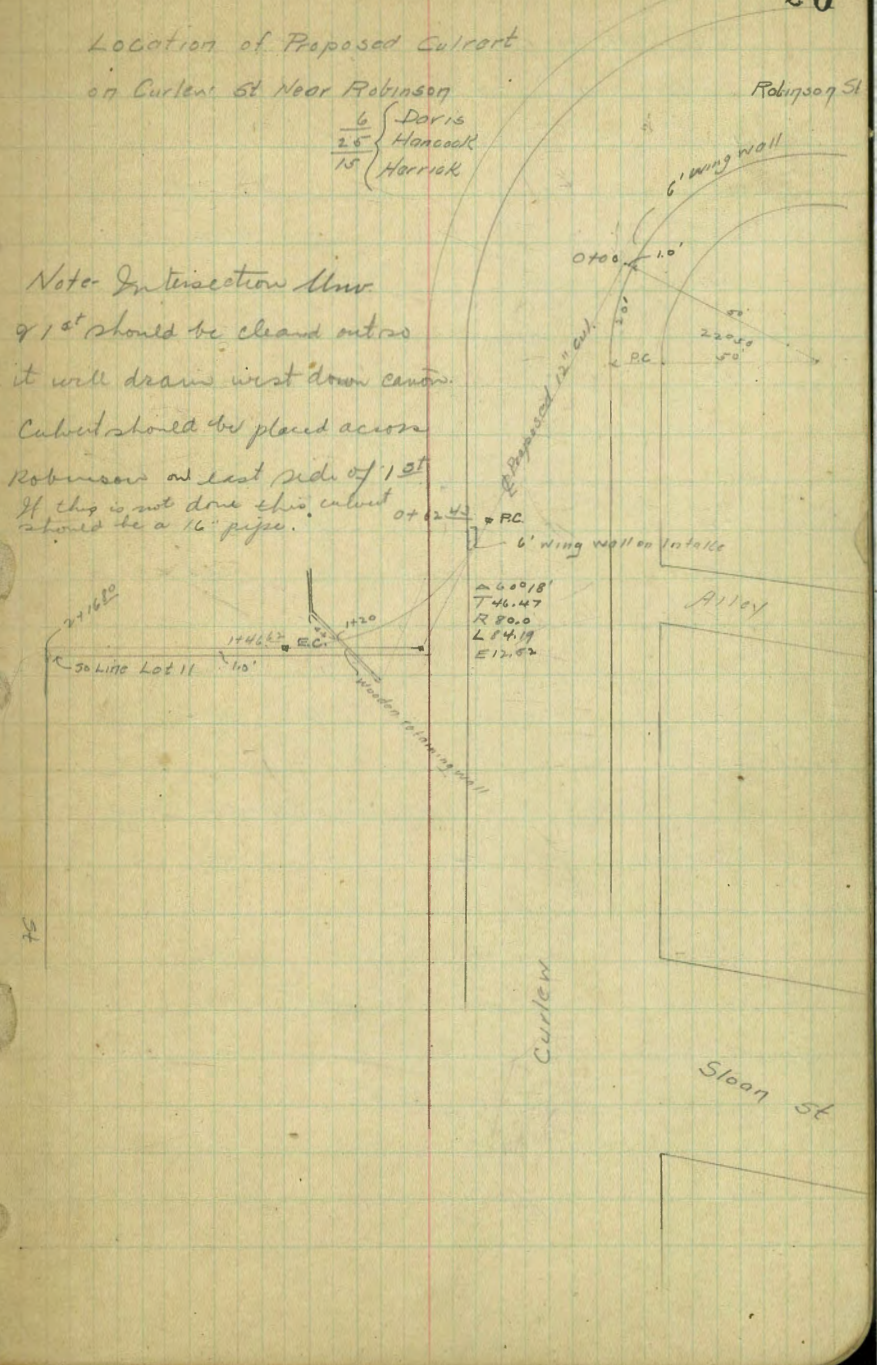
## Levels over Line of Proposed Culvert.

| | + | HI | − | Elev |
|---|---|---|---|---|
| | 2.95 | 237.20 | | 234.25 Grade Stake |
| 0+00 | | | 0.2 | 237.0 |
| +25 | | | 3.4 | 233.8 |
| +50 | | | 6.6 | 230.6 |
| +62 43 - P.C | | | 8.3 | 228.9 |
| +75 | | | 9.9 | 227.3 |
| +95 | | | 11.0 | 226.2 |
| 1 | | | 10.4 | 226.8 |
| T.P. | 1.52 | 226.04 | 12.68 | 224.52 |
| +20 | | | 5.8<br>8.9 | 220.2<br>217.1 |
| +20: Top wall | | | 4.6 | 221.4 |
| +25 | | | 10.0 | 216.0 |
| T.P. | 0.56 | 213.69 | 12.91 | 213.13 |
| +46 62 | | | 4.6 | 209.1 |
| +50 | | | 6.3 | 207.4 |
| +75 | | | 12.0 | 201.7 |
| T.P. | 0.49 | 201.49 | 12.69 | 201.00 |
| 2 | | | 4.8 | 196.7 |
| +16 80 | | | 11.1 | 190.4 |

## Location of Proposed Culvert on Curlew St Near Robinson

6 / 25 / 15 { Davis, Hancock, Harrick

Note- Intersection Unv. of 1st should be cleaned out so it will drain west down canon. Culvert should be placed across Robinson on east side of 1st. If this is not done this culvert should be a 16" pipe.



## Levels over Line of Proposed Culvert

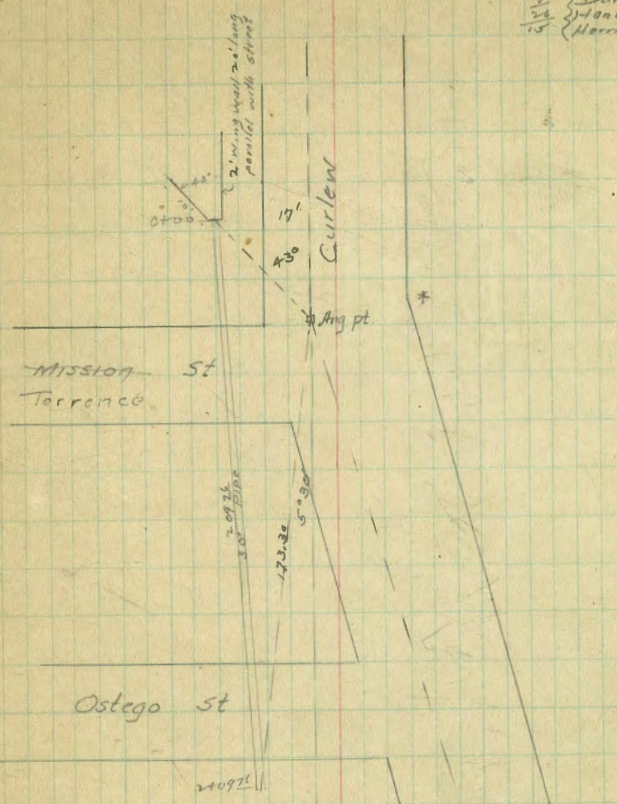
| | + | HI | − | Elev |
|---|---|---|---|---|
| | 0.67 | 170.91 | | 170.24 BM Nub 7' E Elm Curlew * |
| T.P | 1.51 | 169.88 | 12.54 | 158.37 |
| 0+00 | | | 6.0 | 153.9 |
| +25 | | | 6.6 | 153.3 |
| +50 | | | 7.8 | 152.1 |
| +75 | | | 8.7 | 151.2 |
| +85 | | | 8.5 | 151.4 |
| +90 | | | 7.2 | 152.7 |
| 1+00 | | | 6.6 | 153.3 |
| +25 | | | 7.7 | 152.2 |
| +50 | | | 9.6 | 150.3 |
| +55 | | | 9.5 | 150.4 |
| +61 | | | 7.1 | 152.8 |
| +75 | | | 7.3 | 152.6 |
| +92 | | | 8.2 | 151.7 |
| 2+00 | | | 10.2 | 149.7 |
| +09.76 | | | 11.7 | 148.2 |

## Cross Section for fill across Culvert at Intake

| | | | |
|---|---|---|---|
| 8' E Ctr Cul. | | 2.9 | 157.0 |
| Ctr | | 6.0 | 153.9 |
| 10' W | | 5.1 | 154.8 |
| 25' W | | 2.9 | 157.0 |

Note Fill should be about 8' wide on top. Elev top fill 157.00

## Location of Proposed Culvert on W. Side of Curlew at Mission

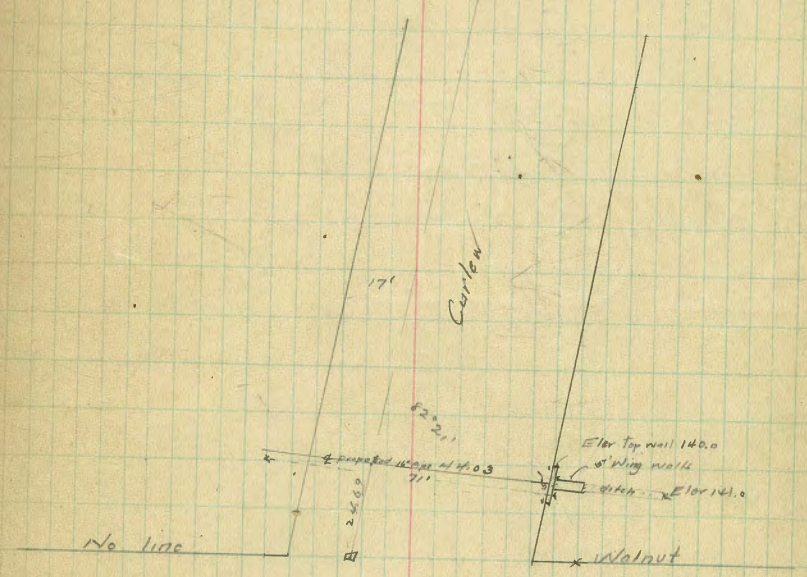


6 Davis
7 Hancock
15 Herrick

## Levels over Line of Proposed Culvert

| + | M' | − | Elev |
|---|---|---|---|
| 0.55 | 142.72 | | 142.17 BM Hub 25 E Curlew x |
| 25 E of Intake | | 1.7 | 141.0 |
| 0+00 | | {2.7<br>4.4 | 140.0<br>138.3 |
| + 11 | | 4.7 | 138.0 |
| + 12 | | 5.5 | 137.2 |
| + 30 | | 5.2 | 137.5 |
| + 49 | | 6.4 | 136.3 |
| + 51 | | 5.6 | 137.1 |
| + 61 | | 5.3 | 137.4 |
| + 71 | | 12.7 | 130.0 |

## Location of Proposed Culvert Across Curlew St at Walnut



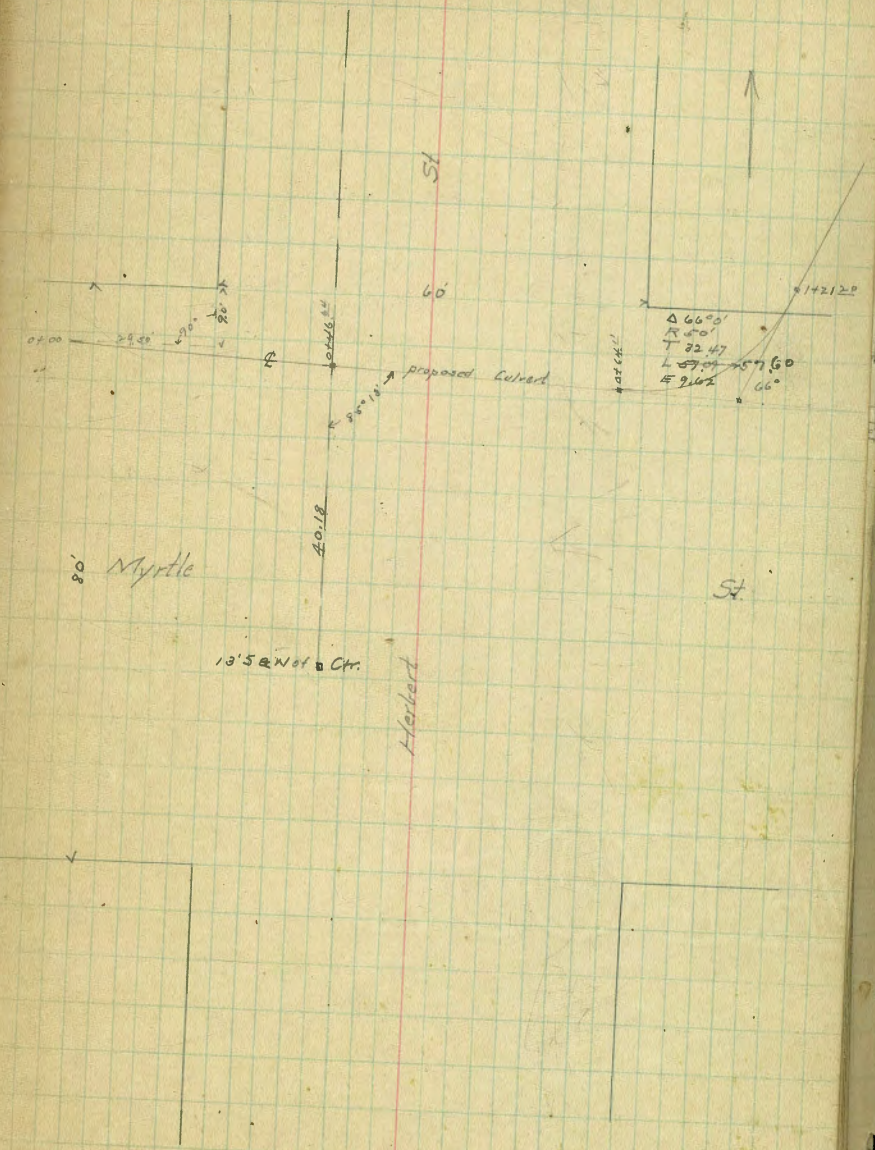

Note Ditch 2' wide should be dug from intake to a point 25' E

| | + | H.I. | − | Elev. |
|---|---|---|---|---|
| | | | | 298.02 B.M. Spk Pole SW Cypress P.Blvd. |
| | 2.35 | 300.37 | | |
| | 0.89 | 290.33 | 10.93 | 289.44 |
| | 0.36 | 277.75 | 12.94 | 277.39 |
| | 3.50 | 268.84 | 12.41 | 265.34 |
| 0+00 = Toe Slope | | | 10.4 | 258.4 |
| +25 | | | 9.7 | 259.1 |
| +46.64 | | | 8.1 | 260.7 |
| +64.11 = P.C. | | | 6.8 | 262.0 |
| +75 | | | 6.7 | 262.1 |
| 1+00 | | | 5.5 | 263.3 |
| +21.20 E.C. | | | 4.8 | 264.0 |
| +25 | | | 4.6 | 264.2 |
| +50 | | | 3.6 | 265.2 |

7 Davis
30 Hancock
15 Herrick

59

Location of Proposed Culvert - Herbert & Myrtle Sts



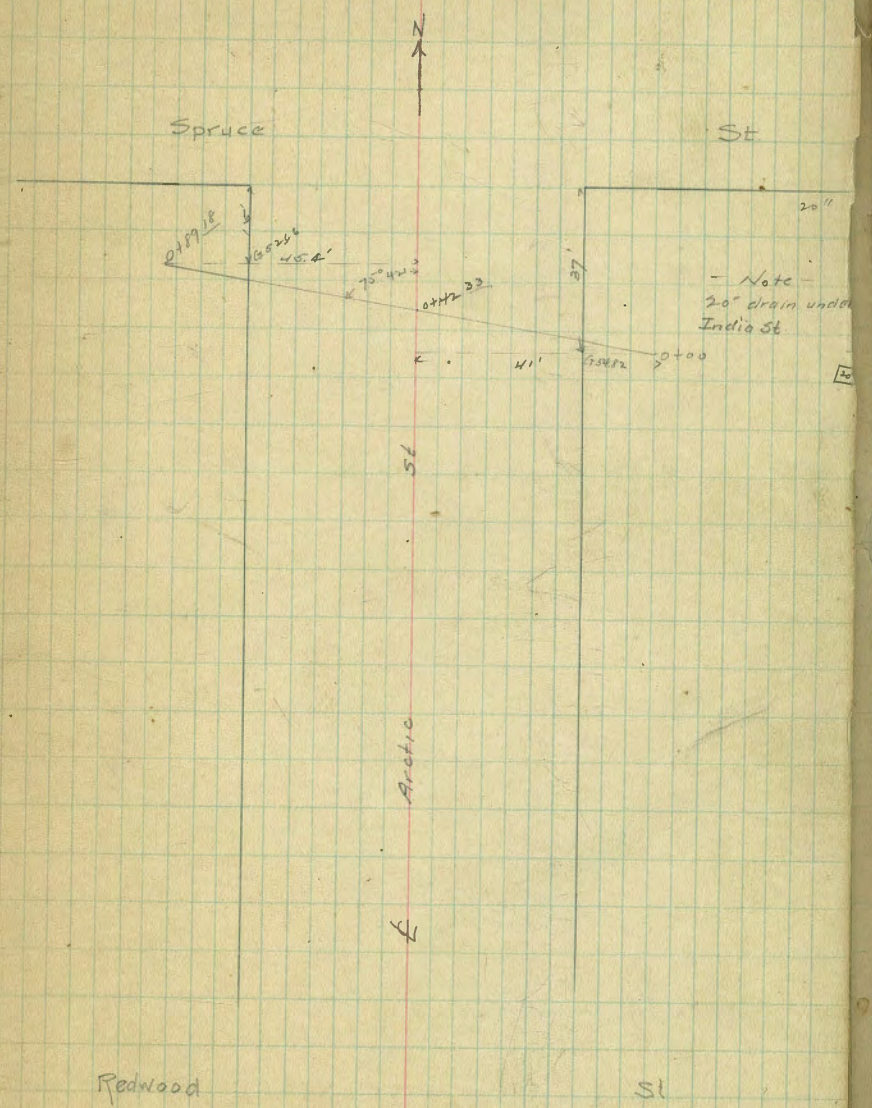
| | + | H.I. | - | Elev. |
|---|---|---|---|---|
| | 0.09 | 87.25 | | 86.91 BM NE India Spruce |
| T.P | 0.42 | 74.54 | 12.93 | 74.12 |
| T.P | 0.17 | 62.10 | 12.61 | 61.93 |
| | 4.99 | 58.11 | 1.98 | 53.12 |
| 0+00 - Toe Slope | | | 5.8 | 52.3 |
| +22 | | | 7.0 | 51.1 |
| +29 | | | 4.6 | 53.5 |
| +42.33 - Ctr Arctic | | | 3.6 | 54.5 |
| +52 | | | 5.0 | 53.1 |
| +63 | | | 10.3 | 47.8 |
| +89.18 - Toe Slope | | | 10.8 | 47.3 |

4 Davis
30 Hancock
15 Herrick

60

Location of Proposed Culvert Across Arctic St bet Rwid & Spruce

Spk Pole



2 +42.15 End 36" C.P. Culvert
+35.86 End outlet

+75.83 1" Vit Sewer pipe
1+71.19 E.C.

1+50.05 P.C

1+35.07 E.C.

1+00.51 P.C.

0+77.18 E.C.

0+52.77 P.C
0+51 6" Sewer
0+45 E Pipe trestle

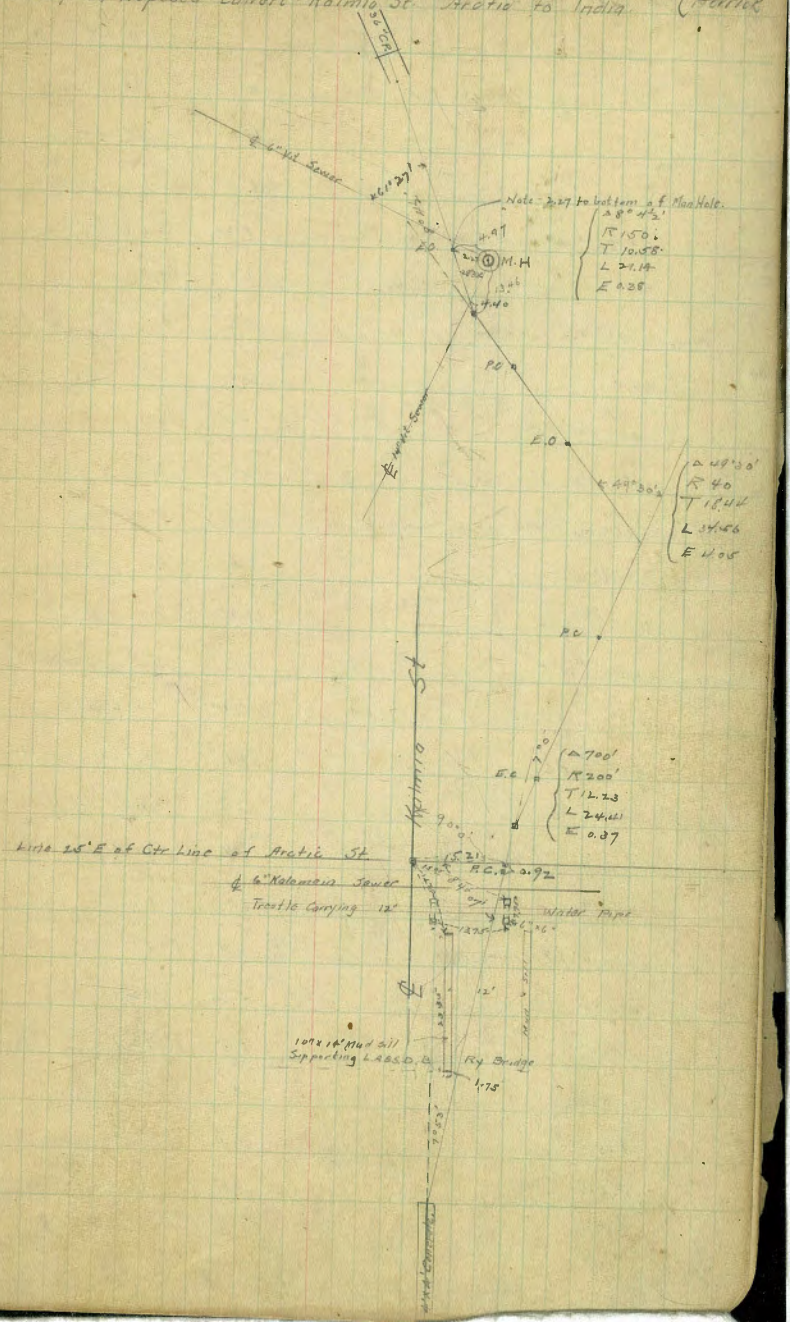
0+19.65 opp. end mud sill

0+00



Davis
Hancock
Herrick

Location of Proposed Culvert - Kalmio St Arctic to India



8 Davis
3 Hancock
15 Hemie

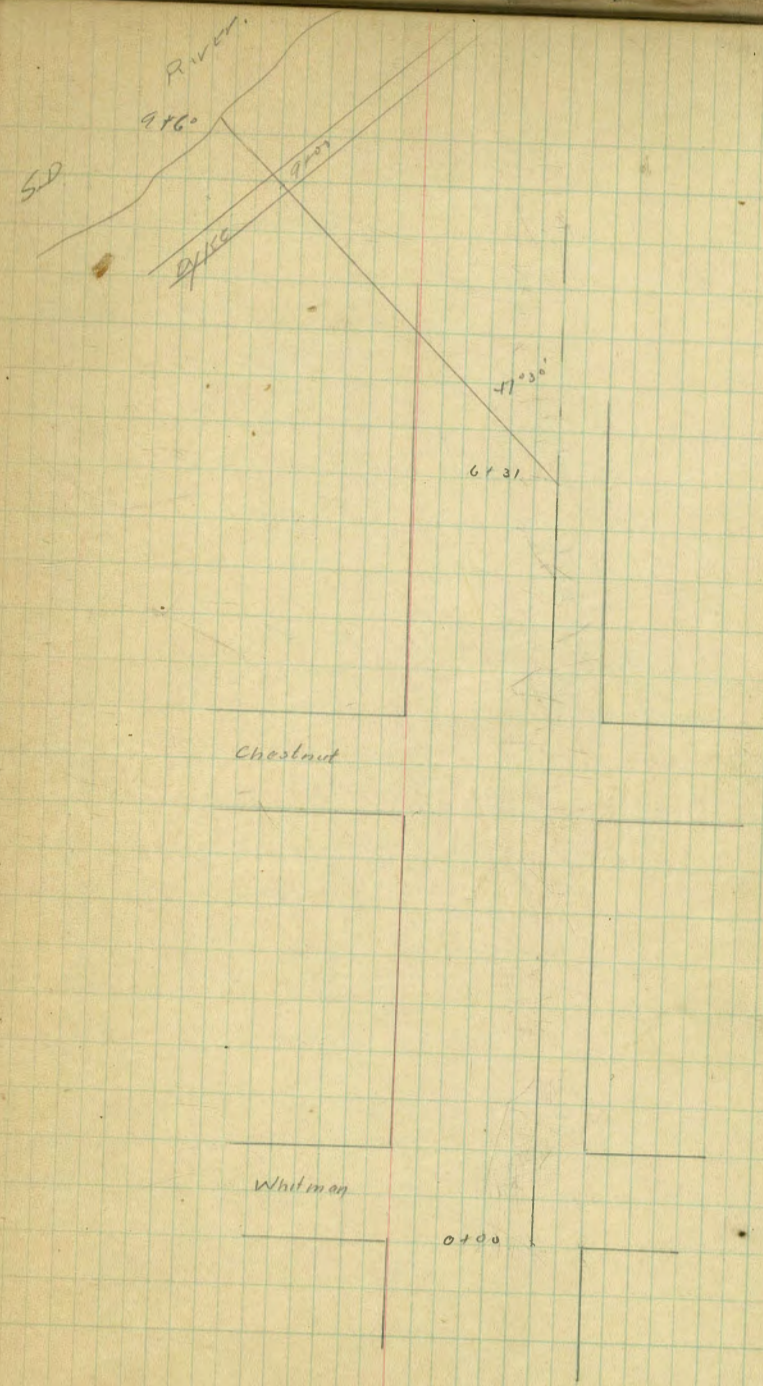
Levels over Proposed Culvert on Kalmia St- Arctic to India

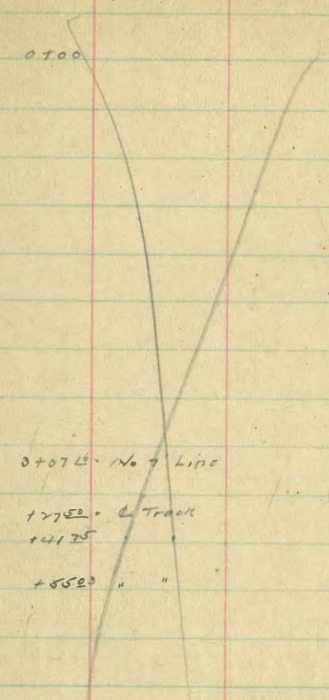
| | | | | |
|---|---|---|---|---|
| | 0.22 | 46.67 | | 46.45 BM Top Hydt S.E. India & Kalmia |
| T.P | 0.26 | 34.04 | 12.89 | 34.78 |
| T.P | 0.12 | 21.16 | 13.00 | 21.04 |
| T.P. | 4.97 | 14.21 | 11.92 | 9.24 |
| 0+00 = End 4x4 Concrete Cul. (60 Hom) | | | 8.20 | 6.01 |
| +16 | | | 6.7 | 7.5 |
| +19.65 Top mud Sill | | | 5.6 | 8.6 |
| +25 | | | 4.3 | 9.9 |
| +32 = Ctr R.R | | | 4.9 | 9.30 |
| +45 = Ctr Pipe line | | | 4.7 | 9.5 |
| +51 = Top 6" Kalamein sewer pipe | | | 5.65 | 8.56 |
| +52.27 = P.C | | | 5.4 | 8.8 |
| +77.43 = E.C. | | | 5.2 | 9.0 |
| 1+00.51 = P.C. | | | 5.0 | 9.2 |
| T.P | 8.03 | 17.27 | 4.97 | 9.24 |
| +35.07 = EC | | | 8.1 | 9.2 / Ctr; 9.3 / 1.0 No; 11.7 / 2.0 No |
| +50.05 P.C | | | 7.5 | 9.8 / Ctr; 14.6 / 2.0 No |
| Top 14" Vit Sewer Pipe | | | 6.9 | 10.4 |
| +71.19 E.C. | | | 7.2 | 10.1 |
| Top 6" Vit Sewer Pipe | | | 6.7 | 10.6 |
| 2+00 | | | 5.2 | 12.1 |
| +25 | | | 4.4 | 12.9 |
| +32 | | | 5.2 | 12.1 |
| +35.86 | | | 0.9 | 16.4 |
| +42.15 | | | 0.87 | 16.40 |

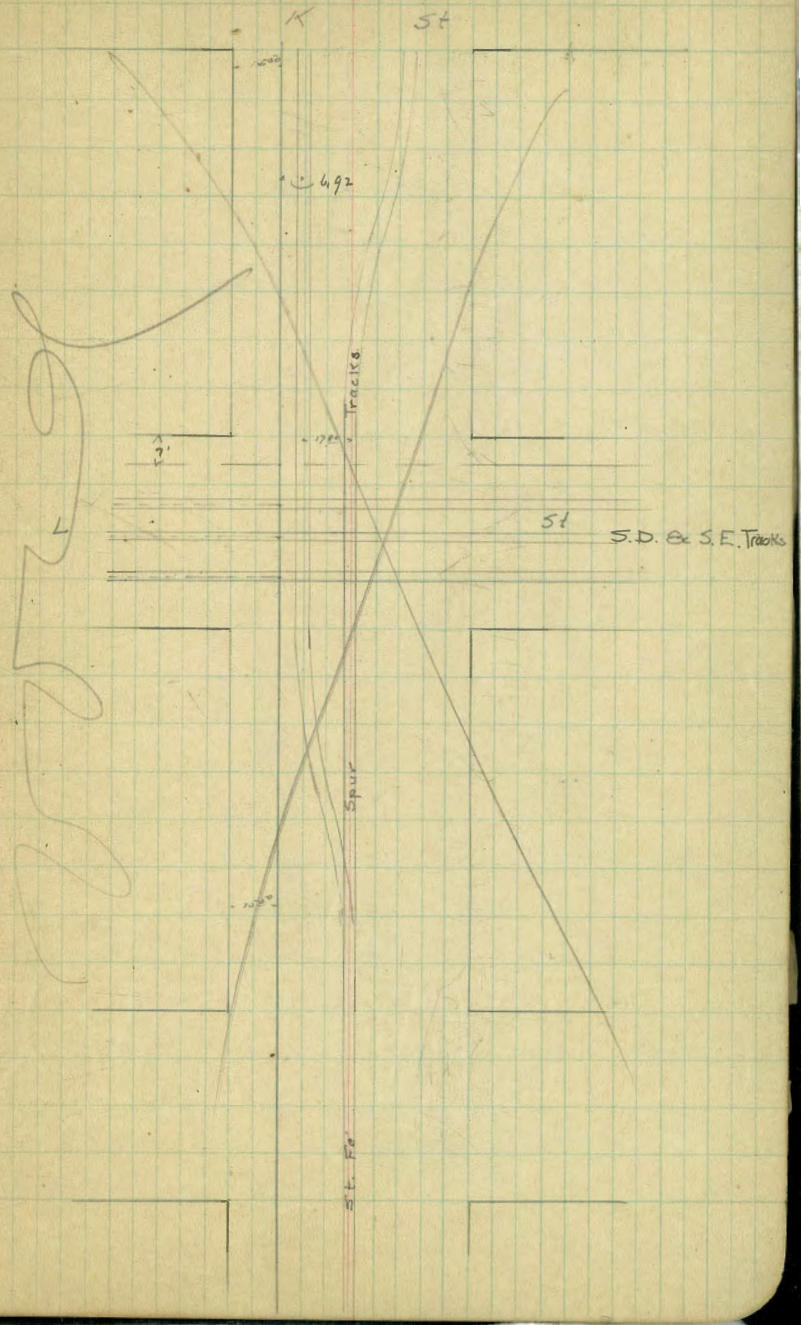
Preliminary Levels Old Town Storm Drain

| | | | | |
|---|---|---|---|---|
| | 5.02 | 11.06 | | 6.04 Mon SW Taylor Chestnut |
| 0+00 - S.E. Taylor & Whitman | | | 5.7 | 5.4 |
| 1 | | | 5.9 | 5.2 |
| 2 | | | 5.7 | 5.4 |
| 3 | | | 5.0 | 6.1 |
| 4 | | | 4.0 | 7.1 |
| 5 | | | 1.8 | 9.3 |
| T.P. | 7.29 | 17.75 | 0.60 | 10.46 |
| 6 | | | 6.5 | 11.3 |
| +31 ΔL 47° 30' | | | 4.5 | 13.0 |
| 7 | | | 5.1 | 12.7 |
| 8 | | | 4.3 | 13.5 |
| 9 | | | 2.6 | 15.2 |
| +10 | | | 2.6 | 15.2 |
| +60 | | | 17.0 | 0.75 |






0+00
3+07 L° No 7 Line
+27 50 ℄ Track
+41 75 " "
+55 03 " "


K
St
6.92
Tracks
7'
St
S.D. & S.E. Tracks
Spur
St. Fe

NE. 10 " M. 7.48
BM. SE. 9th & M. Plug. 5.01

0+00

0+96
0+10 86

+40 07

+55 75

+87 59

1+74 92 △

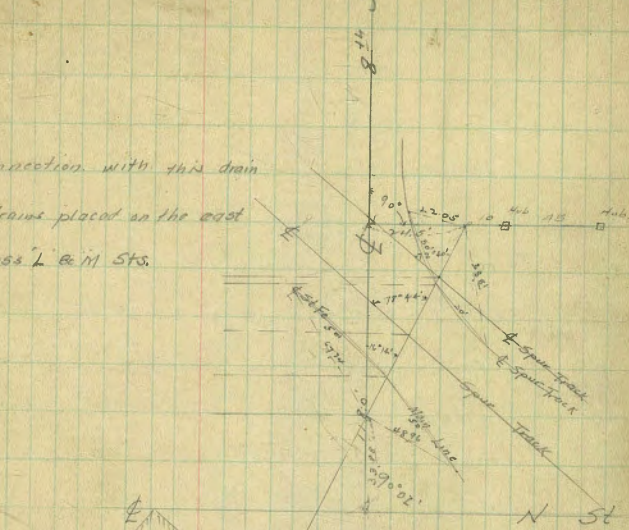
1+59



8
12
15

Location of Drain foot of 8th St

Note- In connection with this drain there should be drains placed on the east side of 8th St across L & M Sts.



℄ proposed

Levels over Line of Proposed 8th St Storm Drain

| | | | | |
|---|---|---|---|---|
| | 2.03 | 10.72 | | 8.69 |
| | 2.97 | 7.89 | 6.30 | 4.92 |
| 0+00 | | | 6.0 | 1.4 |
| +96 - Rail Elev. | | | 5.72 | 1.69 |
| +40.07 | " | " | 5.71 | 1.68 |
| +50 | | | 5.9 | 1.5 |
| +55.75 | " | " | 5.65 | 1.74 |
| +78 | | | 6.1 | 1.3 |
| +87.59 | | | 6.8 | -1.4 |
| 1+00 | | | 8.6 | -1.2 |
| +20 | | | 10.6 | -3.2 |
| +33 | | | 6.9 | 0.5 |
| +50 | | | 6.9 | 0.5 |
| +74.92 | | | 6.8 | 0.6 |
| T.P. | 4.43 | 5.02 | 6.80 | 0.59 |
| 2 | | | 4.6 | 0.4 |
| +50 | | | 4.4 | 0.6 |
| 3 | | | 3.1 | 1.9 |
| +50 | | | 2.7 | 2.3 |
| 4 | | | 3.8 | 1.2 |
| +45 | | | 4.9 | 0.1 |
| +59 - Bottom bay | | | 13.6 | -8.6 |

Offsets - Hubs - 2' East & 2' S. of ℄ Pipe.

0.89% Gr.

| Stg. | + | HI | - | Elev | Bot. Gr. | Cuts |
|---|---|---|---|---|---|---|
| BM SE 9th & N. Flag | | | | 5.01 | 3.00 Curb 2.34 Gutter | |
| 75' Hub 10' E. of Grade | 4.42 | 9.43 | 7.38 | 2.05 | | |
| | 3.75 | 5.80 | | | | |
| 0+00 | | | 4.98 | 1.72 | - 1.32 | 3.0 |
| +50 | | | 4.28 | 1.52 | - 1.72 | 3.24 |
| 1+00 | | | 4.75 | 1.05 | - 2.12 | 3.17 |
| +50 | | | 4.45 | 1.35 | - 2.52 | 3.82 |
| +75.7 MH. | | | 5.30 | 0.50 | - 2.73 | 3.23 |
| 2+00 | | | 4.98 | 0.82 | - 2.92 | 3.74 |
| +50 | | | 5.21 | 0.59 | - 3.32 | - 3.91 |
| 3+00 | | | 3.86 | 1.94 | - 3.72 | 5.66 |
| +50 | | | 3.35 | 2.45 | - 4.12 | 6.57 |
| 4+00 | | | 4.80 | 1.00 | - 4.52 | 5.5 |
| +50 | | | 5.27 | 0.53 | - 4.92 | 5.45 |
| +70 | | | 5.45 | 0.15 | - 5.08 | 5.23 |
| +80 toe fill water | | | | | - 5.16 | |

Note last 20ft should be iron pipe.

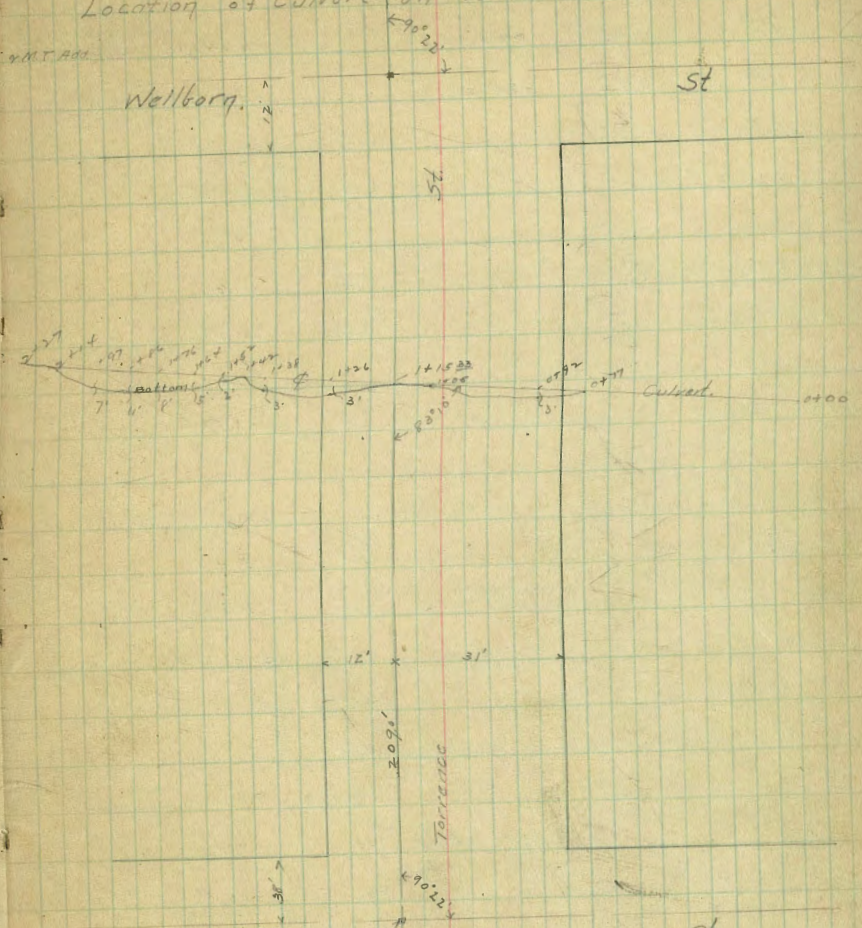
E 27 { Davis, Hancock, Herriak

## Levels for Torrence St Culvert

| Sta | + | HI | − | Elev. | |
|---|---|---|---|---|---|
| | 0.49 | 264.53 | | 264.03 | B.M. Pig in Ct on Dr. Encircled Manhole Rim + M.T. Add |
| T.P. | 1.10 | 252.76 | 12.87 | 251.66 | |
| 0+00 | | | 0.5 | 252.3 | |
| +50 | | | 3.1 | 249.7 | |
| +56 | | | 8.5 | 244.3 | |
| T.P. | 0.08 | 240.06 | 12.78 | 239.98 | |
| +77 | | | 7.1 | 233.0 | |
| +92 | | | 12.0 | 228.1 | |
| 3'E | | | 12.9 | 227.2 | |
| T.P. | 0.04 | 227.26 | 12.84 | 227.22 | |
| 1+00 | | | 3.2 | 224.1 | |
| +05 | | | 7.8 | 219.5 | |
| +15.22 | | | 11.66 | 215.60 | on hub |
| T.P. | 0.05 | 214.41 | 12.90 | 214.36 | |
| 1+26 | | | 1.5 | 212.9 | |
| 3'E | | | 3.7 | 210.7 | |
| +38 | | | 7.3 | 207.1 | |
| 3'E | | | 7.8 | 206.6 | |
| +42 | | | 10.0 | 204. | |
| +52 | | | 11.9 | 202.5 | |
| 2'S. | | | 13.2 | 201.2 | |
| T.P. | 0.10 | 201.79 | 12.72 | 201.69 | |
| +04 | | | 0.8 | 201.0 | |
| 5'E | | | 4.5 | 197.3 | |
| +76 | | | 4.9 | 196.9 | |
| 8'E | | | 6.7 | 195.1 | |
| +86 | | | 5.9 | 195.9 | |
| 11'E | | | 9.9 | 191.9 | |

## Location of Culvert on Torrence St

E 27 15 { Davis, Hancock, Herriak




| Sta | + | HI | − | Elev. |
|---|---|---|---|---|
| 1+97 | | 201.79 | 9.2 | 192.5 |
| 7'E | | | 12.6 | 189.3 |
| 2+14 | | | 15.7 | 186.1 |
| +27 | | | 16.4 | 185.4 |

9/11/15
Gregory
Moore
Miller

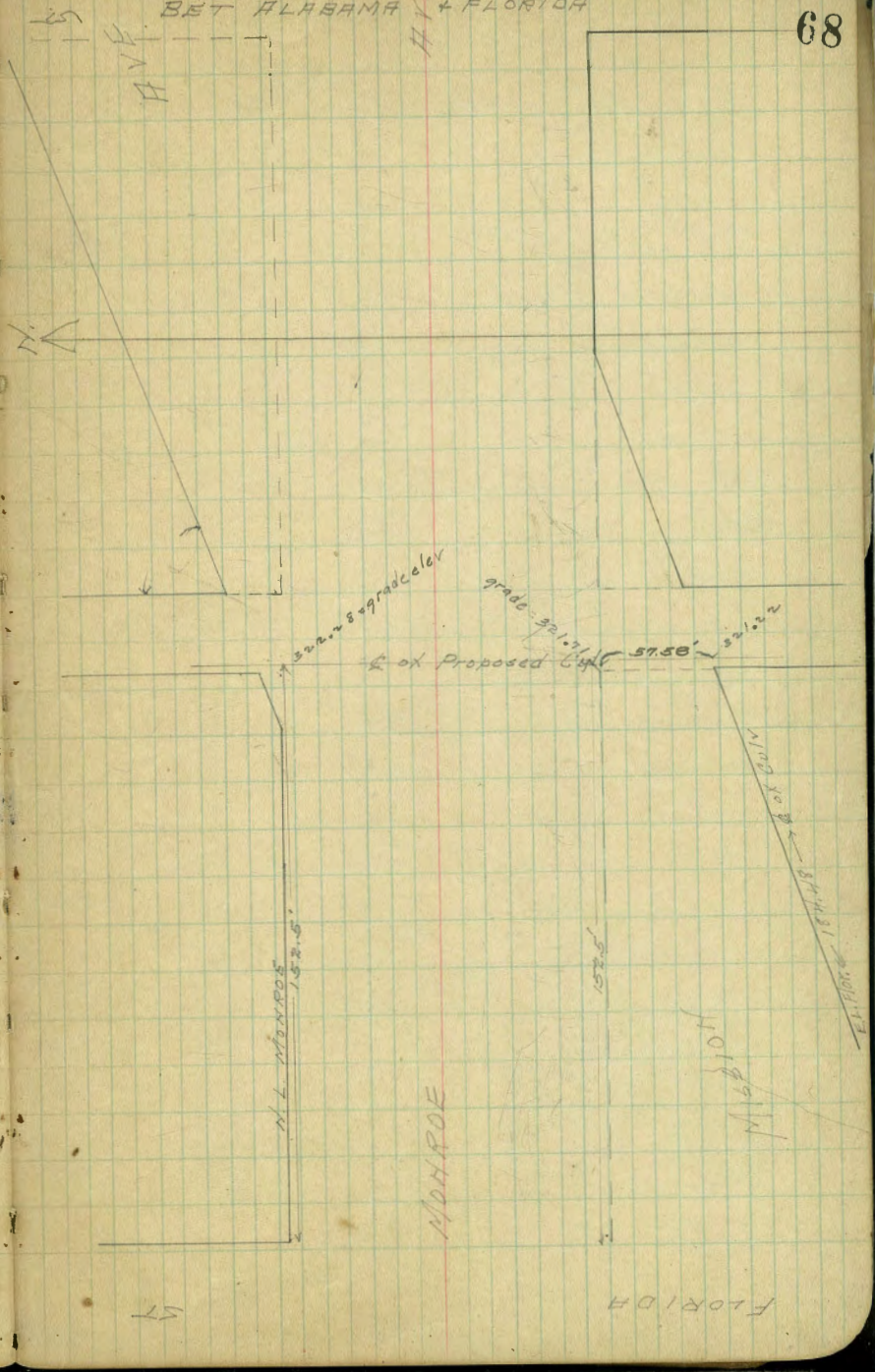
# LEVELS FOR CULVERT ON MONROE AVE Between Florida & Alabama Sts

| | | | | | |
|---|---|---|---|---|---|
| B.M. | | 2.33 | 326.93 | | 324.60 SE Alabama & Florida |
| T.P. | | 6.95 | 324.12 | 9.76 | 317.17 |
| 0.0 = 6.6' No. of N.L. MONROE = Inlet. | | | | 6.2 | 317.9 |
| + 6.6 = N.L. MONROE | | | | 6.3 | 317.8 |
| + 44.6 = 18'50 of " " | | | | 7.2 | 316.9 |
| + 46.6 = Ctr of MONROE | | | | 7.5 | 316.6 |
| + 68.6 = 62'50 of N.L. " | | | | 7.2 | 316.9 |
| + 86.6 = S.L. of MONROE | | | | 8.1 | 316.0 |
| + 95.6 = 9'50 " " " = Outlet for MONROE | | | | 8.3 | 315.8 |

NOTES for CONTINUATION OF CULVERT TO CLEAR MISSION

| | | |
|---|---|---|
| 47'50 of S.L. MONROE | 9.2 | 314.8 |
| 57.58' " " " = S.L. MISSION | 9.3 | 314.8 |
| 9.8' " " " " = OUTLET | 9.4 | 314.7 |
| 15' N. of N.L. of MONROE | 5.8 | 318.3 |
| 86' N. of N.L. of MONROE on ℄ Culv prod. | 4.2 | 319.9 |
| 75' W of above pt | 6.1 | 318.0 |
| 20' " " ℄ of Culv on N.L. MONROE | 6.8 | 317.3 |
| 75' " " " " " " | 6.6 | 317.5 |

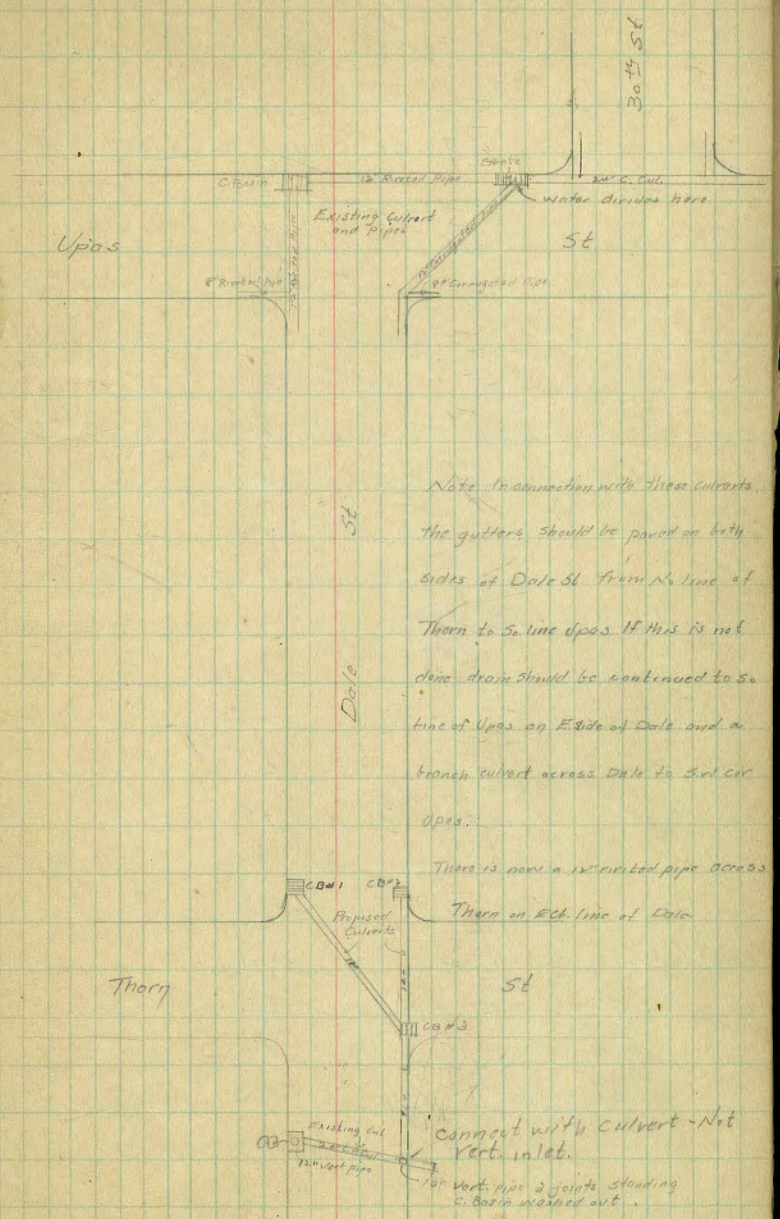
LOCATION OF CULVERT ON MONROE AVE BET ALABAMA & FLORIDA



Levels for Proposed Culvert at Thorn & Dale Sts

2/21/16 (Davis, Hamilton)

| Sta | + | HI | − | Elev. |
|---|---|---|---|---|
| | 0.39 | 319.78 | | 318.39 Plg N.W. Dale & Thorn |
| 0+00 | CB #1 | | 1.3 | |
| +33 | | | 0.5 | |
| +62.6 | CB #3 | | 1.2 | |
| 0+00 | CB #2 = bot present pipe | | 1.9 | |
| 0+00 | Top " " | | 0.3 | |
| +30 | | | 0.8 | |
| +49 | CB #3 | | 1.2 | |
| +60 | = S. Line Thorn = 0+00 | | 1.5 | |
| +25 | | | 3.9 | |
| +50 | | | 6.1 | |
| +79 | | | 7.0 | |
| +89 | | | 12.6 | |
| 1+00 | | | 14.1 | |
| +07 | | | 12.8 | |
| +15 | | | 13.2 | |
| +18 | | | 17.7 | |
| +23 | | | 17.7 | |
| +28 | | | 14.8 | |
| +28 | Bot | | 18.67 | |




Note In connection with these culverts the gutters should be paved on both sides of Dale St from No line of Thorn to So line Upas If this is not done drain should be continued to So line of Upas on E side of Dale and a branch culvert across Dale to S.W. cor Upas.

There is now a 12" riveted pipe across Thorn on E.Cl. line of Dale.

Connect with Culvert - Not Vert. inlet.

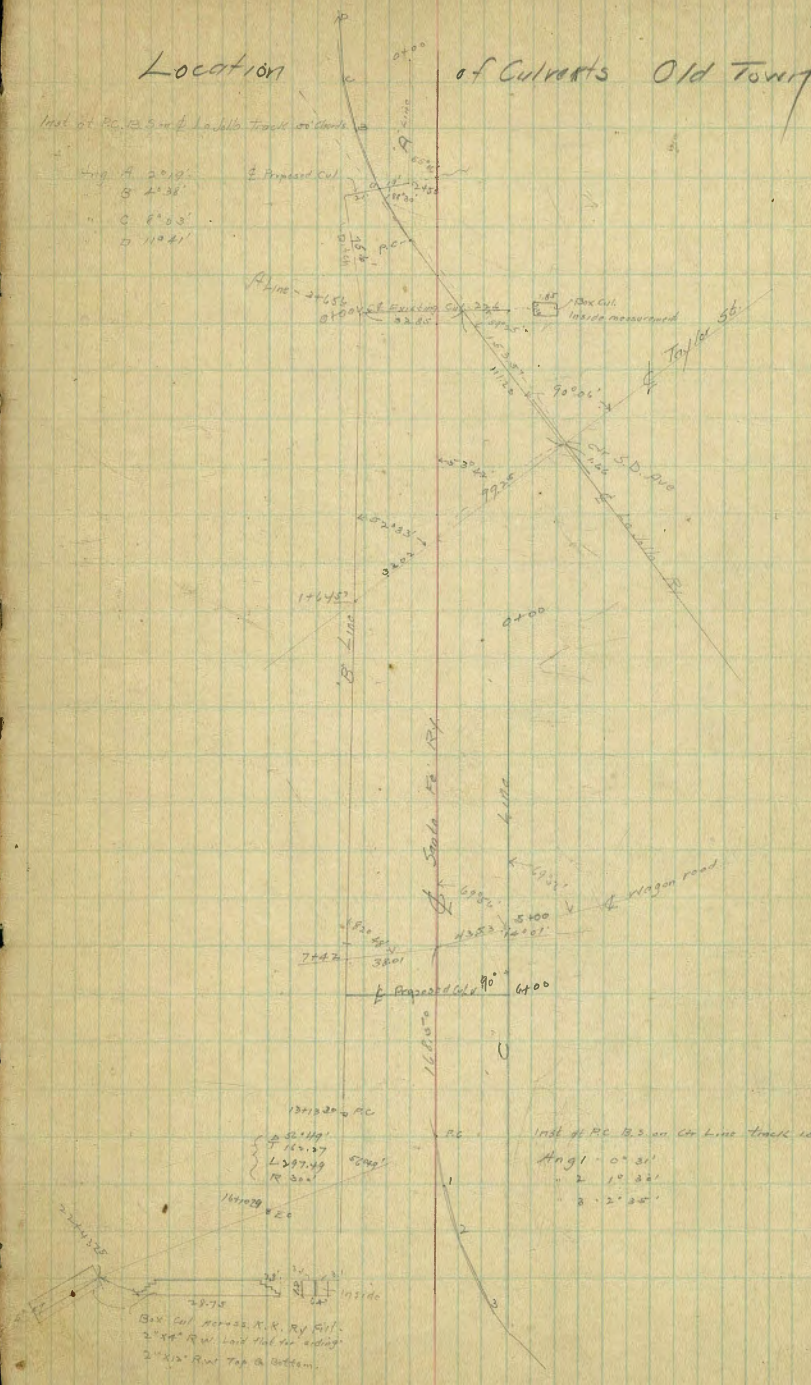
| | | | | |
|---|---|---|---|---|
| | 4.98 | 11.02 | | 6.04 B.M. Mon. S.W. Taylor & Chestnut |
| T.P. | 2.24 | 7.70 | 5.56 | 5.46 |
| | 2.60 | 8.40 | 1.90 | 5.80 - Hub Ctr. S.D. Ave. & Taylor St. |

"A" Line

| | L | | C | | R | Grade |
|---|---|---|---|---|---|---|
| 0+00 | | | 0.8 | | | 0.80 |
| +50 | | 0.4/24 | -0.2 | 0.2/4 | | 0.58 |
| 1 | | 0.4/19 | -1.4 | 0.3/6 | | 0.36 |
| +50 | | 0.4/38 -0.6/6 | -1.8 | 0.2/7 | | 0.14 |
| 2 | | 0.3/20 -1.0/5 | -2.1 | 0.4/7 | | -0.08 |
| +40 | | 0.4/5 | -0.8 | 0.3/6 | | -0.25 |
| +50 | | | 0.3 | | | -0.29 |
| +60 | | | 4.2 | | | -0.34 |
| +69 | | | 5.6 | | | -0.38 |
| +76 | | | 4.9 | | | -0.41 |
| +90 | | | 0.5 | | | -0.47 |
| 3+00 | | | 0.8 | | | -0.51 |
| +25 | | | 0.6 | | | -0.62 |
| +50 | | | 0.4 | | | -0.73 |
| +63 | | | -0.4 | | | -0.79 |
| +65.6 | | | -2.8 | | | -0.80 |
| East end box culvert | | | -0.69 | | | |
| West " | | | -0.80 | | | |
| 0+00 "B" Line | 1.0/15 | 0.4/11 -1.2/10 | -2.8 | -1.6/4 | | -0.80 |
| +08 | 0.7/10 | 1.0/4 -0.3/3 | -1.4 | 0.5/4 | 1.4/8 | -0.80 |
| +50 | 0.3/10 | 1.4/4 0.7/2 | -0.6 | 0.5/3 | 2.3/8 | -0.82 |



# Location of Culverts Old Town



F.40

B Line

| | L | | | C | | R | Grade |
|---|---|---|---|---|---|---|---|
| 1+00 | 0.3/10 | 0.6/3 | -0.7/2 | -0.4 | | 1.3/8 | -0.84 |
| +50 | 0.2/10 | | | 0.8 | | 1.1/10 | -0.86 |
| 2 | | 0.1/10 | 0.3/1 | -0.3 | | 0.7/10 | -0.88 |
| +50 | | 0.3/15 | | 0.0 | | 0.3/10 | -0.90 |
| 3 | | -0.3/10 | -0.4/3 | 0.1 | | 0.2/10 | -0.92 |
| +50 | | 0.1/10 | -0.7/4 | -0.1 | 0.4/5 | -0.4/10 | -0.94 |
| T.P | 6.94 | | 7.27 | 8.07 | | 0.33 | |
| 4 | | -0.5/12 | -0.9/10 | -0.8 | 0.0/5 | -0.3/10 | -0.96 |
| +50 | | -0.2/15 | | -1.2 | -0.6/5 -0.1/7 -1.8/11 -0.2/15 | | -0.98 |
| 5 | | -0.6/15 | -0.5/12 | -1.3 | -0.4/8 -1.1/12 -0.3/15 | | -1.00 |
| +50 | | -0.3/27 | -1.3/15 | -1.6 | -1.7/5 -1.9/10 -0.9/17 | | -1.02 |
| 6 | 0.2/50 | -0.3/40 | -1.1/30 | -1.8 | -1.3/7 -1.6/15 -0.5/17 | | -1.04 |
| +50 | -0.3/75 | -0.9/67 | 0.1/40 -0.7/24 -2.0/10 | -1.3 | -1.9/12 -0.4/18 -0.3/20 | | -1.06 |
| 7 | | -0.4/73 | -1.9/30 | -2.2 | -1.6/6 -2.3/12 -0.2/20 | | -1.08 |
| +27 | | -0.4/80 | -1.8/40 | -0.4 | -1.5/12 1.0/20 | | -1.09 |
| +33 | | | | 0.4 | 4.7/25 | | -1.10 |
| +42 | 0.7/52 | -0.5/75 | -0.4/40 -0.5/13 | 0.7 | 4.8/25 | | -1.10 |
| +58 | | | | 0.3 | 4.4/25 | | -1.10 |
| +55 | 0.0/81 | -0.8/60 | -0.7/15 | 0.3 | 1.5/24 | | -1.11 |
| +72 | 0.1/100 | -0.9/40 | -0.3/15 | -0.8 | -1.2/14 1.0/24 | | -1.11 |
| 8 | 0.0/100 -0.8/50 | -0.3/50 | -2.7/27 -2.0/15 | -1.7 | -0.6/20 4.2/24 | | -1.12 |
| +50 | 0.4/130 -0.4/120 | -0.4/100 | -0.6/50 0.0/30 -0.8/10 | -1.4 | -0.8/11 -0.2/22 1.6/25 | | -1.14 |
| 9 | 0.0/115 -1.0/110 | -1.0/85 | -0.5/40 -0.7/13 | -1.4 | -0.7/22 0.1/25 | | -1.16 |
| +50 | 0.0/140 -0.3/130 | -0.9/110 | -0.4/74 -0.8/45 | -1.9 | -0.8/12 -1.0/22 1.4/27 | | -1.19 |
| T.P | 5.27 | | 4.93 | 7.61 | | -0.34 Nail telpole Sta 9+10 | |

Continued on P. 74



Levels over ℄ Wagen Road over Santa Fe Track at Sta 7+40 B Line

14.1
7.27

| | | |
|---|---|---|
| 0+00 ℄ Santa Fe | 1.4 | 5.9 |
| 6' W | 1.7 | 5.6 |
| 38 " | 6.5 | 0.8 |
| 50 | 7.2 | -0.5 |
| 1.00 | 8.0 | -0.7 |
| 1.15 | 7.5 | -0.2 |
| 1.25 | 6.7 | 0.6 |
| 8' E | 1.7 | 5.6 |
| 20 " | 2.1 | 4.2 |
| 4.35+ | 6.4 | 0.9 |
| 50 " | 6.6 | 0.7 |
| 100 " | 6.4 | 0.9 |

7.27

"C" Line

| | L | | C | | | R | |
|---|---|---|---|---|---|---|---|
| 0+00 | | 16/15 | -0.3/9 | 1.8 | | | +0.39 |
| +50 | | 1.0/15 | 0.0/8 | 1.8 | | | +0.29 |
| 1 | | 1.1/19 | -0.3/8 | 1.6 | | | + 0.19 |
| +50 | | 0.7/16 | -0.4/7 | 0.9 | | | + 0.09 |
| +95 | | | | | | | 0.0 |
| 2 | | 1.0/25 | -0.6/15 | -1.0/7 | -0.1 | 0.4/6 | - 0.01 |
| +50 | | 0.8/24 | -0.5/15 | -1.3/8 | -1.0 | -0.8/4 0.0/6 | -0.11 |
| 3 | | 0.6/25 | -3.2/22 | -1.1/15 | -1.5/6 -1.4 | -0.5/6 0.0/8 | -0.21 |
| +50 | | 0.3/24 | -2.1/18 | -1.1/14 | -1.4 | -0.9/10 -0.1/11 | -0.31 |
| 4 | | 1.2/25 | -2.2/20 | -0.3/14 | -1.2 | -1.1/15 0.5/30 | -0.41 |
| +50 | | 1.0/24 | -0.6/20 | -0.2/14 | -0.5/7 -0.3 | 0.5/20 0.9/40 | -0.50 |
| +95 | | 1.6/25 | -0.2/21 | 1.1/10 | 1.0 | | -0.59 |
| 5 | | 1.2/25 | 2.3/12 | | 0.9 | 0.6/10 0.9/30 | -0.60 |
| +15 | | 1.4/20 | | | 0.7 | 0.9/10 0.7/25 | -0.63 |
| +29 | | 1.2/16 | -0.3/12 | | -1.3 | -0.8/18 -0.7/20 | -0.66 |
| +50 | | 0.6/18 | -1.2/8 | | -2.0 | -1.5/7 -0.3/23 | -0.70 |
| 6 | | 0.3/18 | -1.2/9 | | -1.3 | -1.3/9 0.2/20 | -0.80 |
| +50 | | 0.5/22 | -1.3/9 | | -1.4 | -1.1/7 -0.1/15 0.9/20 | -0.70 |
| 7 | | 0.0/24 | -1.0/12 | | -1.6 | -1.1/8 0.9/23 1.4/27 | -0.60 |
| T.P. | 4.23 | 4.99 | | 6.51 | | 0.76 | |
| +50 | | 1.0/25 | -0.5/19 | | -1.1 | -0.7/17 -0.7/31 0.5/40 | -0.51 |
| 8 | | 1.1/25 | 0.3/22 | | -0.8 | -0.7/11 0.4/30 | -0.41 |
| +50 | | 1.3/22 | -0.9/16 | | -1.3 | -1.4/20 -0.1/30 0.7/35 | -0.31 |
| 9 | 1.5/20 | 0.3/18 | -1.7/5 | | -1.3 | 1.0/32 | -0.21 |
| +50 | | 1.2/14 | -1.0/5 | | -1.1 | -1.1/9 0.7/22 | -0.12 |
| 10 | | | 1.1/12 | | -0.9 | 0.8/7 | -0.02 |
| +10 | | | | | | | 0.0 |
| +20 | | | | | 1.0 | | |

14.
7.27

73

Levels over the Proposed Culvert Across Santa Fe Track

| | | |
|---|---|---|
| 0+00 = Sta 6+00 "C" Line | 8.6 | - 1.3 |
| +09 | 8.4 | - 1.1 |
| +22 | 6.3 | 1.0 |
| +34 | 2.5 | 4.8 |
| +41 | 1.6 | 5.7 |
| +49 | 2.3 | 5.0 |
| +60 | 8.2 | - 0.9 |
| +80 = Int with "B" Line | 9.0 | - 1.7 |

4.9.3

"B" Line

| Stg | L | C | R | Grade |
|---|---|---|---|---|
| 10+00 | 0.6/120 -1.2/100 -0.1/50 -0.7/20 | -1.9 | -2.3/20 -1.1/25 0.3/28 | -1.71 |
| +50 | 0.0/120 -1.2/100 -0.2/60 -0.7/30 -1.9/15 | -1.8 | -1.1/20 -1.2/28 0.6/32 | -1.23 |
| 11 | 0.1/90 -1.2/70 -0.5/30 | -1.7 | -2.0/15 -2.0/33 -0.9/40 1.1/45 | -1.25 |
| +50 | 0.0/80 -0.7/60 -0.3/45 -1.3/20 | -0.8 | -2.0/20 -1.6/40 1.7/45 | -1.27 |
| 12 | 0.1/80 -1.3/35 -0.6/30 | -1.0 | 0.0/15 -1.9/35 -1.5/44 1.0/45 | -1.29 |
| +50 | 0.0/65 -1.0/35 | -0.5 | -0.3/15 -2.1/35 -1.8/45 0.6/0.0 | -1.31 |
| 13 | 0.0/60 -0.9/30 -0.3/18 | -0.7 | 0.2/25 -1.5/40 -1.9/50 -1.5/55 1.3/60 | -1.33 |
| PC +13.20 | 0.0/65 | -0.6 | 1.1/30 -1.6/45 -2.3/45 0.9/60 | -1.33 |
| +50 | -0.3/50 -1.3/35 -0.5/15 | -0.5 | -1.1/20 0.0/40 | -1.35 |
| 14 | -0.2/45 | -1.0 | -1.1/15 0.0/25 | -1.37 |
| +50 | 0.0/40 | -1.6 | 0.0/60 | -1.39 |
| 15 | -0.1/30 | -1.0 | -0.8/45 -0.3/90 | -1.41 |
| +50 | 0.1/25 | -1.0 | -1.1/45 -1.5/90 -0.3/130 | -1.43 |
| 16 | -0.7/10 | -0.8 | -1.2/40 -1.9/80 -0.4/85 | -1.45 |
| EC. +16.29 | -0.6/10 | -0.6 | -1.0/35 -1.5/70 -0.5/75 | -1.45 |
| +50 | -0.4/10 | -0.4 | -0.8/25 -1.5/65 -0.5/60 | -1.47 |
| 17 | -1.0/10 | -1.0 | -1.0/30 -1.2/45 -0.5/60 | -1.49 |
| +50 | -1.3/10 | -1.4 | -1.0/15 -1.3/30 -0.4/35 | -1.51 |
| T.P. | 5.16 3.85 | 42 | -1.31 | |
| 18 | | -1.5 | | -1.53 |
| +50 | | -1.5 | | -1.55 |
| 19 | | -1.3 | | -1.57 |
| +50 | | -1.1 | | -1.59 |
| 20 | | -1.7 | | -1.61 |

3.85

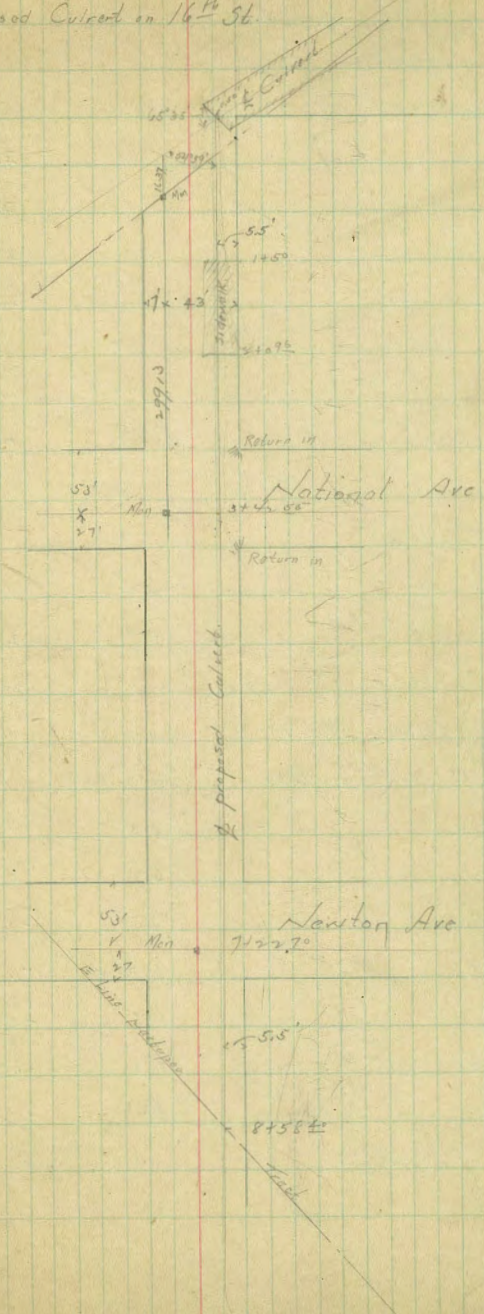
| | | Grade |
|---|---|---|
| +50 | -1.7 | -1.63 |
| 21 | -1.7 | -1.65 |
| +50 | -1.7 | -1.67 |
| 22 | -1.9 | -1.69 |
| +16 | -2.9 | -1.70 |
| +40.75 End K.K. Cul. | -1.71 | -1.71 |
| Last " " " | -1.85 | |
| B.M. Nail N.E. Cor Culvert Top | 0.47 | |

Levels over ℄ proposed Culvert on 16th St from present Culvert at Logan Ave to E. Line Hartupee Tract

10 Davis
17 Hancock
16 Herrick

| Sta | + | H.I. | − | Elev. |
|---|---|---|---|---|
| | 795 | 11.75 | | 380 BM Plg in Ch. N.W. Nat'l |
| 0 + 00 | Bottom present Cul | | 7.3 | 4.5 |
| | Top " " | | 3.4 | 8.4 |
| + 10 | | | 7.0 | 4.8 |
| + 14 | | | 3.5 | 8.3 |
| + 25 | | | 3.5 | 8.3 |
| + 50 | | | 3.9 | 7.9 |
| + 75 | | | 4.2 | 7.6 |
| 1 | | | 4.7 | 7.1 |
| + 25 | | | 5.7 | 6.1 |
| + 50 | End Sidewalk | | 4.8 | 7.0 |
| + 75 | | | 5.2 | 6.6 |
| 2 | | | 5.5 | 6.3 |
| + 096 | End Sidewalk | | 5.7 | 6.1 |
| + 25 | | | 6.0 | 5.8 |
| + 50 | | | 6.2 | 5.6 |
| + 75 | | | 6.3 | 5.5 |
| + 86 | | | 6.2 | 5.6 |
| + 90 | | | 6.8 | 5.0 |
| 3 | | | 6.9 | 4.9 |
| + 02 | | | 6.9<br>7.3 | 4.9<br>4.6 |
| + 25 | | | 7.3 | 4.5 |
| + 42.55 | 13' Line Nat'l | | 7.6 | 4.2 |
| + 50 | | | 7.7 | 4.1 |
| + 75 | | | 8.0 | 3.8 |

Location Proposed Culvert on 16th St.



| Sta | + | HI 11.75 | − | Elev |
|---|---|---|---|---|
| 4+00 | | | 8.4 | 3.4 |
| T.P. | 3.67 | 7.07 | 8.30 | 3.45 |
| +25 | | | 4.3 | 2.8 |
| +50 | | | 4.3 | 2.8 |
| +75 | | | 4.6 | 2.5 |
| 5 +00 | | | 4.9 | 2.2 |
| +25 | | | 4.7 | 2.4 |
| +50 | | | 5.7 | 1.4 |
| +75 | | | 6.2 | 0.9 |
| 6 | | | 5.5 | 1.6 |
| +25 | | | 5.7 | 1.4 |
| +50 | | | 5.4 | 1.7 |
| +75 | | | 4.7 | 2.4 |
| 7 | | | 5.0 | 2.1 |
| +16.3: ℄ N.C. Elect Ry | | | 5.2 | 1.9 |
| +22.7: ℄ Line Newton | | | 5.2 | 1.9 |
| +30 | | | 5.3 | 1.8 |
| +50 | | | 6.2 | 0.9 |
| +53 | | | 7.8 | -0.7 |
| +75 | | | 8.3 | -1.2 |
| 8 | | | 8.1 | -1.0 |
| +25 | | | 8.3 | -1.2 |
| +50 | | | 8.4 | -1.3 |
| +58.4: P.L. | | | 8.4 | -1.3 |
| +75 | | | 8.2 | -1.1 |

| Sta | + | HI | − | Elev |
|---|---|---|---|---|
| 9 | | | 10.3 | -3.7 |
| +25 | | | 10.6 | -3.5 |
| +50 | | | 10.7 | -3.6 |
| +75 | | | 10.9 | -3.8 |
| 10+00 | | | 11.0 | -3.9 |
| +25 | | | 11.1 | -4.0 |
| +50 | | | 11.1 | -4.0 |
| +75 | | | 11.1 | -4.0 |
| 11 | | | 11.1 | -4.0 |
| +25 | | | 11.2 | -4.1 |
| +50 | | | 11.1 | -4.0 |
| +75 | | | 11.1 | -4.0 |
| 12 | | | 11.4 | -4.3 |
| +13 | | | 11.4 | -4.3 |
| +15: water | | | 12.1 | -5.0 |

Levels over ℄ Proposed Storm Drain from 14 Davis, 23 Hancock, 16 Herrick
N.E. Cor 9th & N Sts to Bay.

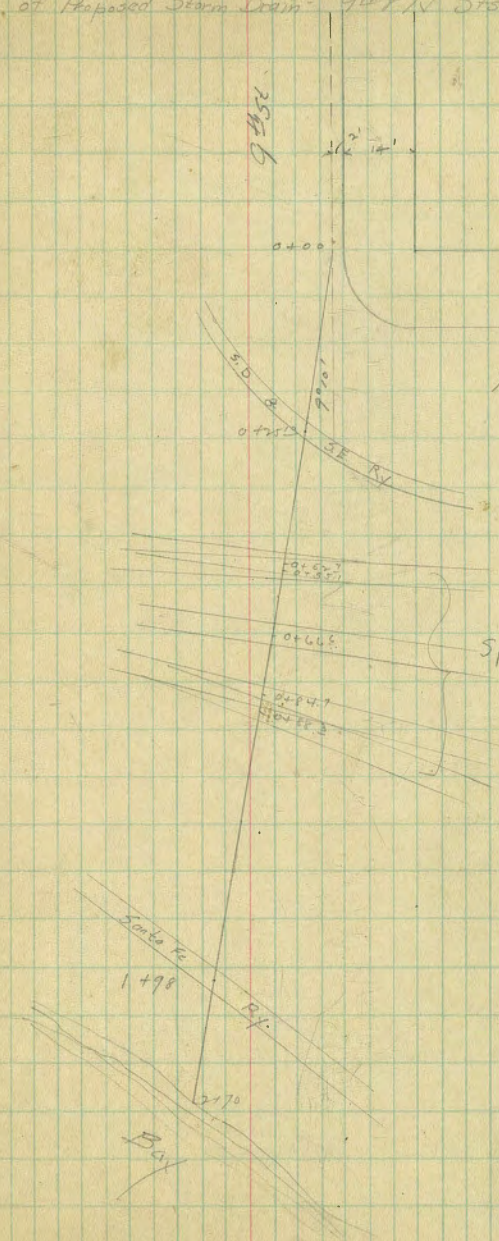
| Sta | + | H.I. | - | Elev. |
|---|---|---|---|---|
| | 2.79 | 7.80 | | 5.01 BM. Plg rt S.E. 9th & N. |
| 0+00 | | | 5.3 | 2.5 |
| +08 | | | 4.9 | 2.9 |
| +25.1 | | | 4.9 | 2.9 |
| +50 | | | 5.1 | 2.7 |
| +52.7 | | | 5.0 | 2.8 |
| +55.10 | | | 5.1 | 2.7 |
| +66.6 | | | 5.1 | 2.7 |
| +75 | | | 5.1 | 2.7 |
| +84.7 | | | 5.0 | 2.8 |
| +88.3 | | | 5.1 | 2.7 |
| 1+00 | | | 5.5 | 2.3 |
| +25 | | | 5.6 | 2.2 |
| +50 | | | 5.9 | 1.9 |
| +75 | | | 6.4 | 1.4 |
| +90 | | | 6.9 | 0.9 |
| +98 | | | 6.0 | 1.8 |
| 2+08 | | | 7.4 | 0.4 |
| +15 | | | 9.0 | -1.2 |
| +25 | | | 9.9 | -2.1 |
| +50 | | | 11.2 | -3.4 |
| +70 | | | 12.6 | -4.8 |

0+00 - 3' below curb
Grade - 0.8

18" pipe
2 7/8" thick



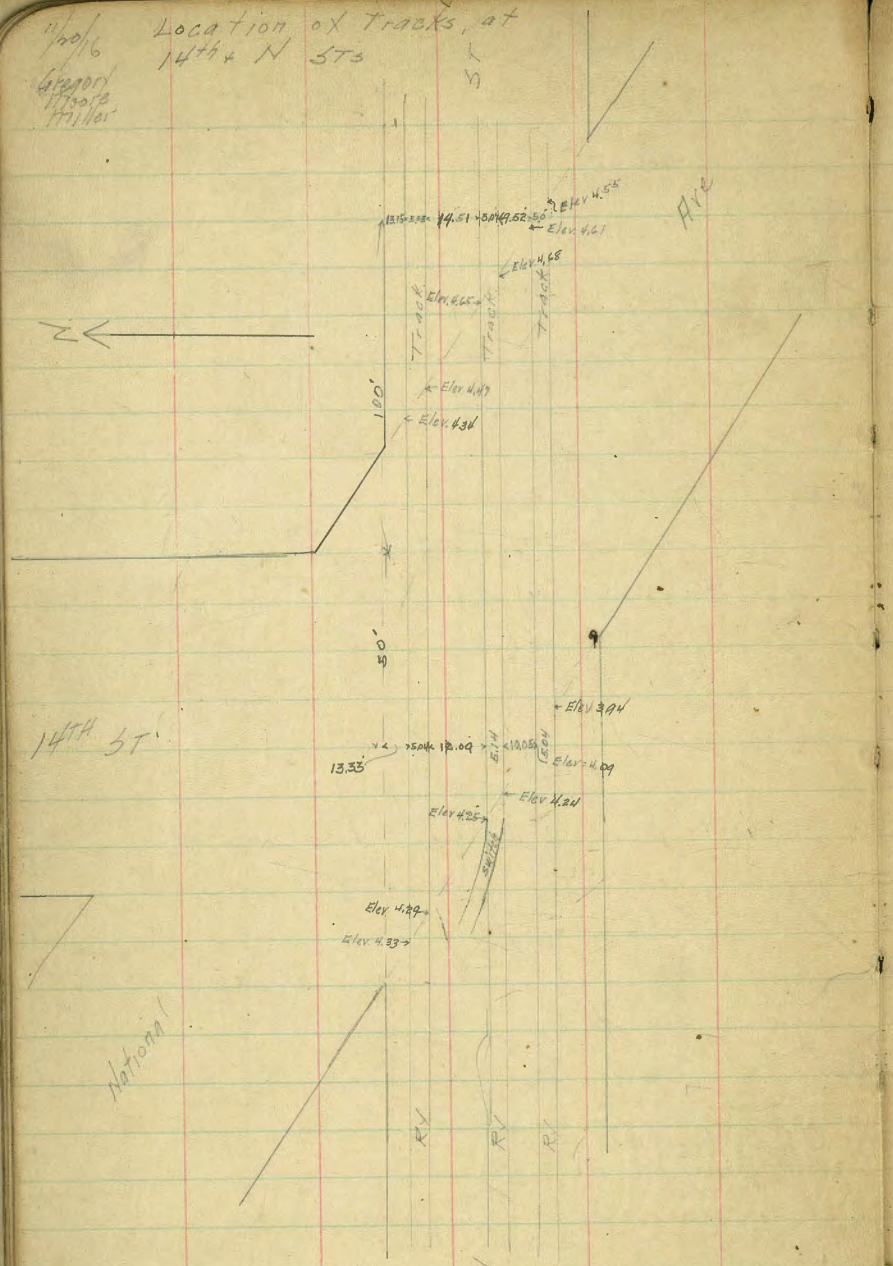
Location of Proposed Storm Drain - 9th & N Sts.



11/20/16

Gregory Moore Miller

Location of Tracks, at 14th + N STs






693 NE 14th + M

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 692 | 352 | 356 | 360 | 276 | 391 | 330 | 324 | 317 | 320 |
| 7.85 | 4.33 | 4.29 | 4.25 | 4.09 | 3.94 | 4.55 | 4.61 | 4.68 | 4.65 |
| 322 | | | | | | | | | |
| 463 | | | | | | | | | |
| 360 | | | | | | | | | |
| 8.23 | | | | | | | | | |

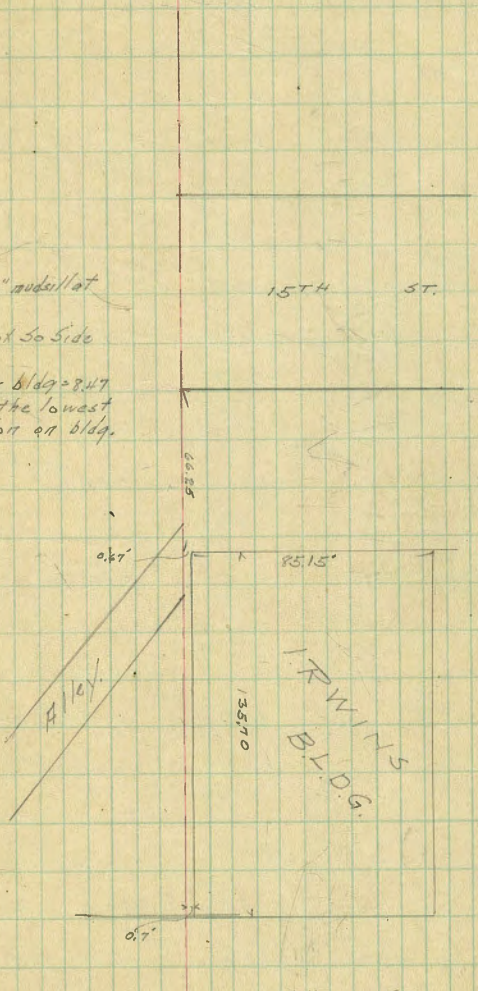
1252 NE 16th + N 445 428
23 8.30 8.47
1275

Elev. of bottom of 4"x6" mudsill at S.E. cor. of bldg = 8.30'

Elev. of ditto center of So Side bldg = 8.28

Elev of ditto S.W. cor bldg = 8.47

This mudsill is the lowest point of foundation on bldg.



Cuts for Drain - 9th & N to Bay

1/18/17 Davis, Hancock, Harrison

| Sta | R.R. | Ground | Grade | ± |
|---|---|---|---|---|
| | 2.47 | 7.48 | | 5.01 S.E 9th & N |
| 0+00 | 5.00 | 2.48 | −1.50 | +4.0 |
| +25 | | | | |
| +36 ± Pipe | 4.16 | 3.33 | −1.70 | +5.03 |
| +51 | 4.73 | 2.75 | −1.90 | +4.65 |
| +80 ± Pipe | | | | |
| +83 | 5.24 | 2.24 | −2.16 | +4.40 |
| 1+00 | 5.11 | 2.37 | −2.30 | +4.67 |
| +25 | 5.38 | 2.10 | −2.50 | +4.6 |
| +40 ± C.P. | | | | |
| +50 | 5.61 | 1.87 | −2.70 | +4.57 |
| +60 ± M.H. | | | | |
| +75 | 6.41 | 1.07 | −2.90 | +4.0 |
| 2+00 | 7.47 | 0.01 | −3.10 | +3.1 |
| +20 | 9.97 | −2.49 | −3.26 | +0.77 |
| | 5.43 | 7.30 | | 1.87 |
| 0+00 · Top Ch. | | 2.48 | × 0.17 | +2.31 |
| +25 | | 3.33 | | |
| +36 ± | 7.05 | | × 0.25 Top pipe | |
| | | | × 0.08 Grade | 2" below pipe |
| +51 | | 2.75 | −0.11 | +2.86 |
| +80 Pipe | | | −0.50 | Pipe |
| +83 | | 2.24 | −0.55 | +2.79 |
| 1+00 | | 2.37 | −0.85 | +3.22 |
| +25 | | 2.10 | −1.30 | +3.40 |
| +43 ± C.P. | 8.97 | | −1.62 | = bell of C.P. |
| +50 | | 1.87 | −1.97 | +3.79 |
| +60 | 5.61 | 1.69 | −2.10 | +3.79 |
| +75 | | 1.07 | −2.36 | +3.43 |
| 2+00 | | 0.01 | −2.80 | +2.81 |
| +40 | | −2.49 | −3.15 | +0.66 |
| | | 4.40 | | 2.90 · Bell nail Square pole S.E 9th N. |

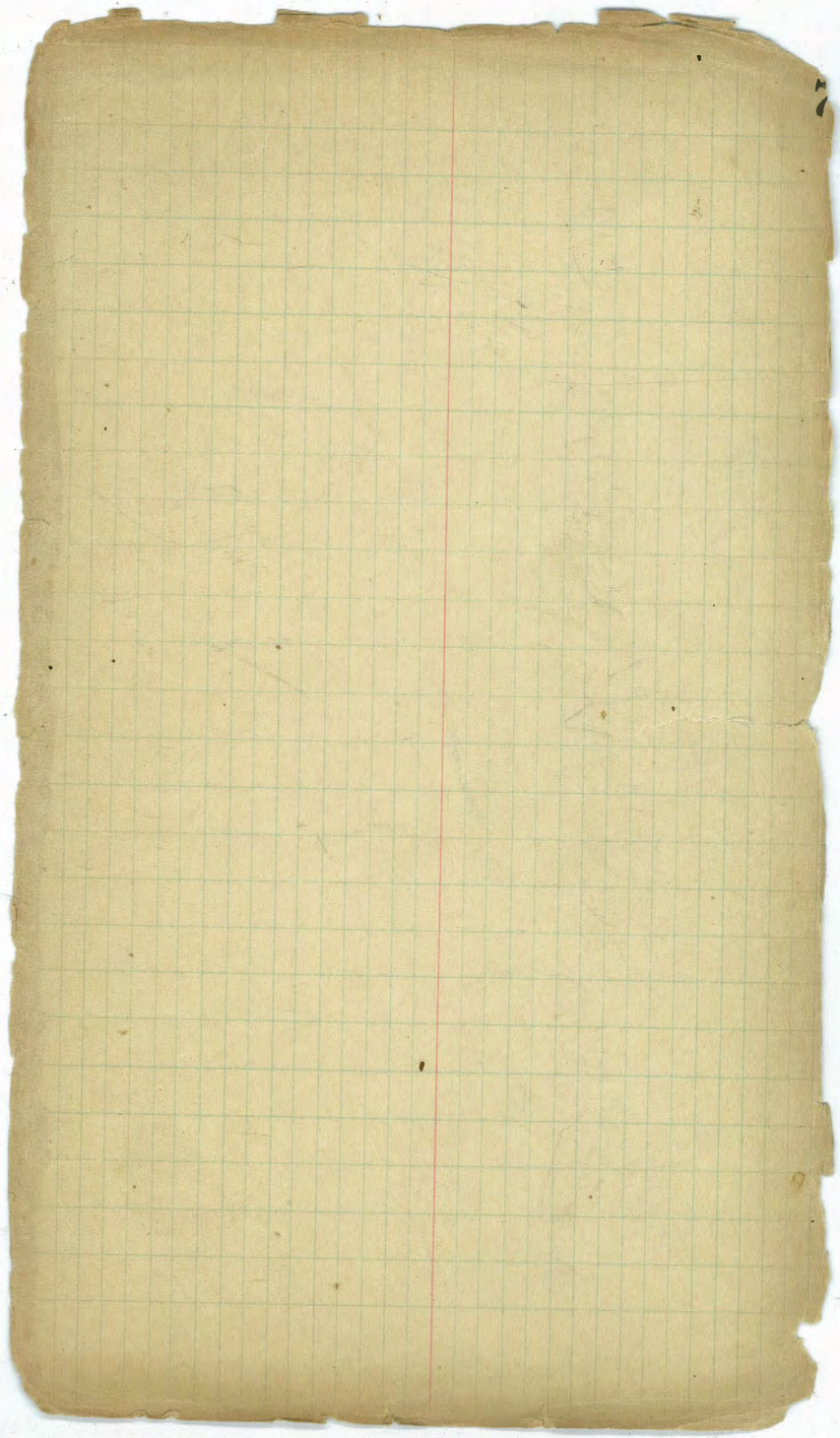


*Table showing the difference of latitude and departure in running 80 chains at any course from 1 to 60 minutes.*

| MINUTES. | LKS. | MINUTES. | LKS. | MINUTES. | LKS. |
|---|---|---|---|---|---|
| 1 | 2⅓ | 21 | 49 | 41 | 95⅔ |
| 2 | 4⅔ | 22 | 51⅓ | 42 | 98 |
| 3 | 7 | 23 | 53⅔ | 43 | 100⅓ |
| 4 | 9⅓ | 24 | 56 | 44 | 102⅔ |
| 5 | 11⅔ | 25 | 58⅓ | 45 | 105 |
| 6 | 14 | 26 | 60⅔ | 46 | 107⅓ |
| 7 | 16⅓ | 27 | 63 | 47 | 109⅔ |
| 8 | 18⅔ | 28 | 65⅓ | 48 | 112 |
| 9 | 21 | 29 | 67⅔ | 49 | 114⅓ |
| 10 | 23⅓ | 30 | 70 | 50 | 116⅔ |
| 11 | 25⅔ | 31 | 72⅓ | 51 | 119 |
| 12 | 28 | 32 | 74⅔ | 52 | 121⅓ |
| 13 | 30⅓ | 33 | 77 | 53 | 123⅔ |
| 14 | 32⅔ | 34 | 79⅓ | 54 | 126 |
| 15 | 35 | 35 | 81⅔ | 55 | 128⅓ |
| 16 | 37⅓ | 36 | 84 | 56 | 130⅓ |
| 17 | 39⅔ | 37 | 86⅓ | 57 | 133 |
| 18 | 42 | 38 | 88⅔ | 58 | 135⅓ |
| 19 | 44⅓ | 39 | 91 | 59 | 137⅔ |
| 20 | 46⅔ | 40 | 93⅓ | 60 | 140 |

## TABLE FOR RUNNING ON SLOPES.

*In the following table the first column shows the angle, the second the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.*

| ANGLE | COR. IN LINKS | ANGLE | COR. IN LINKS | ANGLE | COR. IN LINKS | ANGLE | COR. IN LINKS |
|---|---|---|---|---|---|---|---|
| ° | | ° | | ° | | ° | |
| 4 | 0.24 | 11 | 1.88 | 18 | 5.14 | 25 | 10.54 |
| 5 | 0.38 | 12 | 2.24 | 19 | 5.76 | 26 | 11.26 |
| 6 | 0.55 | 13 | 2.63 | 20 | 6.42 | 27 | 12.24 |
| 7 | 0.76 | 14 | 3.06 | 21 | 7.11 | 28 | 13.37 |
| 8 | 0.98 | 15 | 3.53 | 22 | 7.85 | 29 | 14.34 |
| 9 | 1.24 | 16 | 4.02 | 23 | 8.64 | 30 | 15.47 |
| 10 | 1.55 | 17 | 4.56 | 24 | 9.47 | 35 | 22.07 |