

Transit Book  
#2

S. R. H. No 80.

FIELD BOOK

360

21



# KEUFFEL & ESSER CO.

DRAWING MATERIALS  
AND  
SURVEYING INSTRUMENTS.  
NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

## TABLES FOR EXCAVATIONS AND EMBANKMENTS.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.  
ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.  
FOR SINGLE TRACK EXCAVATION.

"Copyright, 1895, by Keuffel & Esser Co."

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

Calculated by Julien A. Hall, M. Am. Soc. C. E.

For Keith's Railroad Curve Tables see end of book.

10545.7  
 101.70000000  
 949113  
 678870  
 637942  
 461280  
 421828  
 394520  
 316371  
 781490

0096437  
 953.4  
 385748  
 289311  
 482185  
 867933  
 9.19530358



$$\begin{array}{r} 57 \ 13.0 \\ 89 \ 40 = \underline{56 \ 96.4} \\ 16.6 \\ \hline 3.3 \ 2 \end{array}$$

$$\begin{array}{r} 56 \ 16.4 \\ \underline{3.3 \ 2} \\ 56 \ 99.7 \end{array}$$

$$\begin{array}{r} 1000 \\ \underline{84} \\ 160 \\ \hline 1378 \end{array}$$

$$\begin{array}{r} \text{Tan} = 142.5 \\ \underline{2.8} \\ \text{Tan} = 145.3 \end{array}$$

$$T_{\text{for } 89^\circ 42' = 5699.7}$$

$$\begin{array}{r} 40 \ 5699.70 \\ \underline{40} \\ 169 \\ \hline 160 \end{array}$$

$$\begin{array}{r} 24 \\ \underline{99} \\ 50 \\ \hline 197 \\ \hline 166 \end{array}$$

$$\begin{array}{r} 202 = 30 \\ \underline{18} \\ 18299 \end{array}$$

$$\begin{array}{r} 266708.2 \\ \underline{145.3} \\ 266562.9 \end{array}$$

$$\begin{array}{r} 266562.9 \\ \hline \text{P.C.} = 26665 + 62.9 \end{array}$$

$$\begin{array}{r} 142.49 \\ \hline \end{array}$$



C.J.W. C.J.B.  
E.W.B. J.B.C.

12/1/14

+02<sup>4</sup>

○ Sec. Cor. (Stake.)  
(Sec. 12-13-137-30, 7-18-137-29)

1618

1617

1616

1615

1614

1613

1612

1611

1610

1609

1608

1607

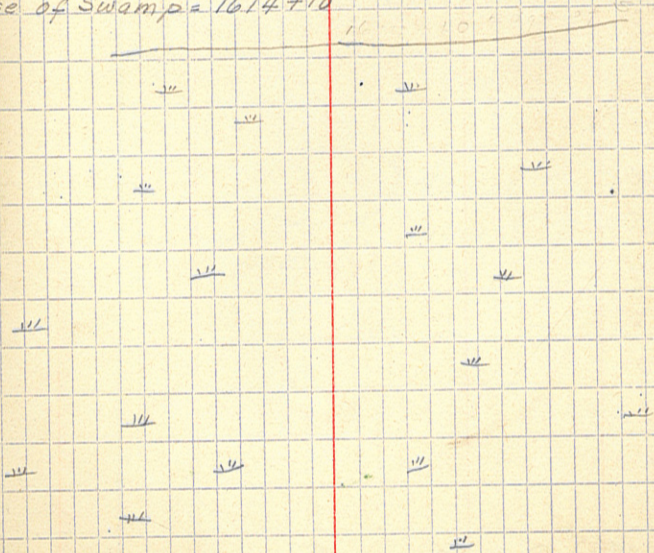
1606

1605

1604

1603

Edge of Swamp = 1614 + 10





1640

1639

1638

1637

1636

+40<sup>±</sup>



P.O.T.

1635

1634

1633

1632

1631

1630

+45<sup>±</sup>



P.O.T.

1629

1628

1627

1626

1625

1624

1623

1622

1621

1620

1619

1618 to 2<sup>±</sup>



Sec. Cor.

stony.

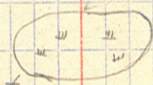
Sta. 1637 Large Boulder.

clay

Sta. 1633+40

12" pipe needed.

1625+50 to



1626+47 small pot-hole.

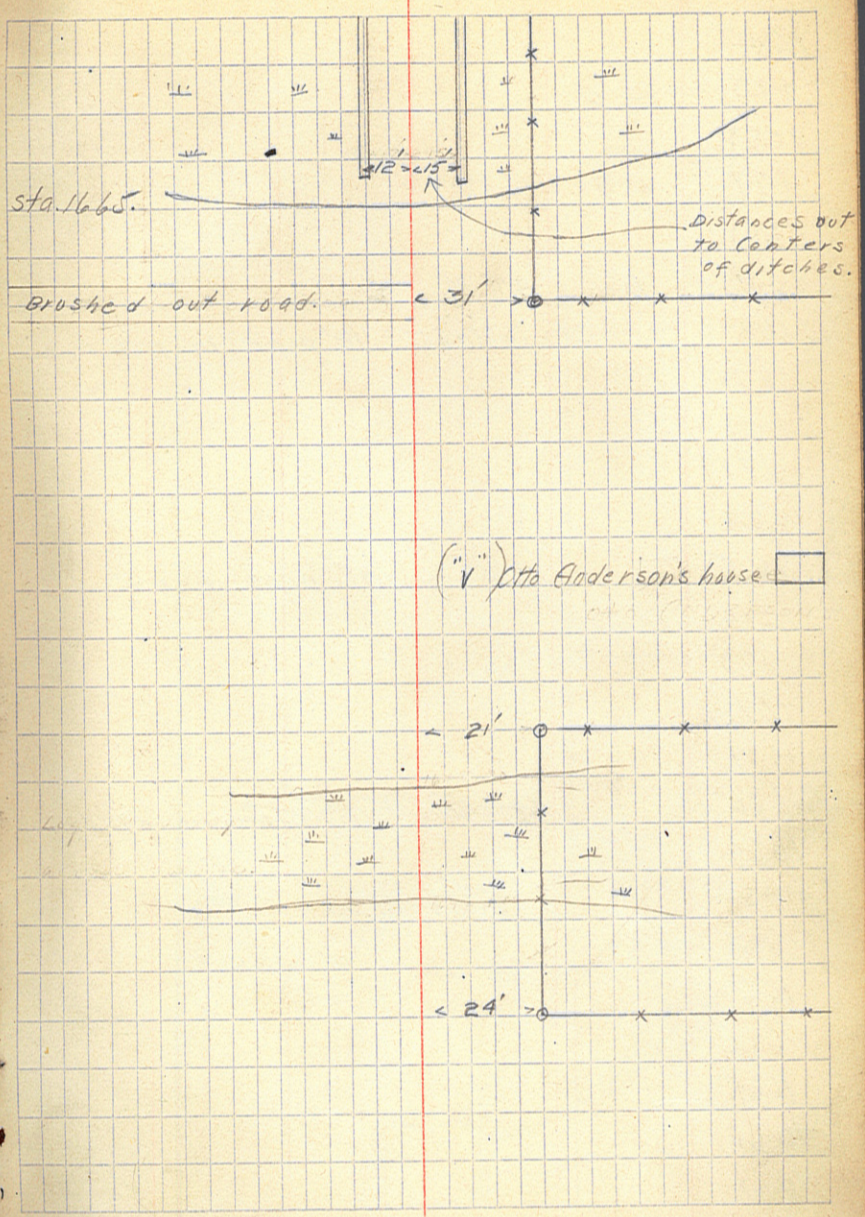
old Log Corduroy across pot-hole.

clay.

Sec. Cor. to Sta. 1681+50<sup>±</sup> Light grubbing.

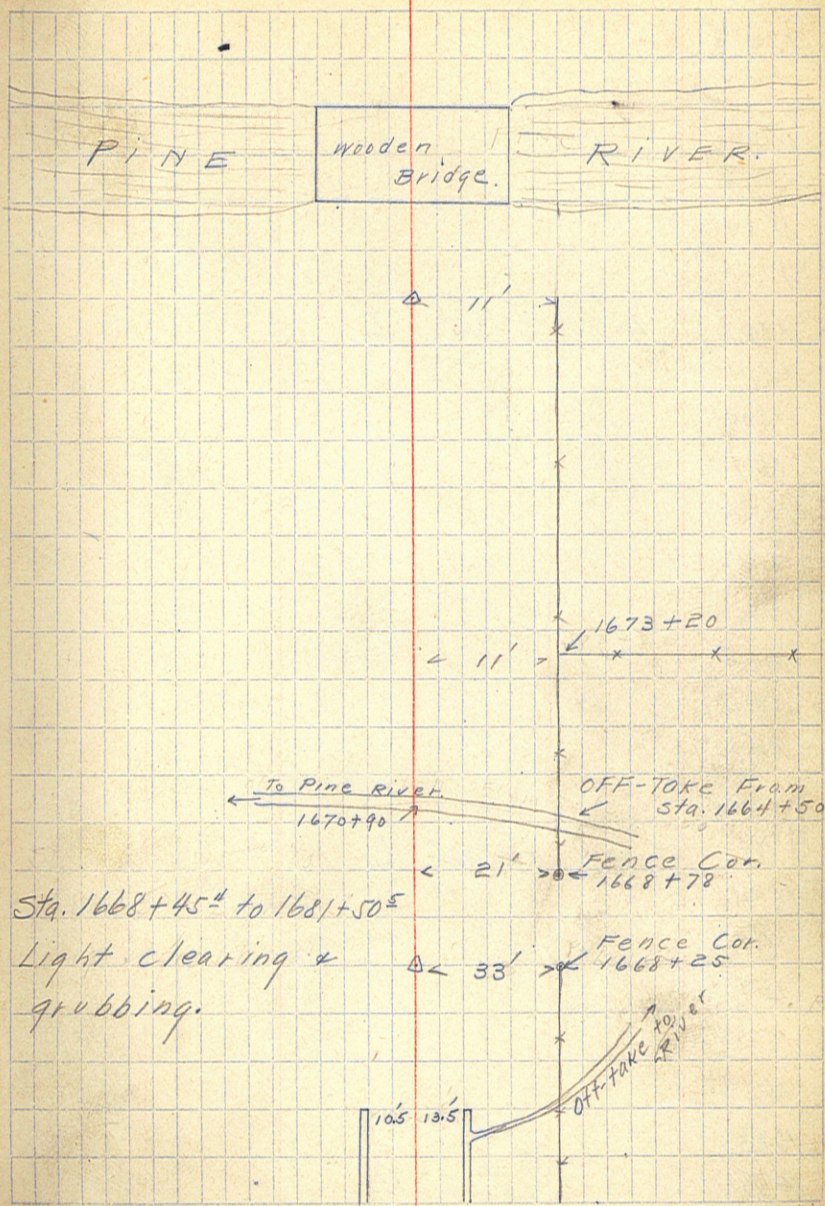


1662  
 1661  
 1660  
 1659 Side ditches from 1659+70 to  
 1658  
 +85  
 1657  
 1656  
 1655  
 1654  
 1653  
 1652  
 1651  
 1650  
 +80  
 1649  
 1648 Sta. 1647+50 18" pipe needed.  
 1647  
 1646 Sta. 1646+75 to 1648+30 = Swamp,  
 1645 cordoned with logs.  
 +65<sup>s</sup> ⊙ 1/4 Cor. 6' E. of Line.  
 1644  
 1643  
 1642  
 1641





1684  
 +33 EB  
 1683  
 +77 EB.  
 1682  
 +50<sup>±</sup> Δ 87°38' L.  
 1681 Sta. 1681+85 12" pipe in place.  
 1679  
 1678  
 1677  
 1676  
 1675 1675 - 12" pipe, needed.  
 1674  
 1673  
 1672  
 1671  
 1670 5' 1670+90 - 18" pipe in place.  
 1669  
 +45<sup>±</sup> Δ 87°53' R.  
 1668  
 1667  
 1666  
 1665  
 1664  
 1663





1708

1707

1706

1705

1704

1703

1702  $\Delta$   $3^{\circ}35'$  L.

1701

1700

1699

1698

1697

1696

1695

1694

1693

1692

+482  $\Delta$   $12^{\circ}13'$  L.

1691

1690

1689

1688

1687

1686

1685  $\Delta$   $18^{\circ}06'$  R.

Cultivated Fields.

Small Jack pine growth.



1730  
 1729  
 1728  
 1727  
 1726  
 1725  
 1724  
 +76<sup>8</sup>    Δ    89°55' L.  
 1723  
 1722  
 1721  
 1720  
 1719  
 1718  
 1717  
 +86    Δ    45°45' R.  
 1716  
 1715  
 1714  
 1713  
 +75<sup>3</sup>    Δ    6°35' L.    (Spike) ground.  
 1712  
 1711  
 1710  
 1709

PINE RIVER.

Ridge Ave. x Mill st.

P.R. Cemetery.



1753    Δ    0°35' L.    (Spike)

1752

1751

1750

1749

1748

1747

1746

1745

1744

1743

1742

1741

1740

1739

1738

1737

1736

1735

+602    Δ    90°00' L.

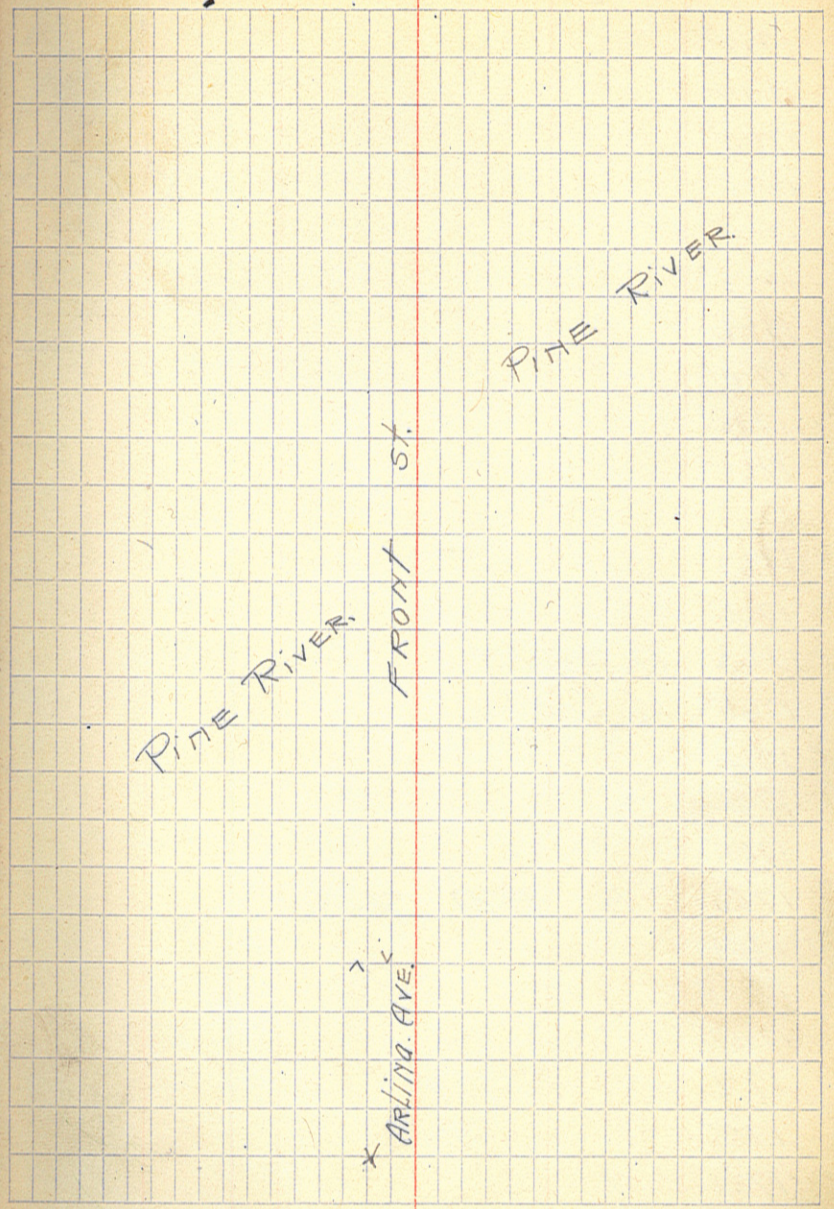
34

33

32

+65    Δ    90°00' R.

31





1778

1777

1776

1775

1774

1773

1772

1771

1770

1769

1768

1767

1766

1765

1764

1763

1762

1761

1760  $\Delta$   $0^{\circ}27'$  R.

1759

1758

1757

1756

1755

1754

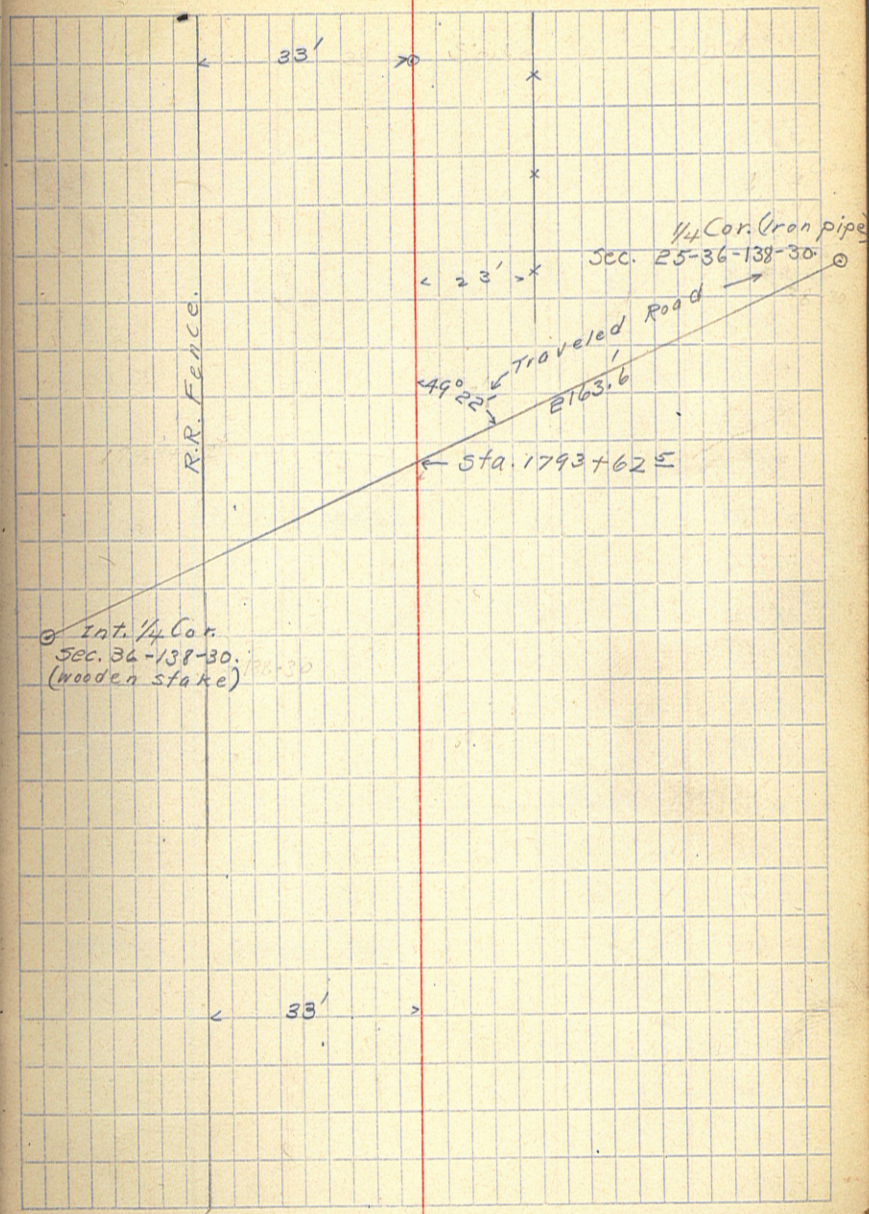
M. & V. Ry. Fence.

P.R. Fair  
Grounds.

33'



|      |   |        |         |
|------|---|--------|---------|
| +912 | ⊙ | P.O.T. | (Spike) |
| 1801 |   |        |         |
| 1800 |   |        |         |
| 1799 |   |        |         |
| 1798 |   |        |         |
| 1797 |   |        |         |
| 1796 |   |        |         |
| 1795 |   |        |         |
| 1794 |   |        |         |
| 1793 |   |        |         |
| 1792 |   |        |         |
| 1791 |   |        |         |
| 1790 |   |        |         |
| 1789 |   |        |         |
| 1788 |   |        |         |
| 1787 |   |        |         |
| 1786 |   |        |         |
| 1785 |   |        |         |
| 1784 |   |        |         |
| 1783 |   |        |         |
| +332 | ⊙ | P.O.T. | (Spike) |
| 1782 |   |        |         |
| 1781 |   |        |         |
| 1780 |   |        |         |
| 1779 |   |        |         |

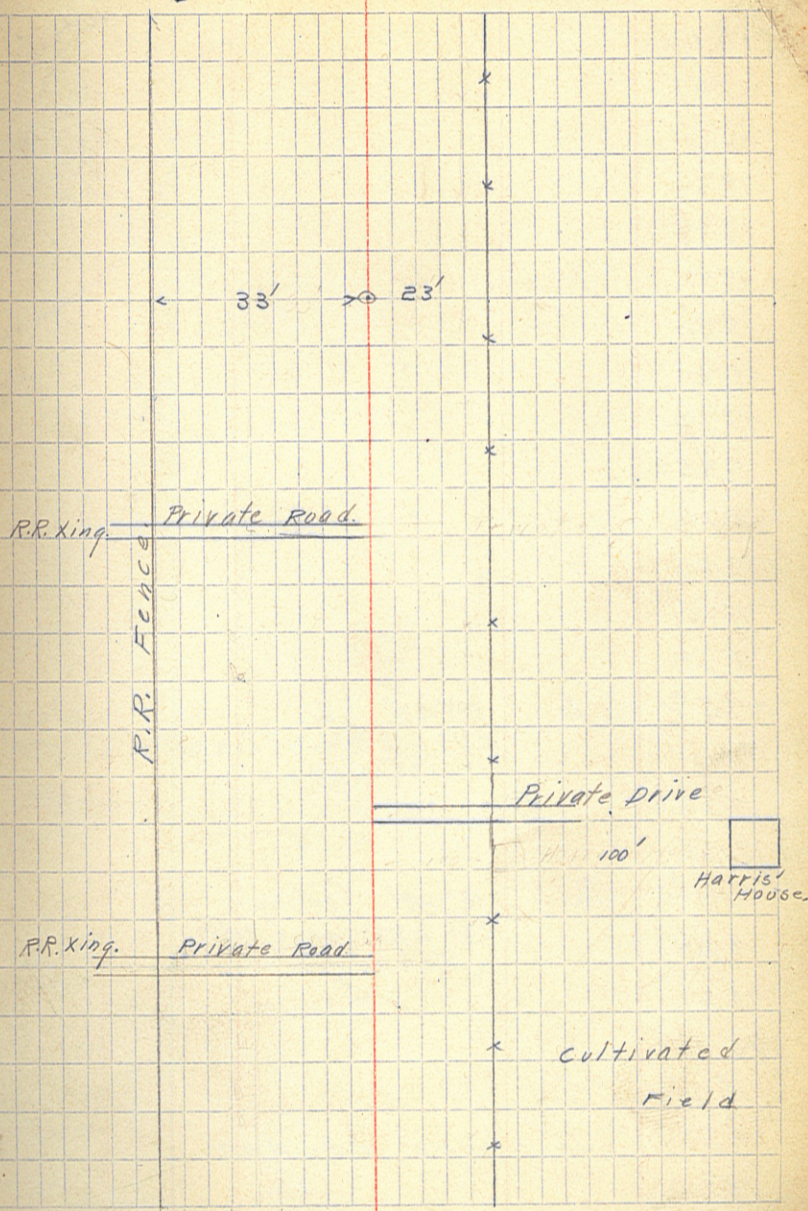




1822  
 1821  
 1820  
 1819  
 1818  
 +37  $\Delta$  0°05' R  
 1817  
 1816  
 1815  
 1814  
 +50  
 1813  
 1812  
 1811  
 1810  
 1809  
 +50  
 1808  
 1807  
 +40  
 1806  
 1805  
 1804  
 1803  
 1802

12/4/14

10





1842  
 1841  
 1840  
 1839  
 1838  
 1837  
 1836  
 1835  
 1834  
 1833  
 1832  
 1831  
 1830  
 1829  
 +953  
 1828  
 +25  
 1827  
 +979  
 +30  
 1826  
 1825  
 1824  
 +75  
 1823

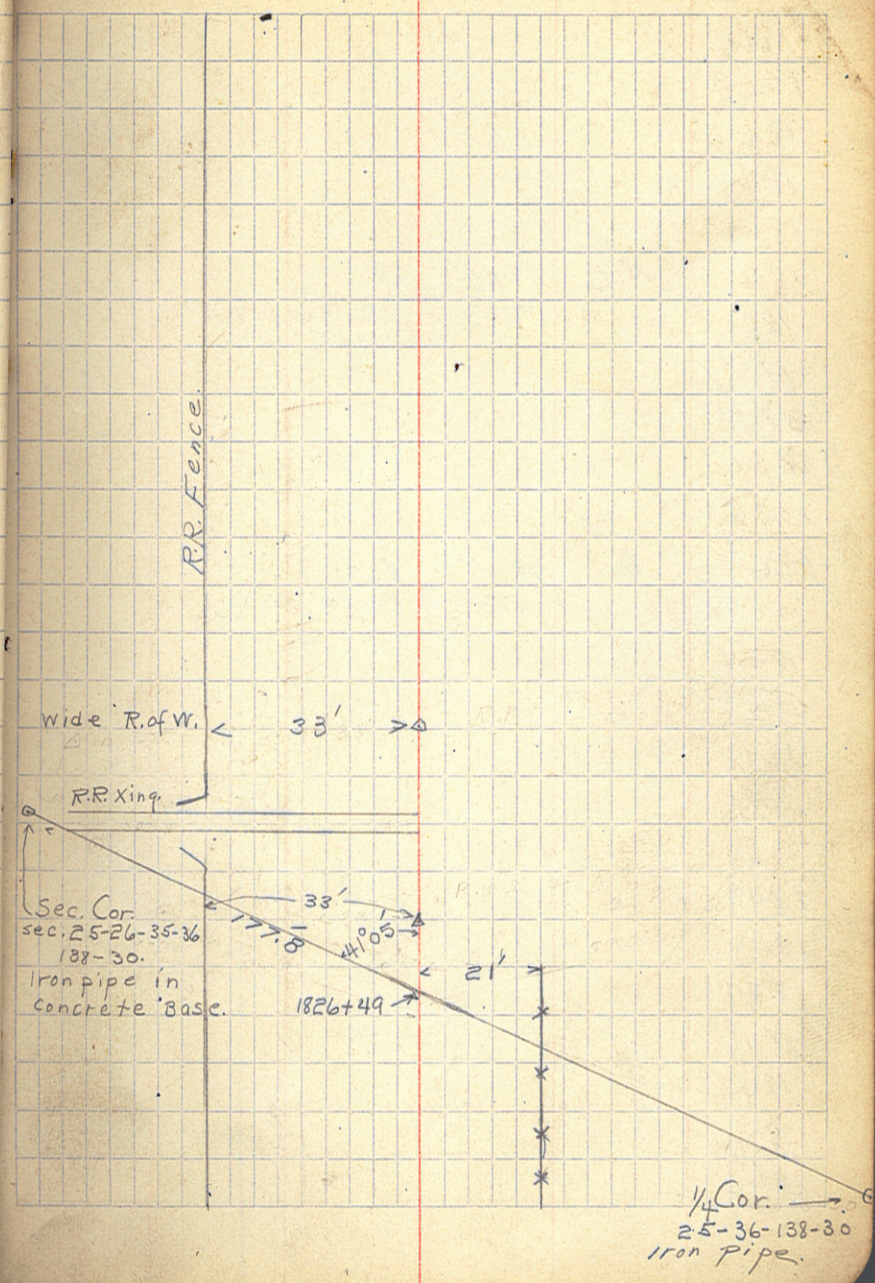
Δ 13°43' L.  
 R.P.'s / R.R. Fence post & J.P. Tree.  
 33' & 42.4 on L.

Δ 13°38' R.  
 R.P.'s 2 R.R. Fence Posts.  
 32.8 & 38.5 on L.

18" pipe needed.

12/1/14

11





1866  
1865  
1864  
1863  
1862  
1861  
1860  
1859  
1858  
1857  
1856  
+26<sup>8</sup>  
1855  
1854  
1853  
1852  
1851  
1850  
1849  
1848  
1847  
1846  
1845  
1844  
1843

1860+085  
△

1006' R.  
R.P.s = R.R. Fence Posts.  
24' + 34.6 on L.

△

1006' L.  
R.P.s = Fence Posts (R.R.)  
33' + 45' L.

12/4/14.

12

24' △

R.R. Fence

33' △



12/4/14

13

+195      ○      P.O.T.

1875

1874

1873

1872

1871

1870

1869

1868

1867

Sta. 1875+19<sup>5</sup> To 1895  
+23 Turnpiked road.

24'      ○

R.R. Fence.

*1875+19<sup>5</sup> to 1895  
+23 Turnpiked road  
part of road*



1897

1896

+225

△

3001' L. (Spike)

1895

R.P.'s 2 R.R.F.P.

24' + 36' on L.

1894

1893

1892

1891

+82

△

2017' L.

1896

R.P.'s 2 R.R.F.P.

24' + 393 L.

1889

1888

1887

1886

1885

1884

1883

1882

✓ 1881

1880

1879

1878

1877

1876

1875+19

○

P.O.T. 50 R.

1895+23 To 1901+18

225

△

Joe Hoffman's Job.

24'

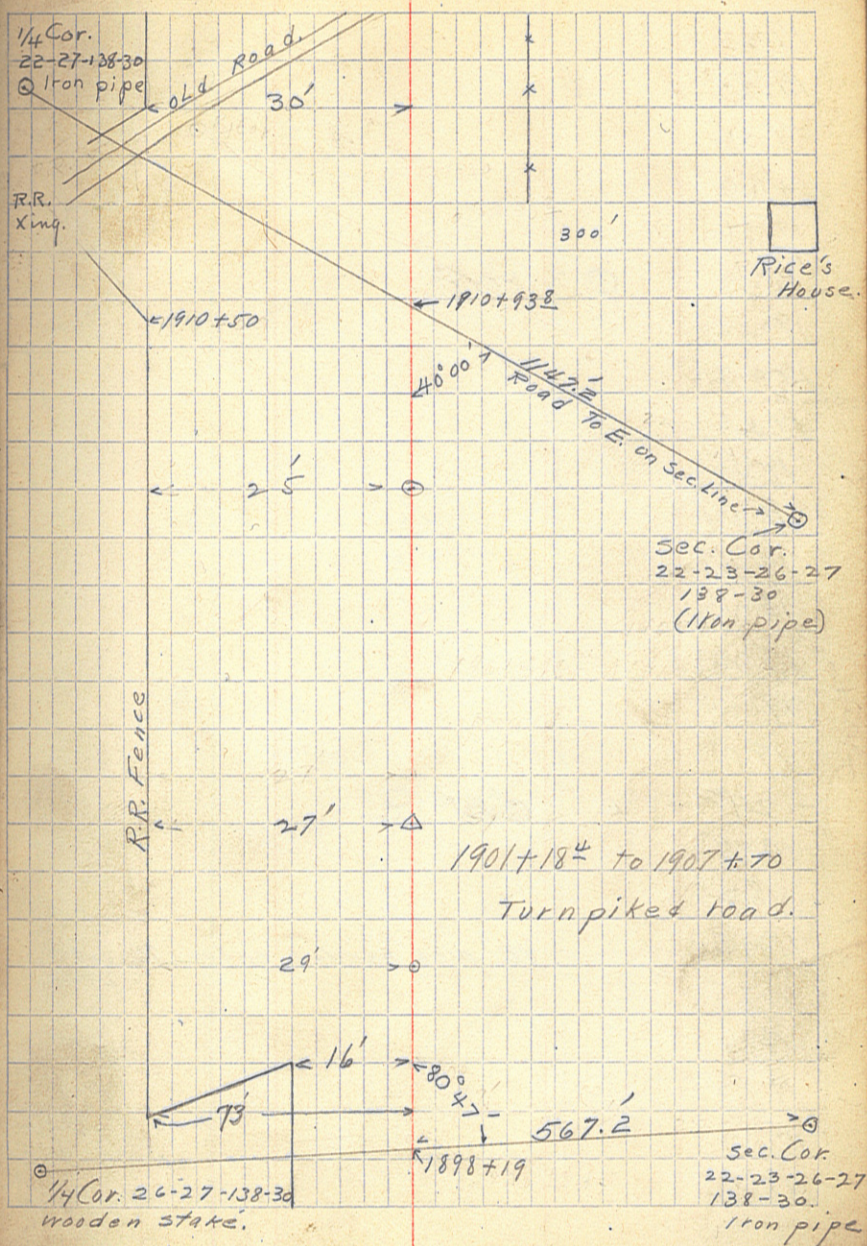
△

R.R. Fence

24'



|                  |   |        |            |
|------------------|---|--------|------------|
| 1913             |   |        |            |
| +80              |   |        |            |
| 1912             |   |        |            |
| 1911             |   |        |            |
| +90              |   |        |            |
| +81 <sup>L</sup> | Δ | 12°15' | R.         |
| 1910             |   |        |            |
| 1909             |   |        |            |
| 1908             |   |        |            |
| +00.6            | Δ | 0°35'  | R.         |
| 1907             |   |        |            |
| 1906             |   |        |            |
| 1905             |   |        |            |
| 1904             |   |        |            |
| 1903             |   |        |            |
| 1902             |   |        |            |
| +18 <sup>L</sup> | Δ | 0°48'  | L. (Spike) |
| 1901             |   |        |            |
| 1900             |   |        |            |
| +16 <sup>L</sup> | Δ | 17°52' | R.         |
| 1899             |   |        |            |
| +25              |   |        |            |
| +07              |   |        |            |
| 1898             |   |        |            |
| +79 <sup>R</sup> | Δ | 25°05' | L.         |





1933  
 1932  
 1931  
 +80  
 1930  
 1929  
 1928  
 1927  
 1926  
 1925  
 1924  
 1923  
 1922  
 1921  
 1920  
 1919  
 +29  
 1918  
 +52  
 1917  
 +35  
 1916  
 1915  
 1914  
 1913

○ P.O.T.

△ 0°31' R.

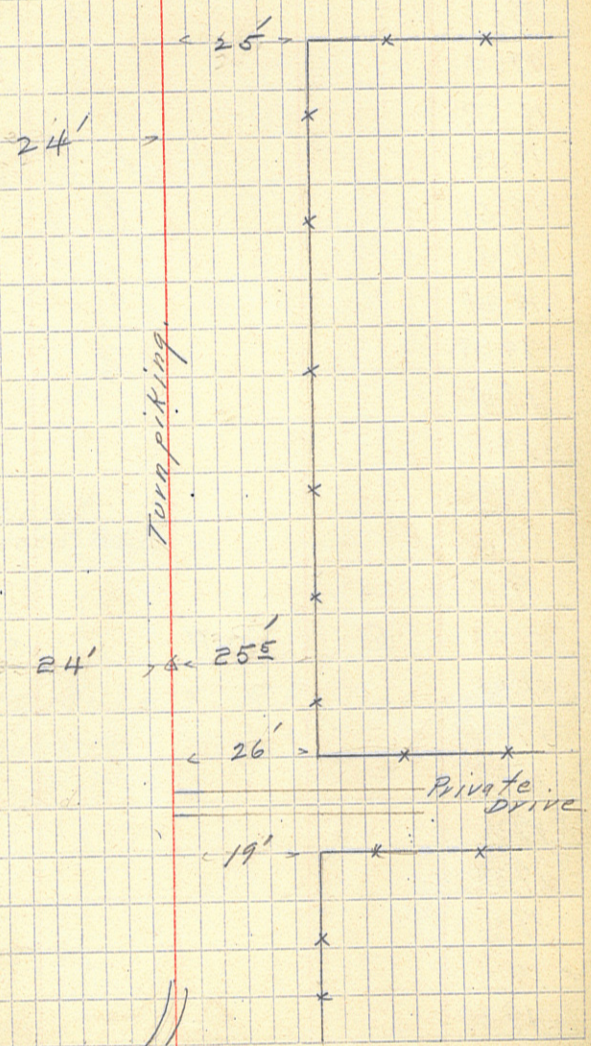
12" pipe needed under Private Drive.

12/5/14

16

R.R. Fence.

Turn piking.





|                  |   |        |       |
|------------------|---|--------|-------|
| +49 <sup>4</sup> | ⊙ | P.O.T. | Spike |
| 1956             |   |        |       |
| 1955             |   |        |       |
| 1954             |   |        |       |
| 1953             |   |        |       |
| 1952             |   |        |       |
| 1951             |   |        |       |
| 1950             |   |        |       |
| 1949             |   |        |       |
| 1948             |   |        |       |
| 1947             |   |        |       |
| 1946             |   |        |       |
| 1945             |   |        |       |
| 1944             |   |        |       |
| 1943             |   |        |       |
| 1942             | ⊙ | P.O.T. | Spike |
| 1941             |   |        |       |
| 1940             |   |        |       |
| 1939             |   |        |       |
| 1938             |   |        |       |
| 1937             |   |        |       |
| 1936             |   |        |       |
| ✓ 1935           |   |        |       |
| 1934             |   |        |       |

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17

(Mildred.)

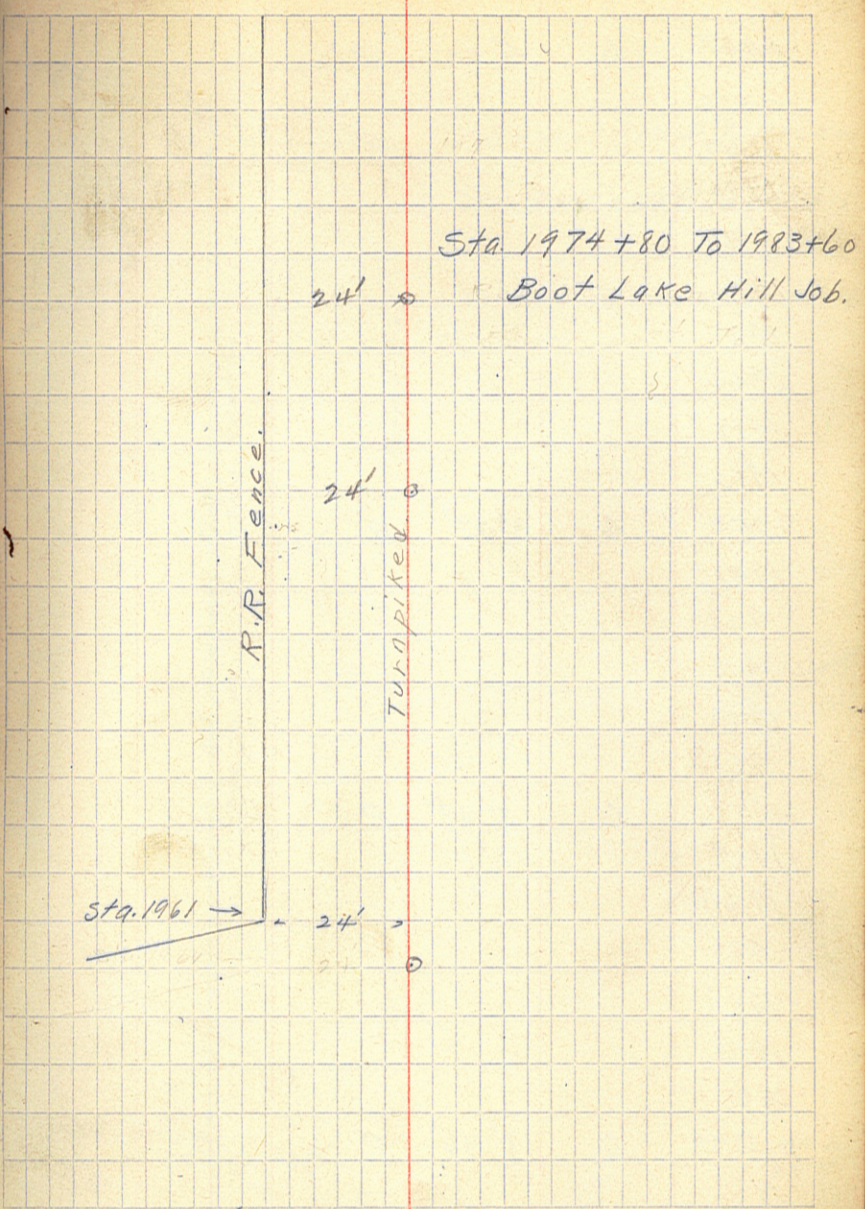
Mildred Depot.  
Sta. 1945+02.5 To L.

Sta. 1941+73 R.R. Xing on L.  
← 1940+75  
R.R. FENCE



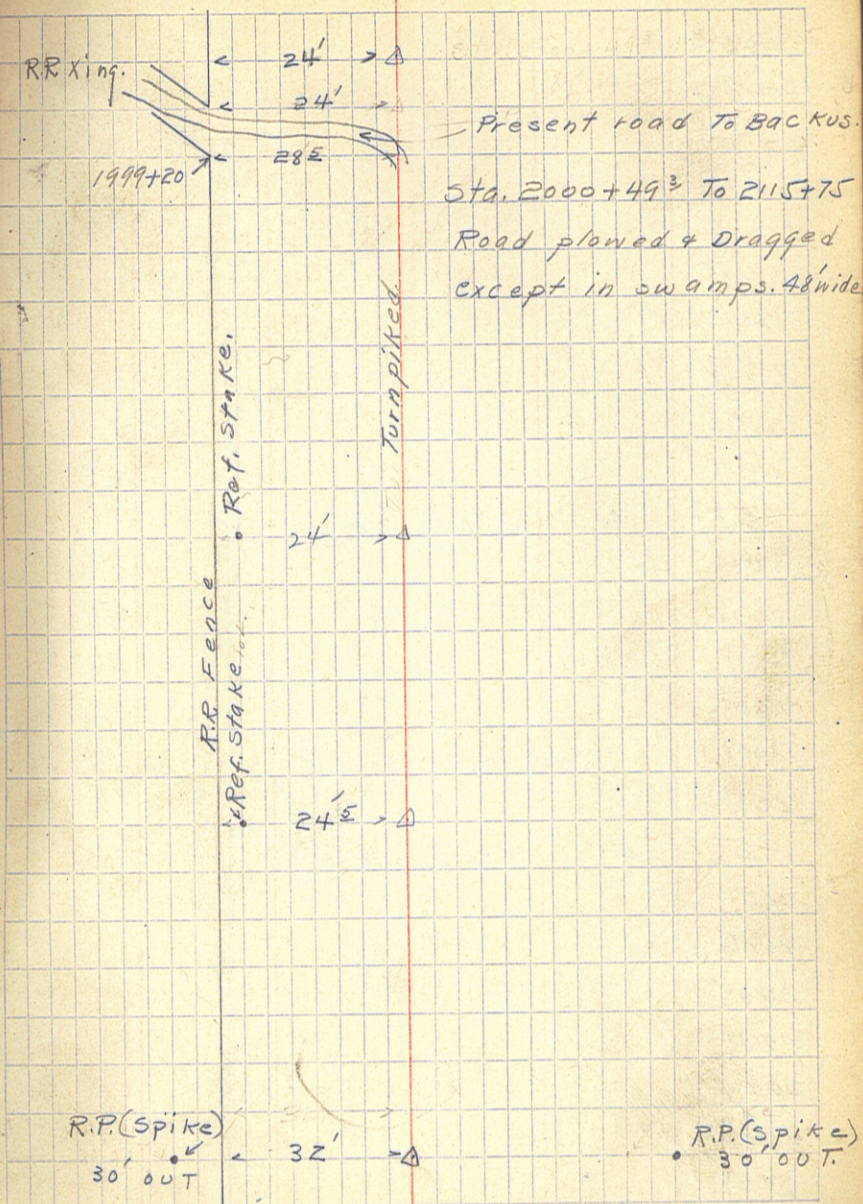
12/15/14

|          |   |         |                               |
|----------|---|---------|-------------------------------|
| 1978     |   |         |                               |
| 1977     |   |         |                               |
| 1976     |   |         |                               |
| 1975     |   |         |                               |
| 1974     |   |         |                               |
| 1973     | △ | 10' 17' | R. (Spike)                    |
| 1972     |   |         | Ref. Blaze on Fence past onl. |
| 1971     |   |         |                               |
| 1970     |   |         |                               |
| +63±     | ⊙ | P.O.T.  | Spike                         |
| 1969     |   |         |                               |
| 1968     |   |         |                               |
| 1967     |   |         |                               |
| 1966     |   |         |                               |
| 1965     |   |         |                               |
| 1964     |   |         |                               |
| 1963     |   |         |                               |
| 1962     |   |         |                               |
| 1961     |   |         |                               |
| +98±     | ⊙ | P.O.T.  |                               |
| 1960     |   |         |                               |
| 1959     |   |         |                               |
| 1958     |   |         |                               |
| 1957     |   |         |                               |
| 1956+49± | ⊙ | P.O.T.  |                               |





|                  |   |        |    |         |
|------------------|---|--------|----|---------|
| +49 <sup>3</sup> | Δ | 4° 00' | R. |         |
| 2000             |   |        |    |         |
| 1999             |   |        |    |         |
| 1998             |   |        |    |         |
| 1997             |   |        |    |         |
| 1996             |   |        |    |         |
| 1995             |   |        |    |         |
| 1994             |   |        |    |         |
| 1993             |   |        |    |         |
| 1992             |   |        |    |         |
| +75 <sup>2</sup> | Δ | 3° 37' | R. | (Spike) |
| 1991             |   |        |    |         |
| 1990             |   |        |    |         |
| 1989             |   |        |    |         |
| 1988             |   |        |    |         |
| 1987             |   |        |    |         |
| 1986             | Δ | 3° 49' | R. | (Spike) |
| 1985             |   |        |    |         |
| 1984             |   |        |    |         |
| 1983             |   |        |    |         |
| 1982             |   |        |    |         |
| 1981             |   |        |    |         |
| 1980             |   |        |    |         |
| +13 <sup>5</sup> | Δ | 1° 46' | R. | (Spike) |
| 1979             |   |        |    |         |





12/7/14

20

2023

2022

2021

2020

2019

2018

2017

2016

2015

2014

+57° Δ 2°00' R.

2013

2012

2011

2010

2009 Sta. E008+35 = 15' pipe needed.

2008

+57° Δ 3°22' R.

2007

2006

2005

2004

2003

2002

2001

RR Fence.

24' → ○

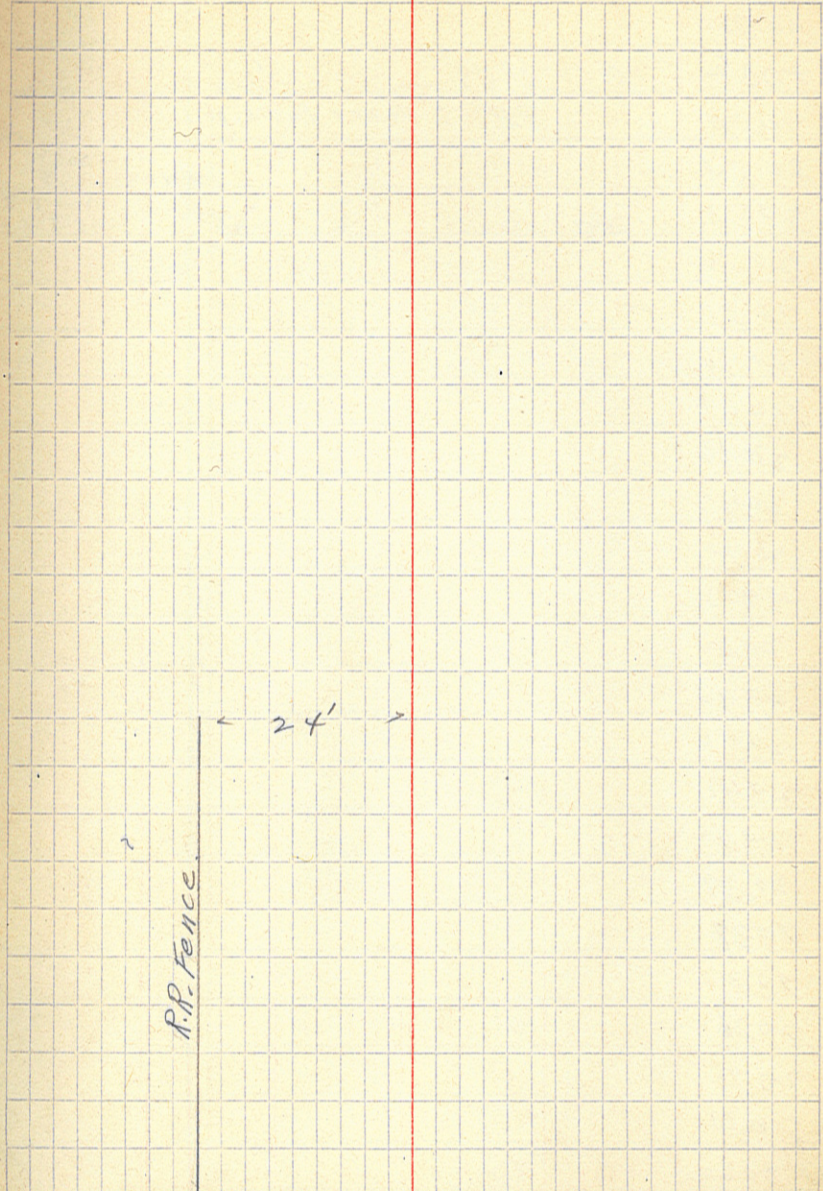
← 24' → ○



12/7/14

21

+ 00.2    ⊙    P.O.T.  
2033  
2032  
2031  
2030  
2029  
2028  
2027  
2026  
2025  
2024





2056

+03E

Δ

0°08' L. (Spike)

2055

R.P.'s 2 Fence Posts. on L.

2054

2053

2052

2051

2050

2049

2048

2047

2046

2045

2044

2043

2042

2041

2040

2039

2038

2037

2036

2035

2034

2033+002

○

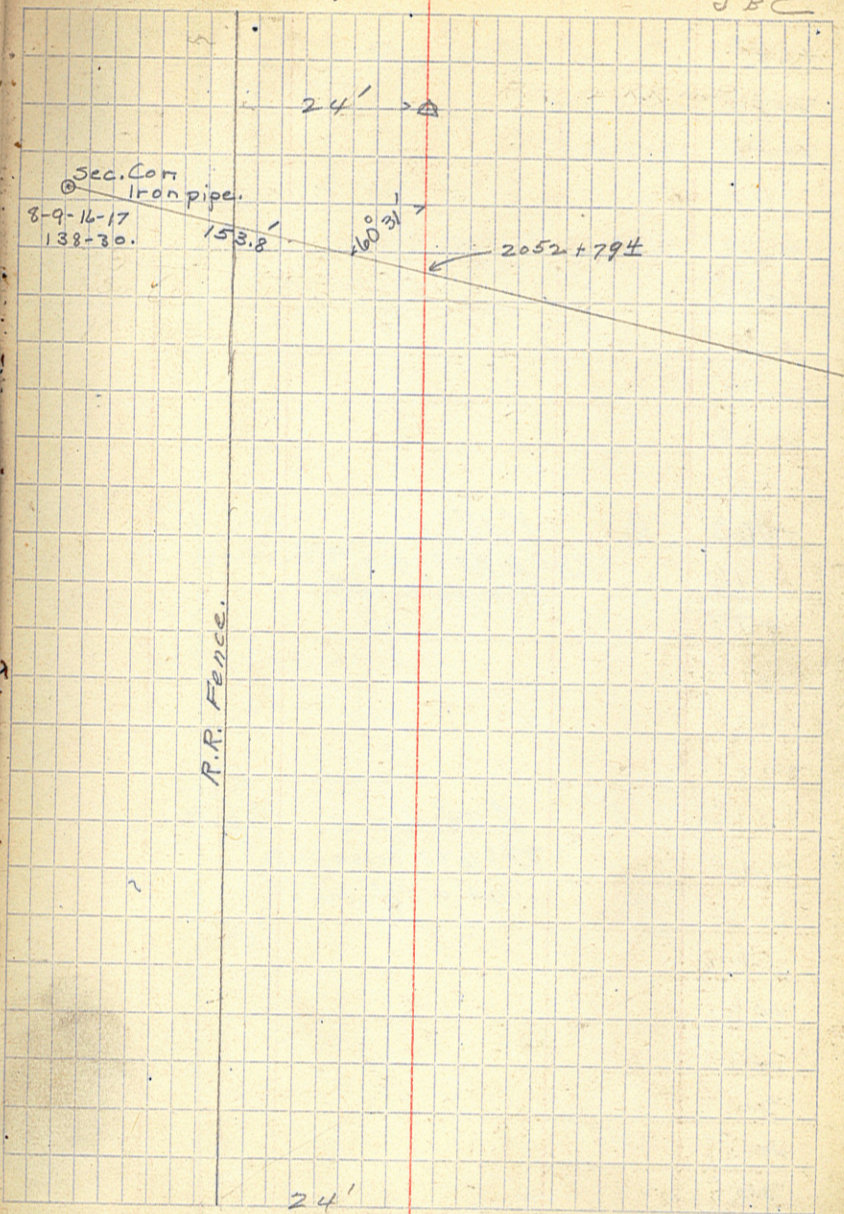
P.O.T.

CJW CNE  
ENB JBC

12/9/14

CJW  
ENB  
CNE  
JBC

22





+69<sup>2</sup>    Δ    12°16' R.

2075

2074

+41

2073

2072

2071

2070

2069

+44

+00.3    Δ    1°31' L.    (Spike)

2068

+77

2069

2066

2065

+81<sup>5</sup>    Δ    1°28' L.    (Spike)

2064

2063

2062

2061

2060

2059

2058

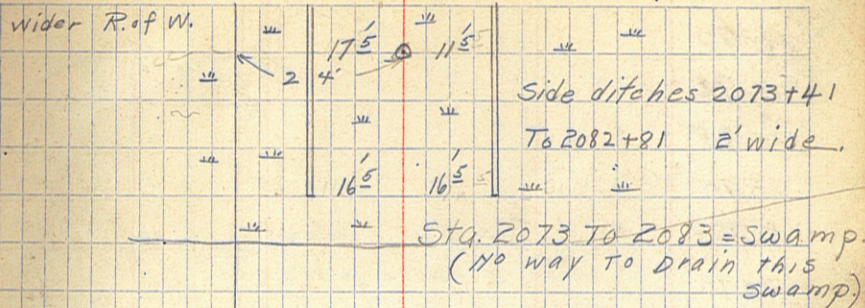
2057

R.P.s 2 R.R. Fence Posts on L.  
31' + 56<sup>2</sup> OUT.

R.P.s 2 R.R. Fence posts  
24' + 39<sup>3</sup> on L.

12/9/14

23



R.R. Xing. 2068+06 = Centre of R.R. Xing.  
24' ⊕

24' ⊕



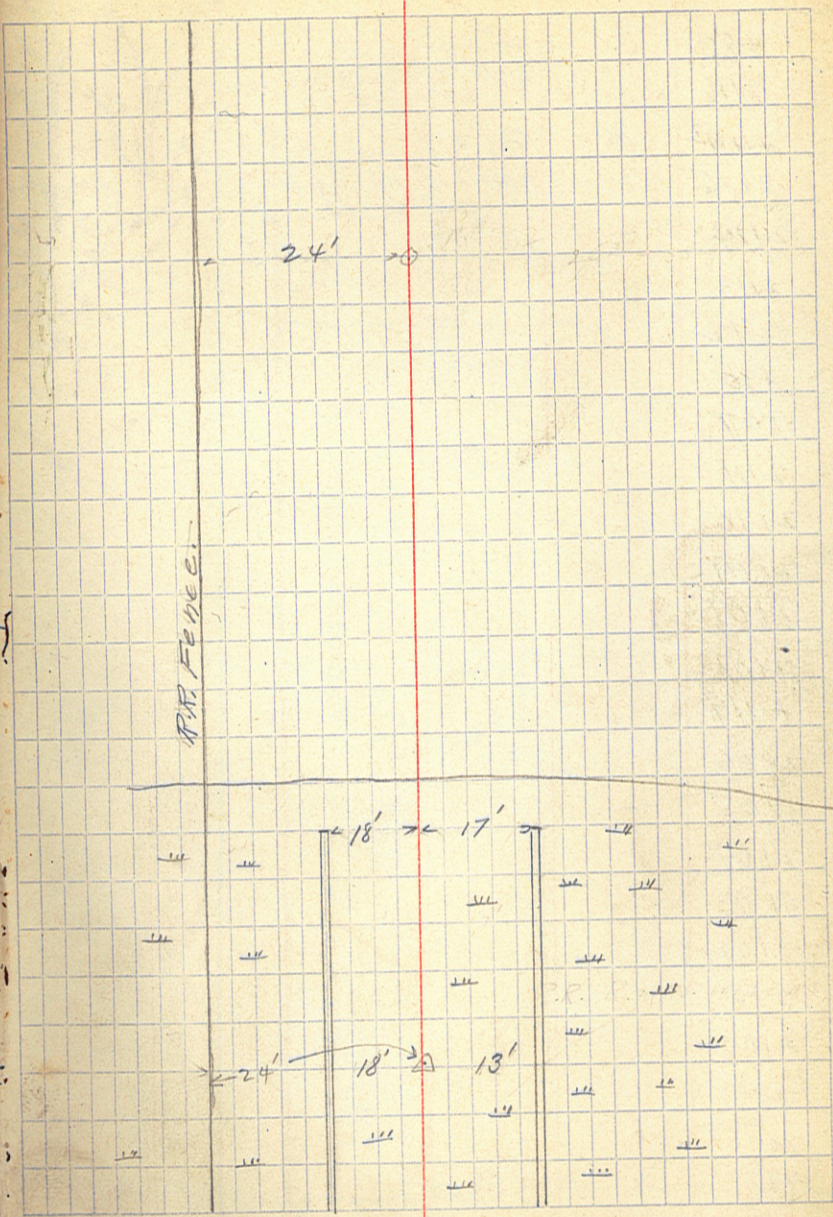
12/9/14

24

- ✓ 2097
- 2096
- 2095
- 2094
- +325
- 2093
- 2092
- 2091
- 2090
- 2089
- 2088
- 2087
- 2086
- 2085
- 2084
- 2083
- +81
- 2082
- 2081
- 2080
- 2079
- +052
- 2078
- 2077
- 2076

○ P.O.T. (Spike)  
 R.P.s 2 Fence posts on L.  
 25' + 35' out.

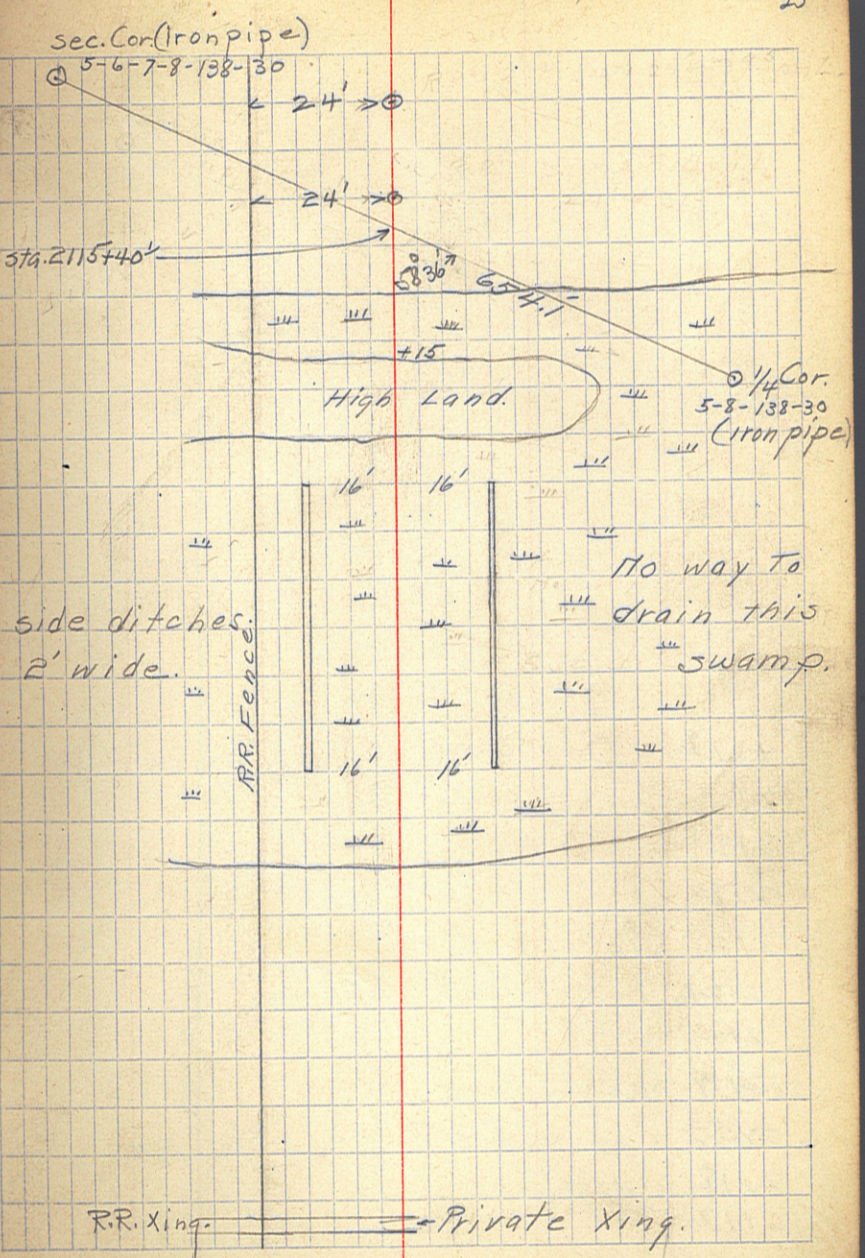
△ 12° 18' L.





|      |   |   |
|------|---|---|
| +80  | △ | 2132' R. (Spike)                              |
| 2116 |   | R.P.'s 2 Fence posts on L.<br>24' + 395' out. |
| +442 | △ | 2137' L. (Spike)                              |
| 2115 |   | R.P.'s 2 Fence posts on L.<br>24' + 382' out. |
| 2114 |   |   |
| 2113 |   |   |
| 2112 |   |   |
| +30  |   |   |
| +07  |   |   |
| 2111 |   |   |
| 2110 |   |   |
| 2109 |   |   |
| 2108 |   |   |
| 2107 |   |   |
| +49  |   |   |
| 2106 |   |   |
| 2105 |   |   |
| 2104 |   |   |
| 2103 |   |   |
| 2102 |   |   |
| 2101 |   |   |
| 2100 |   |   |
| 2099 |   |   |
| 2098 |   |   |
| +70  |   |   |

12" pipe needed.





12/9/14

26

+219 ○ P.O.T. (spike)

2125

2124

2123

2122

2121

2120

2119

+75<sup>3</sup> ○ P.O.T. (spike)

2118

2117

RR Fence.

← 24' → ○

2115+75 To 2138  
Heavy c. & g.

Sta. 2115+75 To 2152+38

← 24' → ○ Clearing + grubbing  
Some Heavy.



|          |   |         |       |
|----------|---|---------|-------|
| 2144     |   |         |       |
| 2143     |   |         |       |
| +262     | Δ | 211' R  | Spike |
| 2142     |   |         |       |
| 2141     |   |         |       |
| 2140     |   |         |       |
| +992     | Δ | 6°21' R | "     |
| 2139     |   |         |       |
| 2138     |   |         |       |
| +75      | Δ | 8°49' R | "     |
| 2137     |   |         |       |
| 2136     |   |         |       |
| 2135     |   |         |       |
| +556     | Δ | 7°25' R | "     |
| 2134     |   |         |       |
| +00.2    | Δ | 1°08' R | "     |
| 2133     |   |         |       |
| 2132     |   |         |       |
| 2131     |   |         |       |
| 2130     |   |         |       |
| 2129     |   |         |       |
| 2128     |   |         |       |
| 2127     |   |         |       |
| 2126     |   |         |       |
| 2125+212 | ○ | P.O.T   |       |

24' ○

stony

24' Δ

stony

24' Δ

R.R. FENCE

24' Δ

24' Δ

24' ○



|                  |   |  |    |         |
|------------------|---|--|----|---------|
| +024             | Δ | 29°45'   | L. | (Spike) |
| 2163             |   | R.P.'s 2 Fence posts on L.<br>33' & 34' out.   |    |         |
| 2162             |   |  |    |         |
| +86 <sup>L</sup> | Δ | 29°45'   | R. | (Spike) |
| 2161             |   | R.P.'s 2 Fence posts on L.<br>24.5' & 28' out. |    |         |
| 2160             |   |  |    |         |
| <del>2159</del>  |   |  |    |         |
| 2158             |   |  |    |         |
| 2157             |   |  |    |         |
| 2156             |   |  |    |         |
| 2155             |   |  |    |         |
| 2154             |   |  |    |         |
| 2153             |   |  |    |         |
| +302             | Δ | 2°51'  | L. | (Spike) |
| 2152             |   |  |    |         |
| 2151             |   |  |    |         |
| +395             | Δ | 5°55'  | L. | (Spike) |
| 2150             |   |  |    |         |
| 2149             |   |  |    |         |
| +37              | Δ | 6°47'  | L. | (Spike) |
| 2148             |   |  |    |         |
| 2147             |   |  |    |         |
| 2146             |   |  |    |         |
| +81 <sup>L</sup> | Δ | 5°22'  | L. | (Spike) |
| 2145             |   |  |    |         |

Wider RofW.

R.R. Fence.

12/10/14

28

|      |   |  |
|------|---|--|
| 33'  | Δ | Sta. 2163 + 02 <sup>#</sup> Connect<br>with BACKUS-Motley Sur. |
| 24'  | Δ |  |
|      |   | Sta. 2152 + 30. To 2166 +<br>20 Cultivated Field.              |
| 24'  | Δ | stony.<br>Boulders.  |
| 24'  | Δ |  |
| 24'' |   | stony  |
| 24'' |   |  |



12/10/14

29

+085    ⊙    P.O.T.    (Spike)  
 2170  
 2169  
 2168  
 2167  
 +20'    ⊙    P.O.T.  
 2166  
 2165  
 2164

33' ⊙

R.R. Fence.

33' ⊙

Sta. 2166 + 20' To  
 2201 + 90 Clearing  
 + grubbing - Light  
 + Medium Light.







2206

2205

2204

2203

2202

+90

+74<sup>3</sup>

2201

2200

+07<sup>3</sup>

2199

2198

2197

2196

+80<sup>4</sup>

2195

2194

2193

2192

+42<sup>3</sup>

2191

2190

+14

2189

2188



0°07' R. Spike  
R.P.s 2 Fence posts on L.  
36.8 + 35.1 OUT.



P.O.T. (Spike)



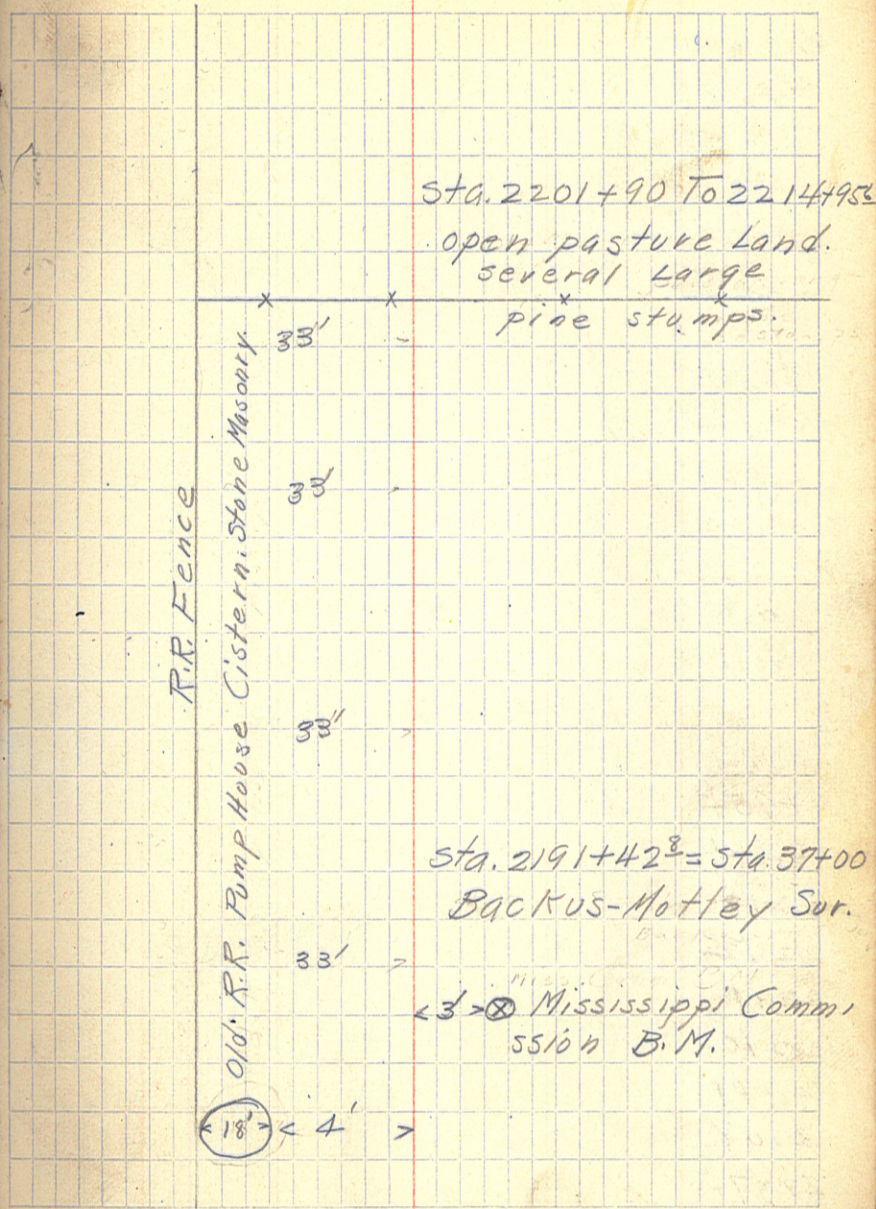
P.O.T. (Spike)



P.O.T. (Spike)

12/12/44

31





Beckus.

- +956    Δ
- 2214
- 2213
- 2212
- 2211
- 2210
- 2209
- 2208
- 2207

R.R. Fence

33

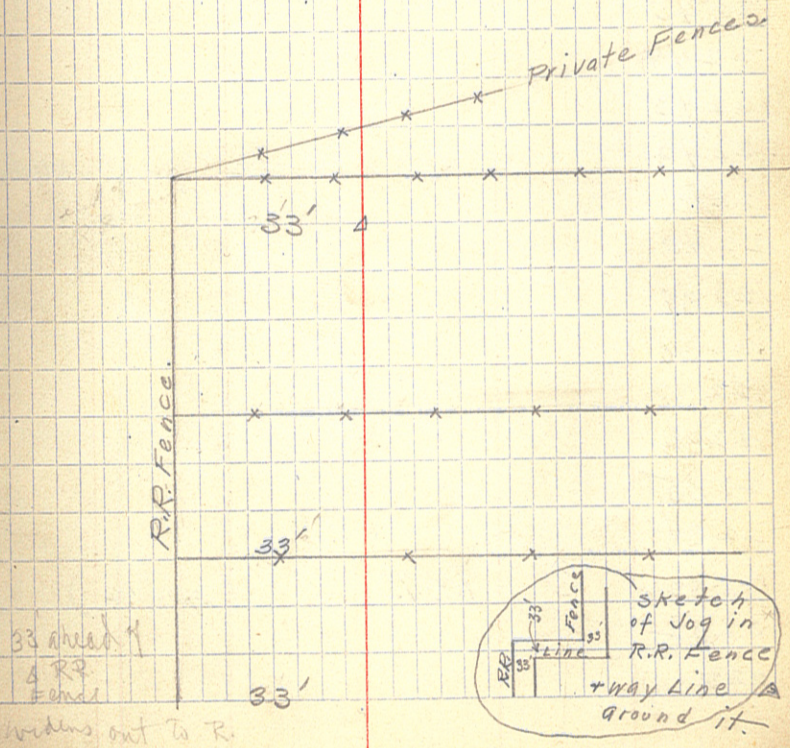
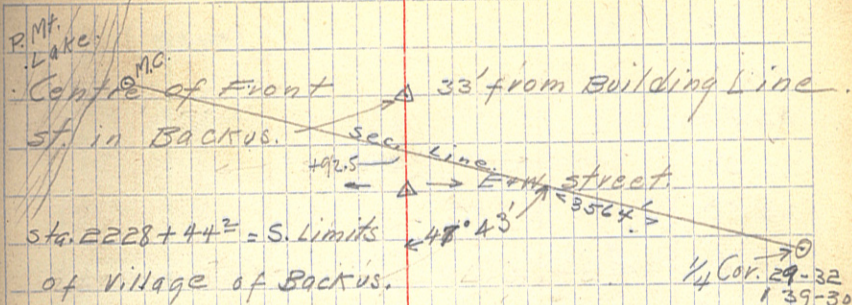


3564 from sec cor  
 30 + 85' inter

|            |   |                                      |         |
|------------|---|--------------------------------------|---------|
| 2230       |   |                                      |         |
| +298       | Δ | 42°13' R.                            | (Spike) |
| 2229       |   |                                      |         |
| +552       | Δ | 40°42' L.                            |         |
| 2228       |   | R.P. Tel. pole on L. 168 out.        |         |
| 2227       |   | R.P. Cor. of Building on R. 35.3 out |         |
| 2226       |   |                                      |         |
| 2225       |   |                                      |         |
| 2224       |   |                                      |         |
| 2223       |   |                                      |         |
| 2222       |   |                                      |         |
| 2221       |   |                                      |         |
| +88        |   |                                      |         |
| +29        |   |                                      |         |
| +162       | Δ | 0°34' L.                             | (Spike) |
| 2220       |   |                                      |         |
| 2219       |   |                                      |         |
| 2218       |   |                                      |         |
| +75        |   |                                      |         |
| 2217       |   |                                      |         |
| 2216       |   |                                      |         |
| +778       |   |                                      |         |
| +448       | Δ | 90°50' L.                            | (Spike) |
| 2215       |   |                                      |         |
| 2214 + 956 | Δ | 92°44' R.                            |         |

12/15/44

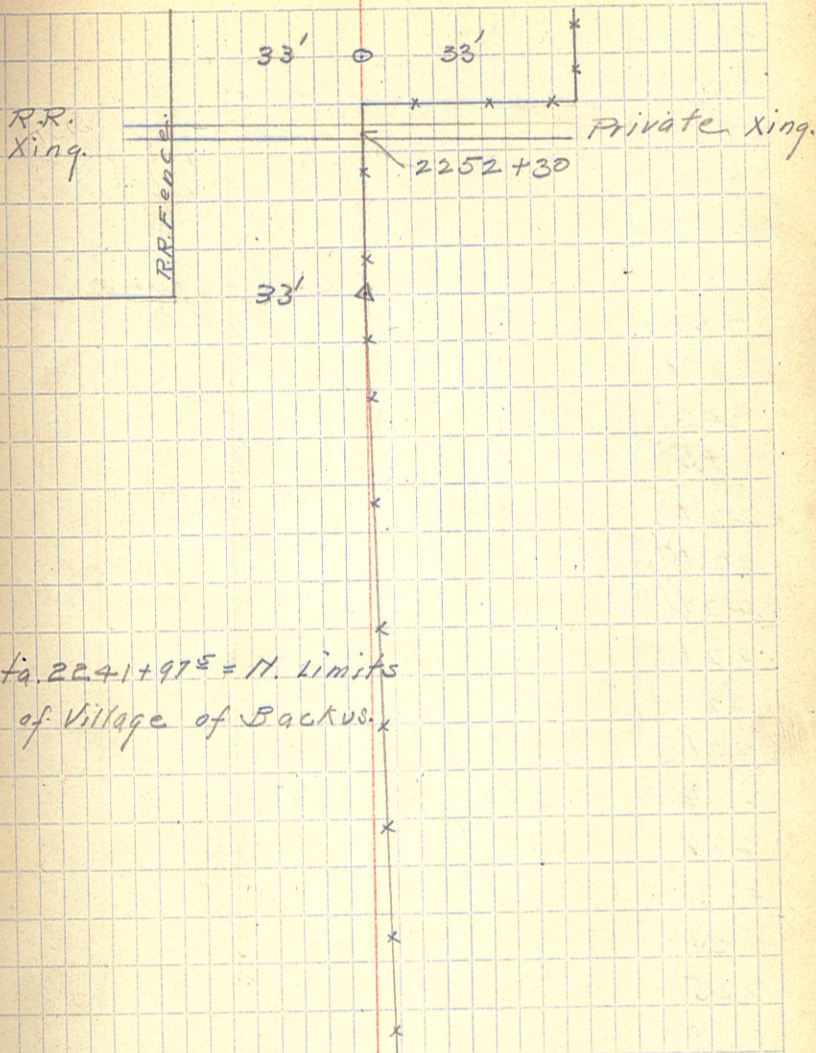
33





22 53    ○    P.O.T.    (spike)  
 +41  
 22 52  
 22 51  
 22 50  
 +16    △    0°22' L.    (spike)  
 22 49  
 22 48  
 22 47  
 22 46  
 22 45  
 22 44  
 22 43  
 22 42    = 241 + 97<sup>E</sup>    N. Village Limits.  
 22 41  
 22 40  
 22 39  
 22 38  
 22 37  
 22 36  
 22 35  
 22 34  
 22 33    ○    P.O.T.    (spike)  
 22 32  
 22 31

12/15/11



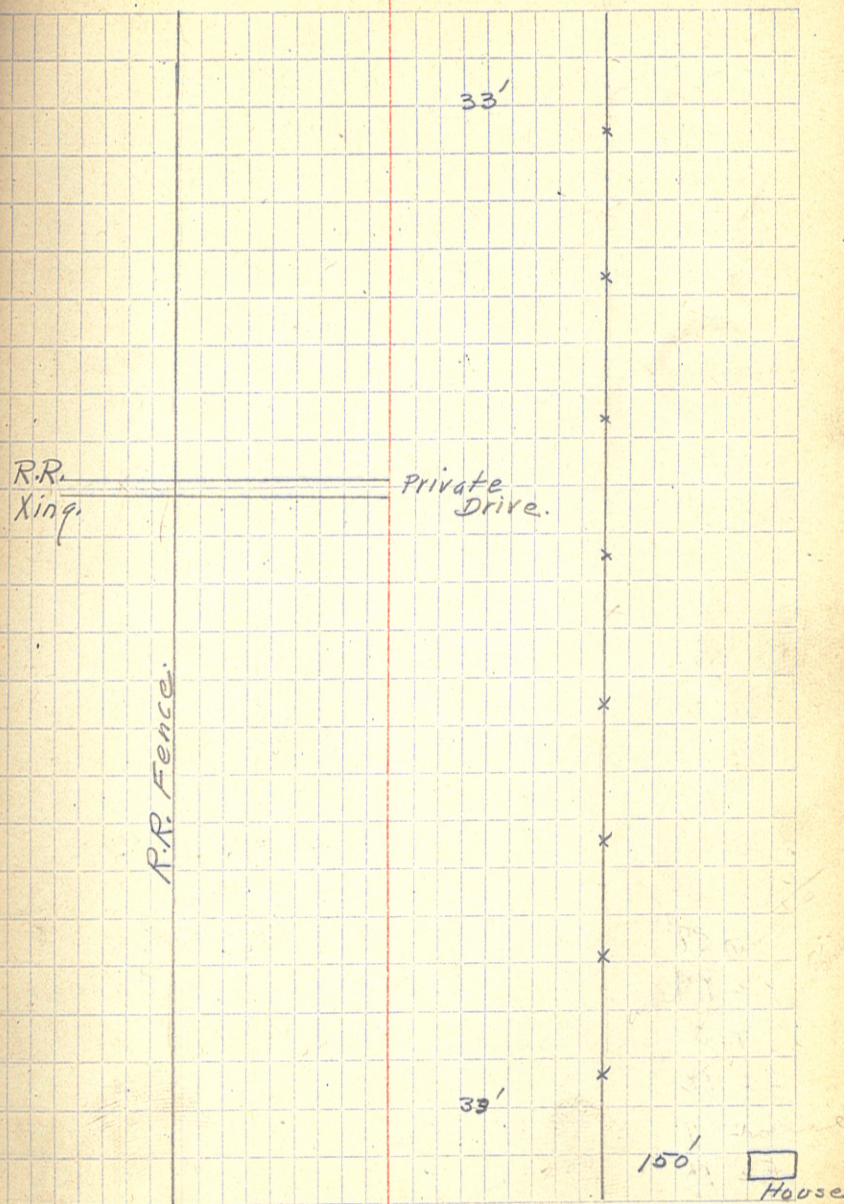


2277  
2276  
2275  
2274  
2273  
2272  
2271  
2270  
2269  
+50  
2268  
2267  
2266  
2265  
2264  
2263  
2262  
2261  
2260  
2259  
2258  
2257  
2256  
2255  
2254

From sta. 2242 To sta. 2390  
Light grubbing.

12/15/14

35

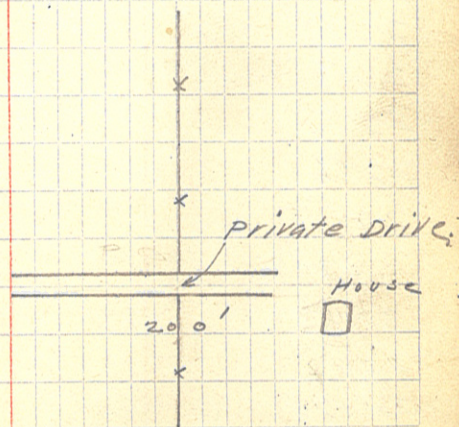




12/16/14

$$\begin{array}{r} 21.8100 \\ 21.2500 \\ \hline 0.5600 \end{array}$$

+28' ① P.O.T. (spike)  
 22 81 R.P.'s E.R.R. fence posts on L.  
 +10 43.5 + 33' 00" T.  
 22 80  
 22 79  
 22 78

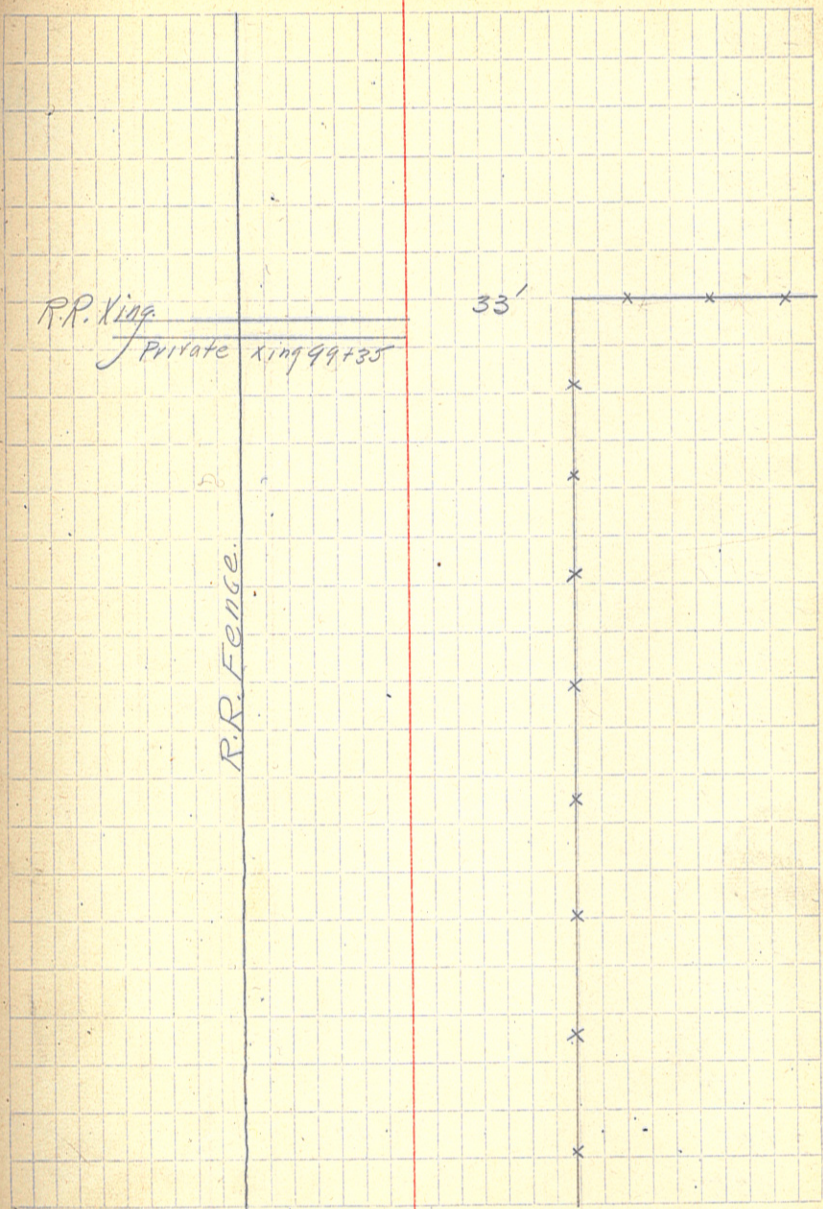




2/17/18

- 2304
- 2303
- 2302
- 2301
- 2300
- +45
- 2299
- 2298
- 2297
- 2296
- 2295
- 2294
- 2293
- 2292
- 2291
- 2290
- 2289
- 2288
- 2287
- 2286
- 2285
- 2284
- 2283
- 2282
- 2281+284

⊙ P.O.T.





2328

2327

2326

2325

2324

2323

2322

2321

2320

2319

2318

2317

2316

2315

2314

2313

+64

○

P.O. 71

(spike)

2312

2311

2310

2309

2308

2307

2306

2305

12/17/14

38

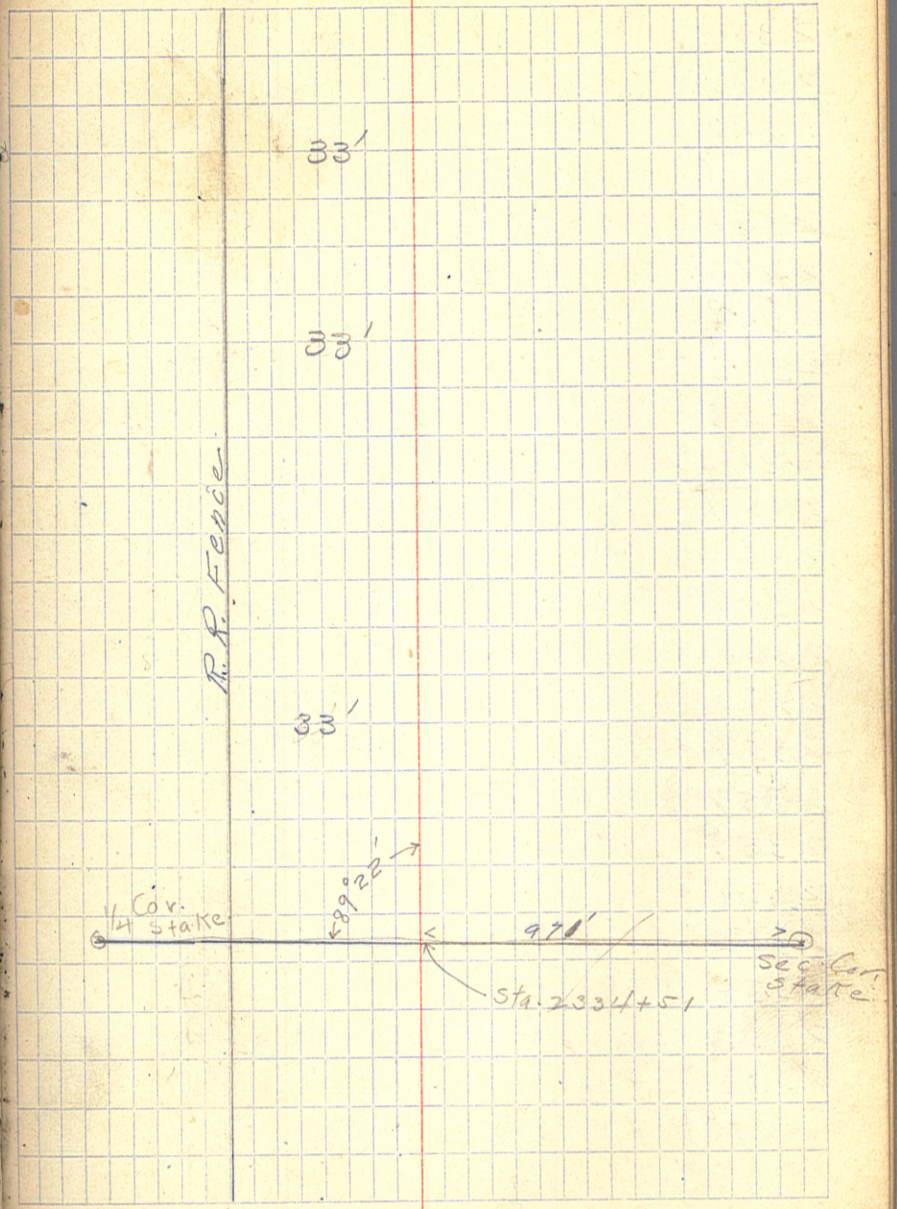
R.R. Fence

33'



12/17/14

2351  
~~2350~~  $\Delta$  1°52' R. (spike)  
~~2349~~  
~~2348~~  $\Delta$  5°45' R. (spike)  
2348  
2347  
~~441~~  $\Delta$  5°45' R. (spike)  
⊗ 2346  
~~2345~~  
~~2344~~  $\Delta$  5°51' R. (spike)  
~~2343~~  
2342  
2341  
2340  
~~2339~~ 0°17' R. (spike)  
2338  
2337  
~~2336~~  $\Delta$  0°17' R. spike  
2335  
2334  
2333  
2332  
2331  
2330  
2329





+78<sup>6</sup> Δ 8°10' R. Spite.

2372

2371

2370

2369

2368

2367

2366

2365

2364

2363

2362

2361

2360

2359

2358

2357

2356

2355

2354

2353

2352

+65<sup>5</sup> L 1952' R. Spite

12/17/14

42

RR

Xing.

RR FENCE

33'

Island Lake

Spur

33'

Large wood pile

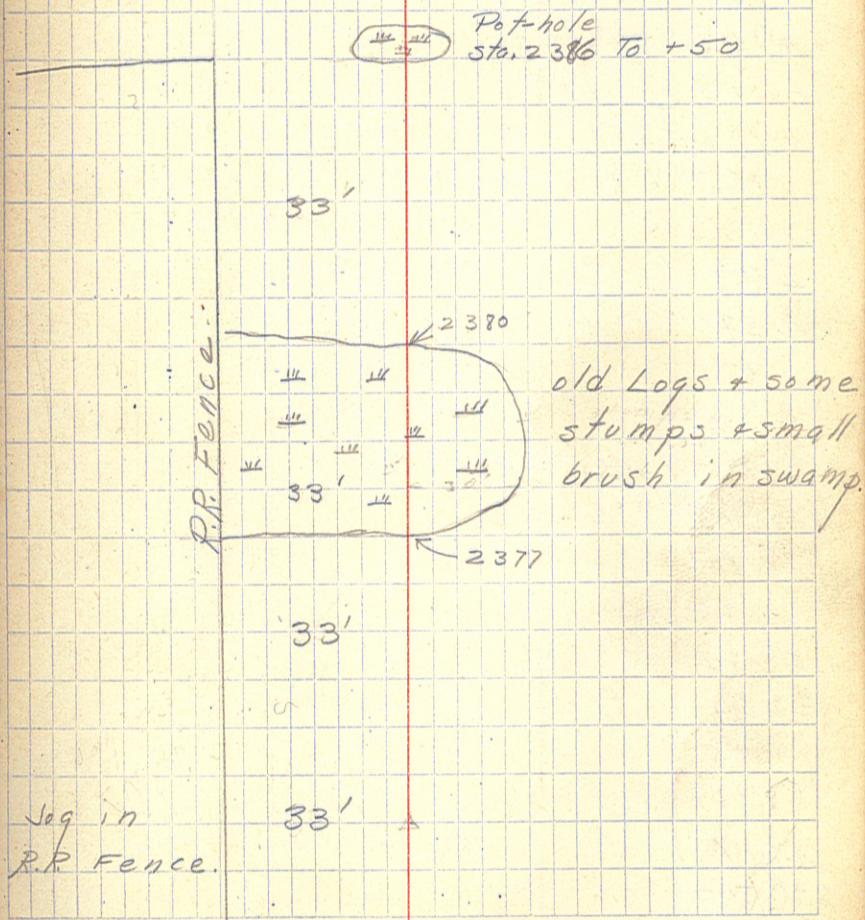
2362 + 85



+44<sup>5</sup> Δ 85°33' R. spike  
 2388 R.P.'s 2 R.R. Fence posts.  
 2387 32.9 + 36.2 outan L.  
 2386  
 2385 ○ P.O.T.  
 2384  
 2383 ○ P.O.T.  
 2382  
 2381  
 2380  
 +82 Δ 3°41' L.  
 2379  
 2378  
 +82 Δ 3°41' L.  
 2377  
 2376 +52<sup>2</sup> Δ 14°33' L. spike  
 2375  
 +75 Δ 8°10' R.  
 2374  
 2373

12/17/14

41





2409

2408

2407

2406

⊙ P.O.T.

Spike

2405

2404

2403

2402

2401

+096

⊙ spike

2400

2399

2398

2397

2396

+185

⊙ P.O.T.

(Spike)

2395

2394

2393

2392

2391

2390

+71

⊙ Sec. Cor. 7-8-17-18-139-30.  
(Concrete Mon.)

2389

2388+445

△

Sta. 2388+445 To  
2416+445 Medium  
Light clearing +  
grubbing







2457

2456

2455

○

P.O.T.

offset  
36.6

Spike

2454

2453

2452

2451

2450

2449

2448

2447

2446

2445

2444

○

P.O.T.

offset  
36.6

Spike

2443

2442

2441

2440

2439

○

2439+003

P.O.T.

offset  
36.6

Spike

2438

2437

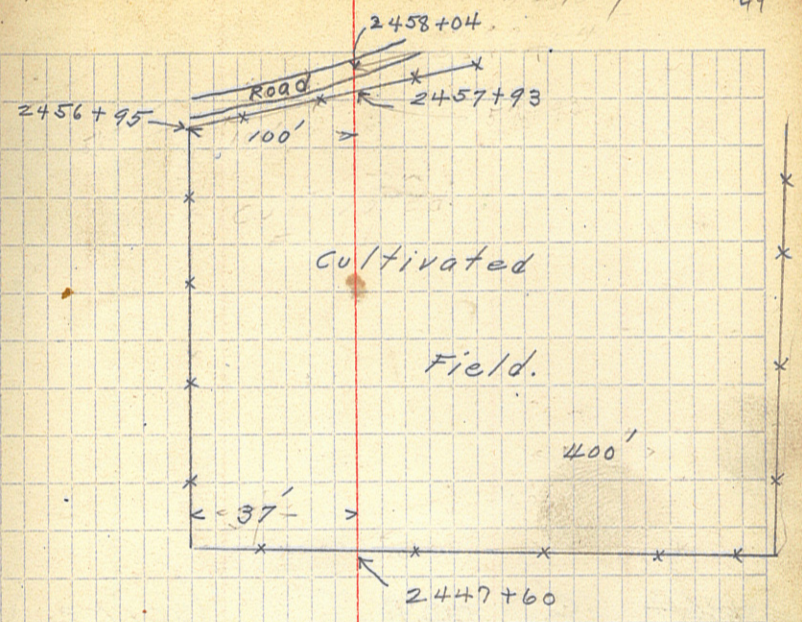
2436

2434

2433

12/18/14

44



Sta. 2433 to 2446  
Burnt timber



2463  $\odot$  P.O.T. (spike)

2469

2468

2467

2467+33 $\pm$

$\odot$

P.O.T.

spike.

2466

2465

2464

2463

2462

2461

2460

2459

2458

$\odot$

P.O.T.

spike

12/18/14

45

$\odot$  1/4 Sec. Cor. (sec. 5-8-139-3d)

2465+70

W W W W

Solid Bottom.  
Not wet.

2463+50

sta. 2458+10 to 1/4 Cor.  
Heavy Green timber.



12/19/14

46

2491

2490

2489

+442

⊙

P.O.T.

offset  
123

2488

2487

2486

2485

2484

2483

2482

⊙

P.O.T.

offset  
623

2481

2480

2479

2478

2477

2476

2475

2474

+37<sup>4</sup>

⊙

P.O.T.

offset  
543

Sp. Hc.

2473

2472

2471

2470

2469+36<sup>2</sup>

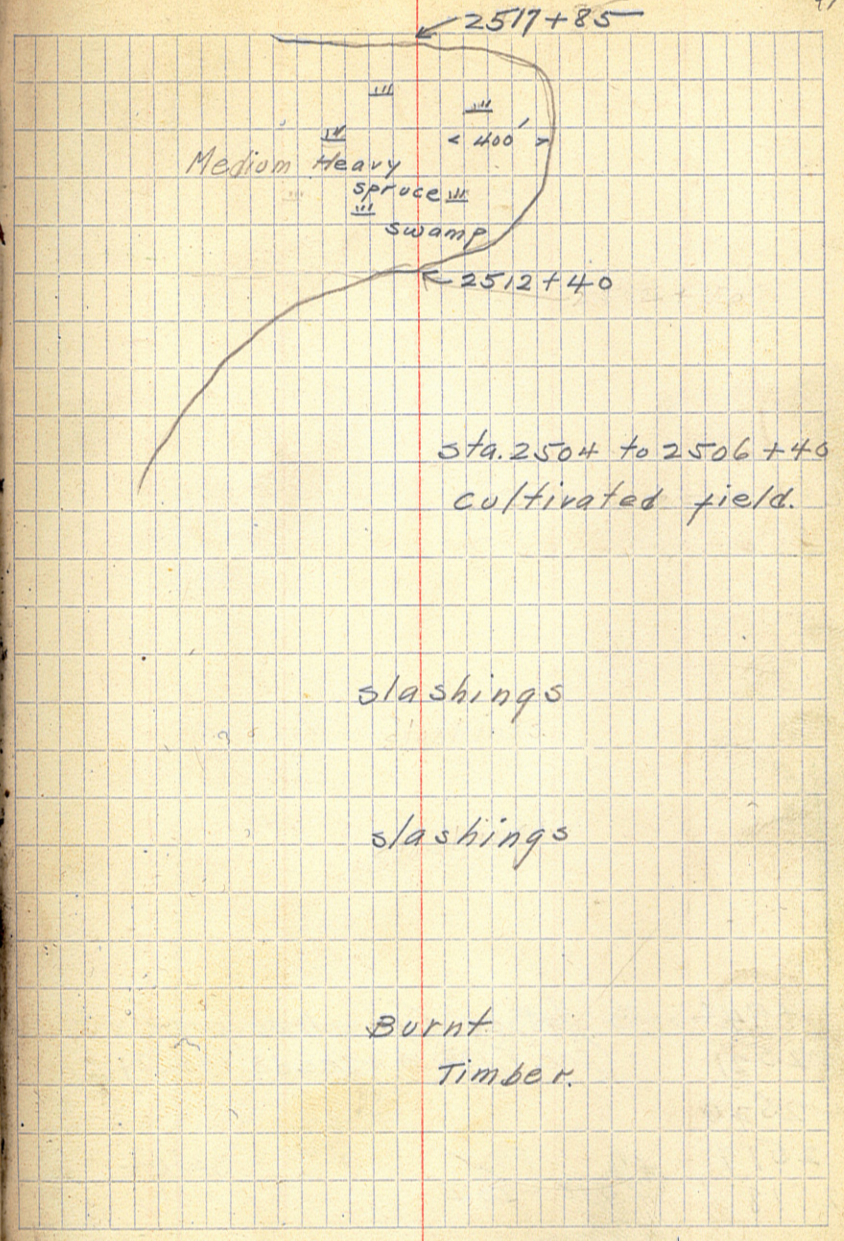
⊙

P.O.T.

S



|          |              |                     |
|----------|--------------|---------------------|
| 2517     | 15.0         | Mud to sand bottom. |
| 2516     |              |                     |
| 2515     | 15.0         | Mud to sand bottom. |
| 2514     |              |                     |
| 2513     | 7.5          | Mud to sand bottom. |
| 2512     |              |                     |
| 2511     |              |                     |
| 2510     | ⊙ (2510+22)  | P.O.T. 854          |
| 2509     |              |                     |
| 2508     |              |                     |
| 2507     |              |                     |
| 2506     |              |                     |
| 2505     | ⊙ (2505+72)  | P.O.T. 14.1 spike   |
| 2503     |              |                     |
| 2502     |              |                     |
| 2501     |              |                     |
| 2500     |              |                     |
| 2499     |              |                     |
| 2498     | ⊙ (2498+163) | P.O.T. spike        |
| 2497     |              |                     |
| 2496     |              |                     |
| 2495     |              |                     |
| 2494     |              |                     |
| 2493     |              |                     |
| 2492     |              |                     |
| 2491+254 | ⊙ (2491+254) | P.O.T. 713          |





12/29/14

48

+94<sup>6</sup>  
2521    Ⓞ 1/4 Sec. Cen. Iron pipe  
          (sec. 5, 139-30 & sec. 32, 140-30)  
2520  
2519    Ⓞ P.O.T. 97.4    spike  
2518    (2518+20)

Sta. 2517+85 to Ⓞ Fence Corner  
1/4 Cor. Light  
clearing & grubbing  
High Land



2541

+512

0

P.O.T.

spike

2540

2539

2538

+24

0

P.O.T.

spike

2537

2536

+85

2535

2534

2533

2532

2531

2530

2529

2528

+675

0

P.O.T.

2527

2526

2525

2524

2523

2522

2521+946

0

44 Sec. Cor. (Def. to W.)

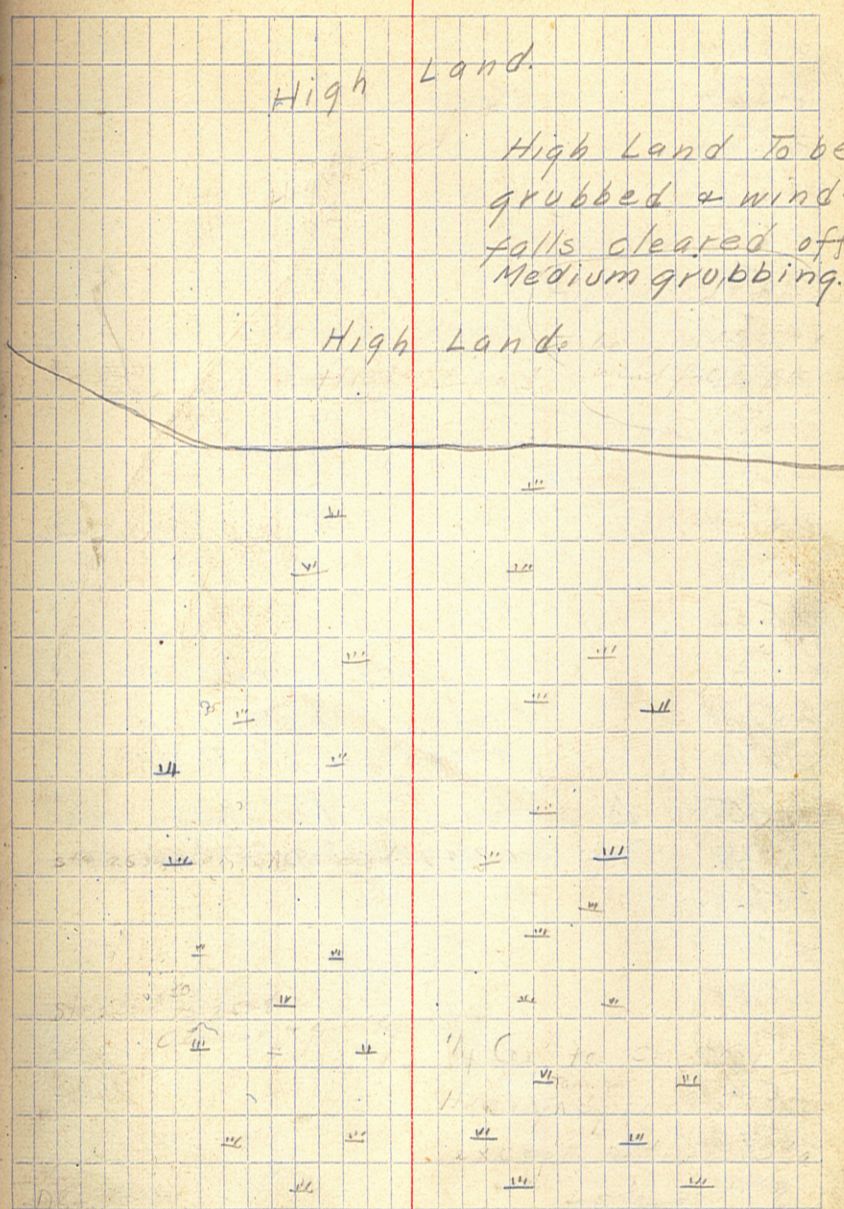
Sta. 2534+50 To 2535+75  
Cleared but not grubbed. Medium.

Sta. 2524+50 To 2528  
Cleared + grubbed.

High Land.

High Land To be grubbed + wind-falls cleared off. Medium grubbing.

High Land





2564

2563

2562

2561

2560

2559

2558

2557

2556

2555

2554

2553

2552

2551

2550

2549

+35

2548

2547

2546

2545

2544

2543

2542

+80

2563+20 15" pipe needed

Sta. 2549+50 to 2554+30

Cleared & grubbed.  
(Missed Cor. 0.9 to N.)

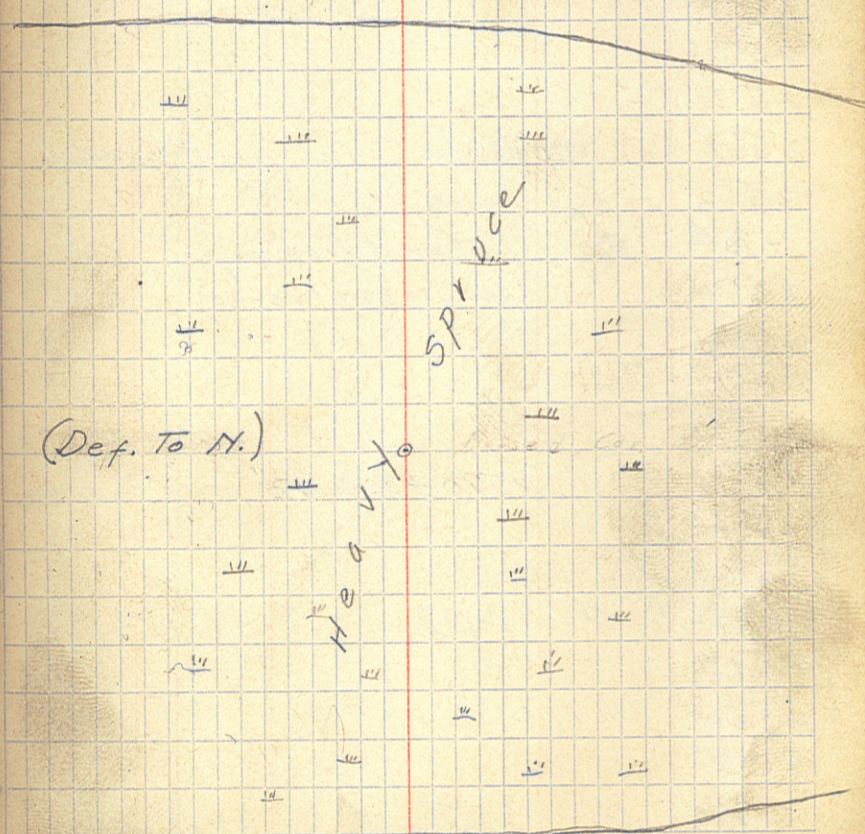
△ Sec. Cor. (Iron pipe)  
(Sec. 31 & 32-140-30, Sec. 5 & 6-139-30)

12/31/17

50

Sta. 2557 To 1/4 Cor.  
Cleared & partly  
grubbed. about  
50% done.

High Land.



(Def. to N.)

High Land.



2585

2584

2583

+35<sup>±</sup>

⊙ P.O.T. spike

2582

2581

2580

2579

2578

2577

2576

2576+60 12" pipe needed.

2575

+70<sup>±</sup>

⊙ 1/4 Cor. (Iron pipe)  
(Sec. 31+32 - 140-30)

2574

2573

2572

2571

2570

2570+50 12" pipe needed.

2569

2568

+09<sup>±</sup>

⊙ P.O.T. spike

2567

2566

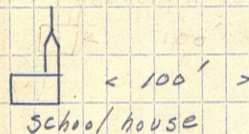
2565

+92

⊙ P.O.T. spike

12/31/14

51

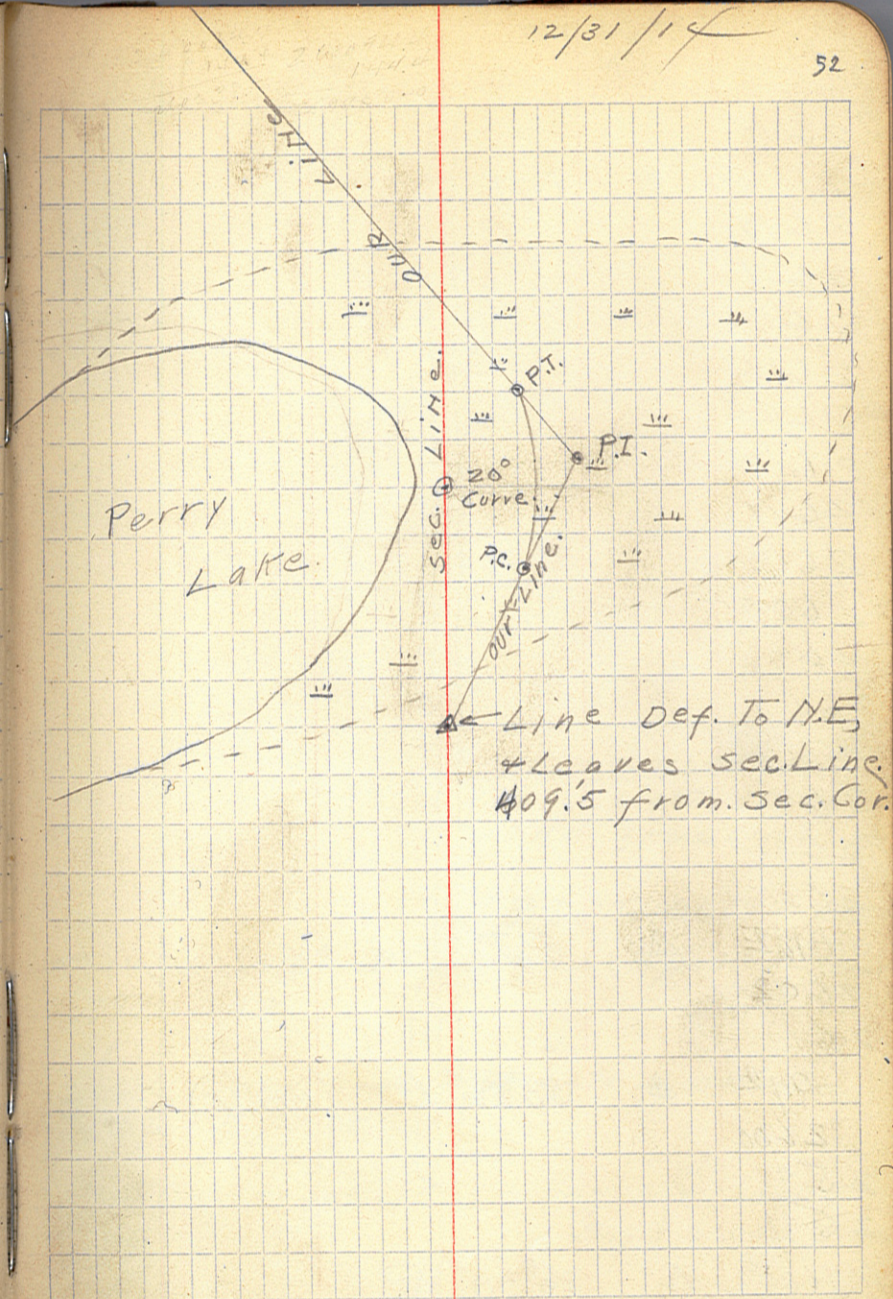


< 100' >

1/4 Cor. to Sec. Cor.  
some very light  
grubbing



|      |   |                           |
|------|---|---------------------------|
| 1095 | ⊙ | Sec. Cor. (Iron pipe)     |
| 2601 |   | (Sec. 29-30-31-32-140-30) |
| 2600 |   |                           |
| 2599 |   |                           |
| 2598 |   |                           |
| 2597 |   |                           |
| 2596 |   |                           |
| 2595 |   |                           |
| 781  | ⊙ | P.O.T. spike              |
| 2594 |   |                           |
| 2593 |   |                           |
| 2592 |   |                           |
| 2591 |   |                           |
| 2590 |   |                           |
| 2589 |   |                           |
| 2588 |   |                           |
| 2587 |   |                           |
| 2586 |   |                           |





2619  
 2618  $\odot$  POT  
 2617  
 2616  
 2615  
 2614  
 2613  
 2612  
 2611  
 2610  
 2609  
 2608  
 2607  
 2606  
 2605  
 2604  
 2603  
 +162  $\Delta$  P.T. spike  
 2602  
 2601  
 +94#  $\Delta$  53°26' L (INTX  $\Delta$ ) spike  
 2600  
 2599  
 2598  
 2597+00  $\Delta$  26°30' R spike

old Road

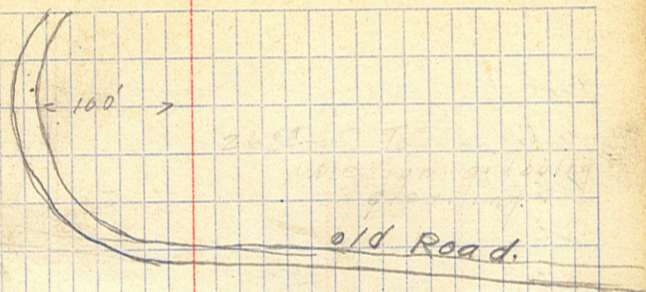
2610 To 2639+51  
 Very Light clearing  
 and grubbing.  
 P.I. To 2609 = Bog  
 & swamp on R. & L.  
 2602+16# = P.T.  $\rightarrow$   
 T. = 144.9  
 L. = 267.2  
 20° Curve  $\rightarrow$   $\odot$  P.I. = sta. 2600+94#  
 Def L<sub>s</sub> = 5°, 15°, 25°,  
 + 26°43'  
 Sta. 2599+49# = P.C.  $\rightarrow$  2597 To 2600+94#  
 = Bog + swamp on  
 L.



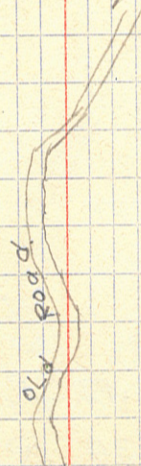
|                  |                           |                    |       |
|------------------|---------------------------|--------------------|-------|
| 2641             | 8°30'                     |                    |       |
| 2640             | Sta. 2640+94 <sup>4</sup> | = P.C. (18° Curve) |       |
| +51 <sup>6</sup> | ○                         | P.O.T.             | Spike |
| 2639             |                           |                    |       |
| 2638             |                           |                    |       |
| 2637             |                           |                    |       |
| 2636             |                           |                    |       |
| 2635             |                           |                    |       |
| +77 <sup>8</sup> | ○                         | P.O.T.             | Spike |
| 2634             |                           |                    |       |
| 2633             |                           |                    |       |
| 2632             |                           |                    |       |
| 2631             |                           |                    |       |
| 2630             |                           |                    |       |
| 2629             |                           |                    |       |
| 2628             |                           |                    |       |
| 2627             |                           |                    |       |
| +77 <sup>4</sup> | ○                         | 4°07' L.           | Spike |
| 2626             |                           |                    |       |
| 2625             |                           |                    |       |
| 2624             |                           |                    |       |
| 2623             |                           |                    |       |
| 2622             |                           |                    |       |
| 2621             | △                         | 13°01' L.          | Spike |
| 2620             |                           |                    |       |

1/2/15

st



Sta. 2639+51 To  
 Sta. 2671+33 = Medium +  
 Light clearing +  
 grubbing.  
 Except between  
 Sta. 2658+58 +  
 2667+87 which is  
 Medium Heavy  
 grubbing.









|                        |        |         |                     |        |
|------------------------|--------|---------|---------------------|--------|
| + 33 <sup>2</sup>      | ○      | P.O.T.  |                     | SP. R. |
| 2671                   |        |         |                     |        |
| 2670                   |        |         |                     |        |
| 2669                   |        |         |                     |        |
| 2668                   |        |         |                     |        |
| +87 <sup>2</sup>       | P.T.   | 44° 51' |                     |        |
| +50                    |        | 37° 25' |                     |        |
| 2667                   | P.O.C. | 27° 25' | 40° Curve           |        |
| +50                    |        | 17° 25' | 2667 + 082 = P.I. = |        |
| 2666                   |        | 7° 25'  | T. 145.3            |        |
| +62 <sup>2</sup>       | P.C.   | 00° 0'  | L. 224.3            |        |
| 2665                   |        |         | Δ = 89° 42'         | R.     |
| 2664                   |        |         |                     |        |
| +33.7                  | P.T.   | 59° 27' |                     |        |
| 2663                   |        | 55° 15' |                     |        |
| +50                    |        | 49° 00' |                     |        |
| 2662                   | P.O.C. | 42° 45' | 25° Curve           |        |
| +50                    |        | 36° 30' | 2662 + 494 = P.I.   |        |
| 2661                   |        | 30° 15' | Δ 118° 55' L.       |        |
| +50                    | P.O.C. | 24° 00' | T. 391.4            |        |
| 2660                   |        | 17° 45' | L. 475.7            |        |
| +50                    |        | 11° 30' |                     |        |
| 2659                   |        | 5° 15'  |                     |        |
| 2658 + 58 <sup>2</sup> | P.C.   | 00° 00' |                     |        |
| 2657                   |        |         | 118° 55' L.         |        |

107.2 = 118° 55'

1/4/15

56

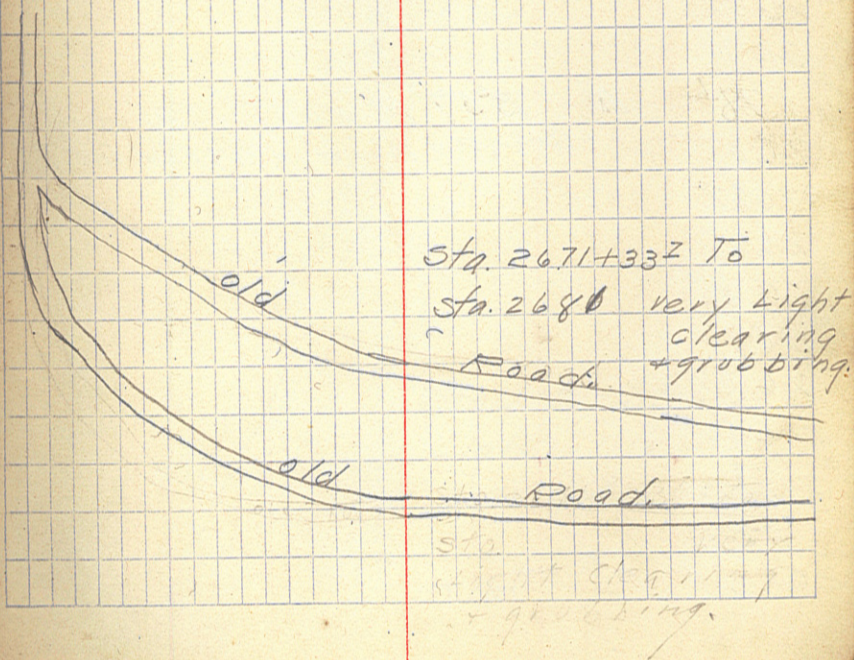
1/4 Cor (Iron pipe)  
(Sec. 19-30-140-30)

2658 + 58 = 2667 + 87 No. 118° 55' L.



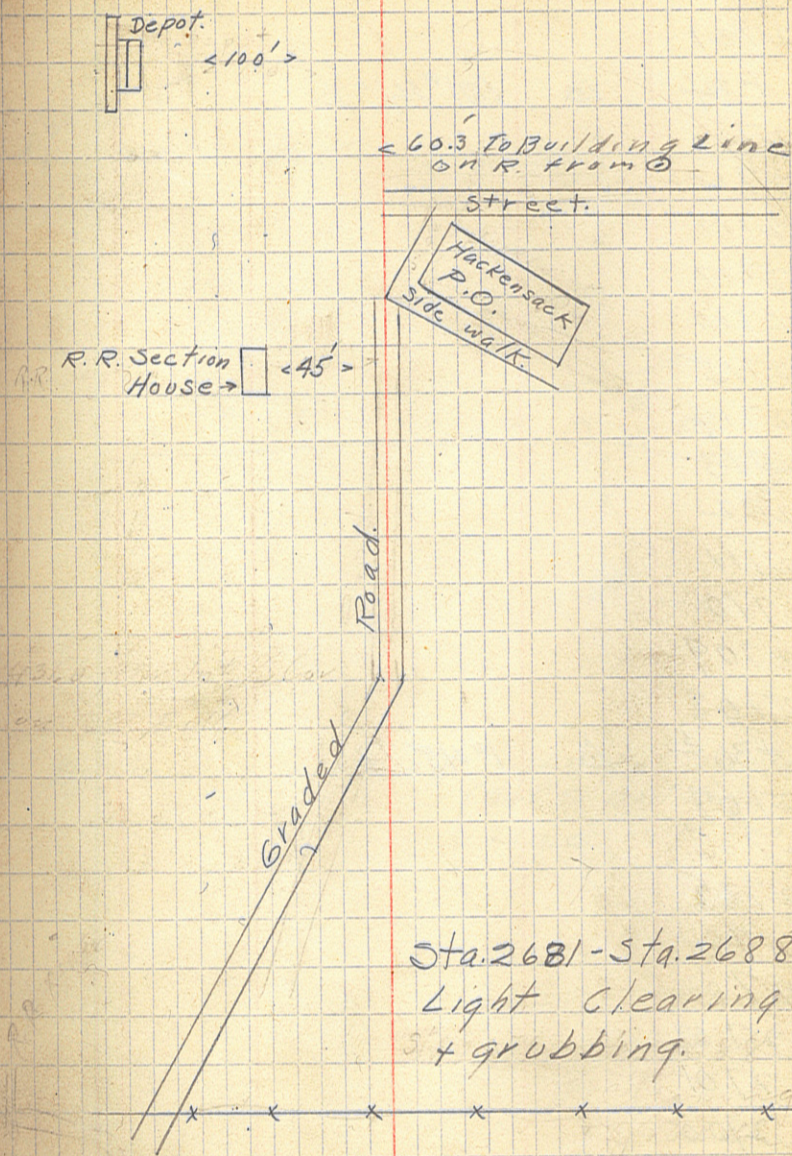
2680<sup>0</sup> ○ P.O.T.  
2679  
2678  
2677  
2676  
+30  
2675  
2674  
+35  
2673  
2672

11/4/15 57





2699  
 +57  
 2698  
 2697  
 +40<sup>±</sup>    ⊙    P.O.T.  
 2696  
 +50  
 2695  
 2694  
 2693  
 2692  
 2691  
 2690  
 2689  
 +78<sup>±</sup>    Δ    B<sup>o</sup>57' R.  
 (Def. from 1/4 Line 431 from Int 1/4 Cor.)  
 2688  
 2687  
 2686  
 2685  
 2684  
 2683  
 2682  
 2681  
 +30  
 2680    ⊙    P.O.T.





2722

2721

+34

△ 101°14' L.

2720

2719

2718

2717

2716

2715

2714

2713

2712

2711

2710

2709

2708

+30<sup>3</sup>

△ 1°45' L.

2707

2706

2705

2704

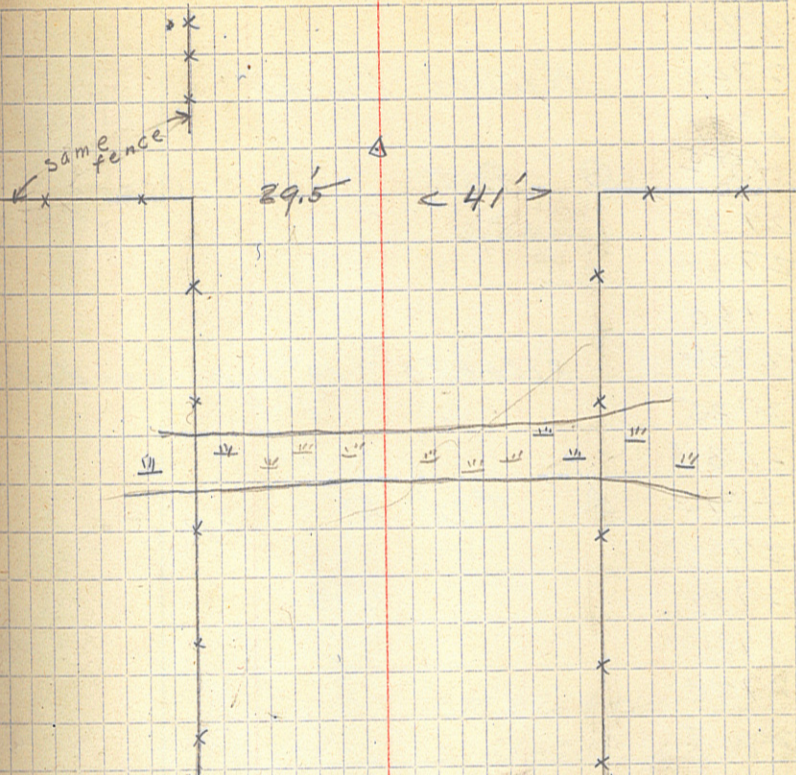
2703

2702

2701

2700

spine



Beginning of Road outside of village.  
 (34.5 To Building  
 Line on R. from  
 O)

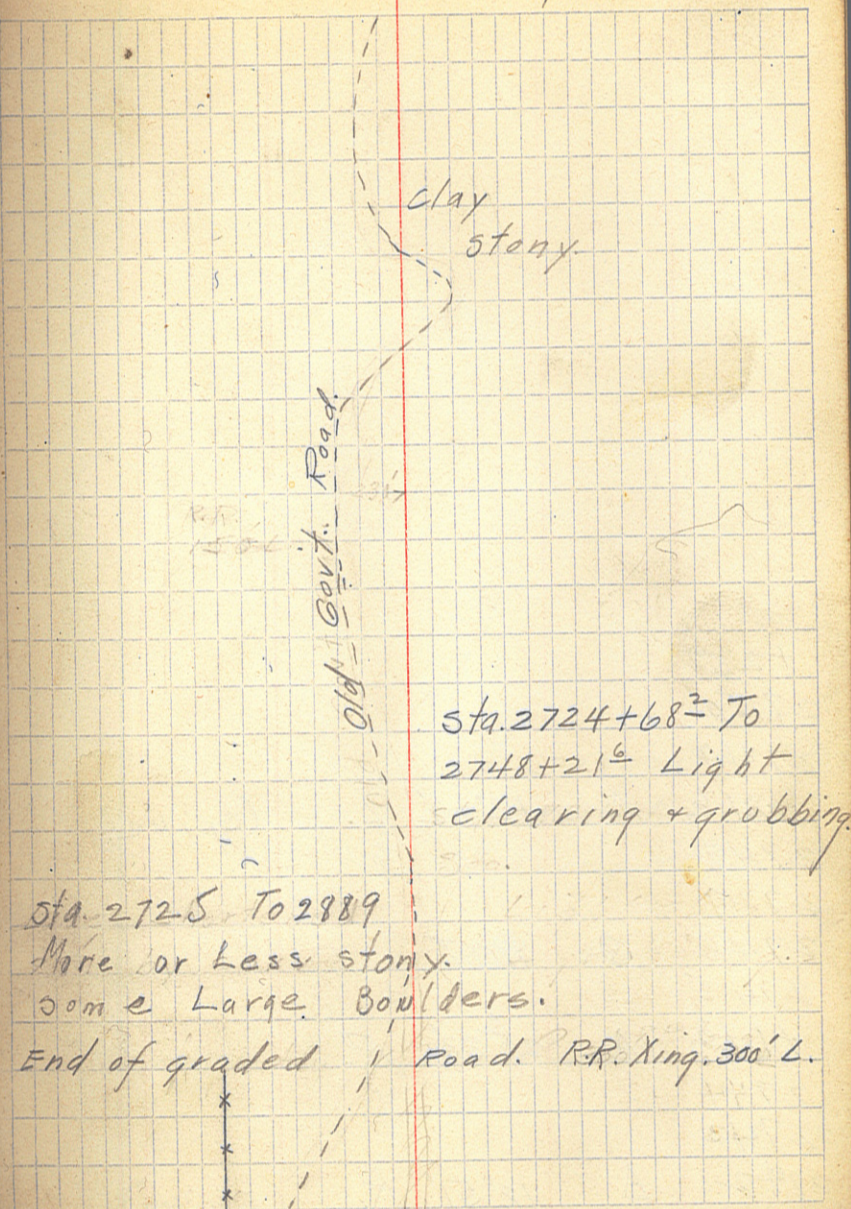
1/6/15



2741  
 2740 N. Village Limits  
 2739  
 +55<sup>5</sup> ○ P.O.T. spike  
 2738  
 2737  
 +60  
 2736 2736+70 12" pipe needed.  
 2735  
 2734  
 +31<sup>5</sup> Δ 7°32' R. spike  
 2733  
 2732  
 2731  
 2730  
 2729  
 2728  
 2727  
 +39.7 34°19' P.T. P.I. 27257.68.  
 2726 26°22' Δ 68°38' R.  
 +50 16°22' T. 998  
 2725 6°22' L. 171.5  
 +68<sup>2</sup> P.C. 40° Curve. spike  
 2724  
 2723

1/6/15

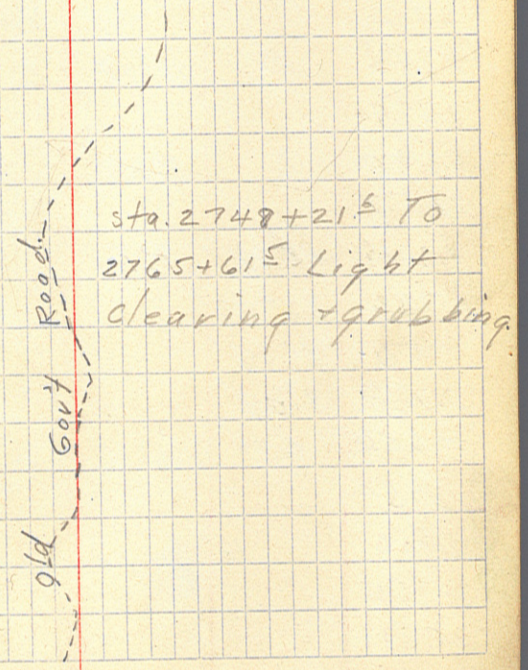
60





1/6/15

+25  
 2750  
 2749  
 +216 Δ 12°22' L. (spike)  
 2748  
 2747  
 2746 ○ P.O.T.  
 2745  
 +663 Δ 25°33' R.  
 2744  
 2743  
 2742 Δ 12°51' R. (spike)





2767  
 +545 17°25' P.T.  
 +50 17°00'  
 2766 12°30'  
 +50 8°00'  
 2765 3°30'  
 +61<sup>2</sup> 0'00' P.C. 18° Curve R.  
 2764  
 2763 12" pipe wanted  
 2762  
 2761  
 2760  
 +74<sup>2</sup> Δ 11°17' L.  
 2759  
 2758 0 P.O.T.  
 2757  
 +349 15°12' P.T.  
 2756 12°09'  
 +50 7°39'  
 2755 3°09' Spike  
 +650 0'00' 18° Curve, P.C.  
 2754  
 2753 12" pipe needed.  
 2752  
 2751

1/9/15

62

P.I. = 2765 + 61<sup>5</sup>  
 Δ = 34°50' R.  
 L. 199.3  
 T. 100.3  
 D. 18° R.

sta. 2765 + 61<sup>5</sup> to

2796 + 15 Brushing  
 + Light grubbing

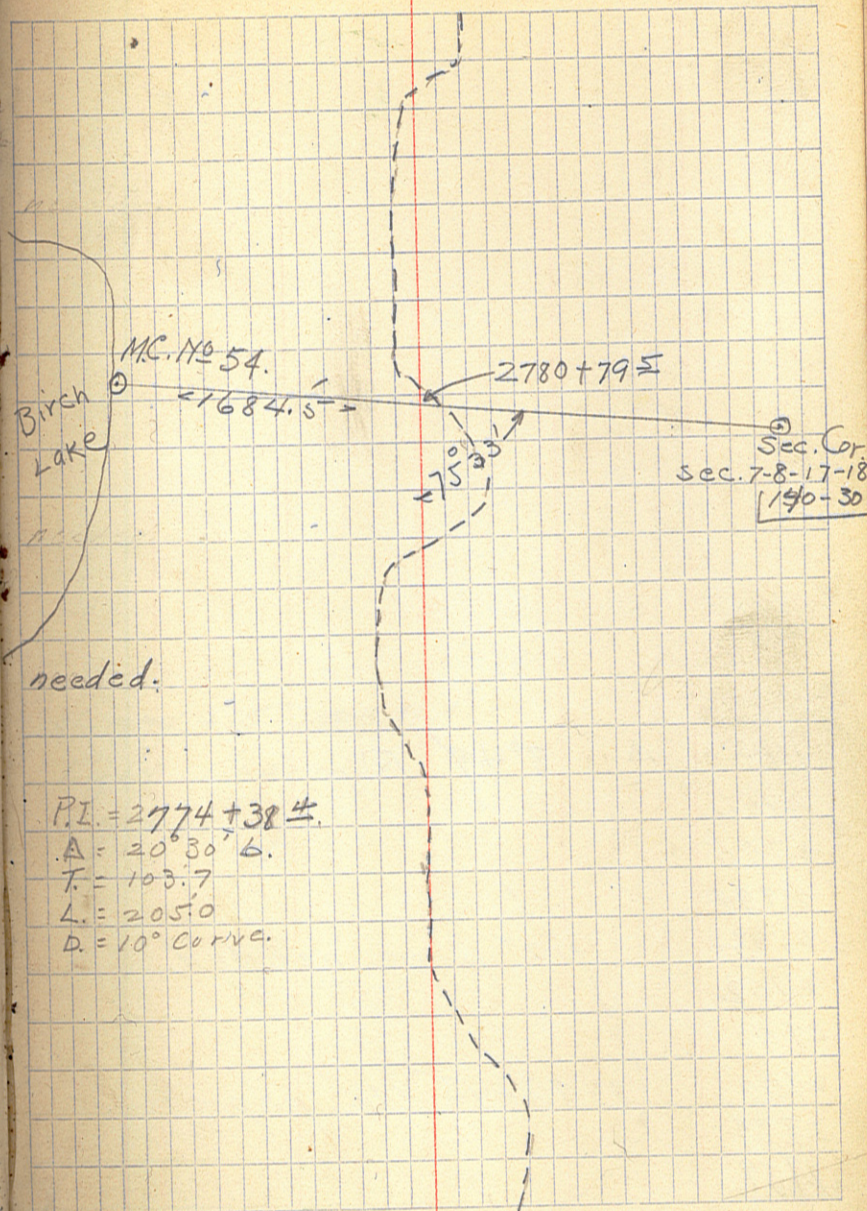
P.I. = 2755 + 524  
 Δ = 30°35' L.  
 L. 169.9  
 T. 87.4



2787  
 +46<sup>9</sup> Δ 13°57' R.  
 2786 2785 + 40 = 12" pipe needed.  
 2785 12" pipe wanted.  
 2784  
 2783  
 2782 ○ P.O.T.  
 2781 2780 + 49.5  
 2780  
 2779  
 2778 2778 + 15 = 12" pipe needed.  
 2777 ○ P.O.T.  
 2776  
 +39.7 10°15' P.T. 2775 + 75 = 12" pipe needed.  
 2775 8°16'  
 +50 5°46'  
 2774 3°16'  
 +50 0°46'  
 +34.2 0°00' P.C.  
 2773  
 2772  
 2771  
 2770  
 2769  
 2768 2768 + 30 = 12" pipe needed.

1/7/15

63



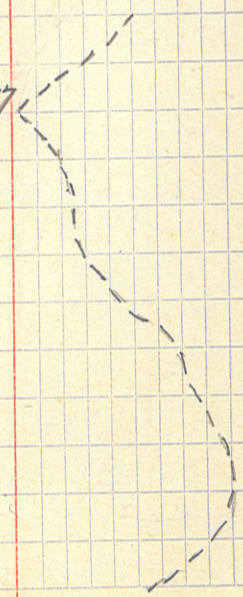


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67

2799  $\odot$  P.O.T.  
 2797 12" pipe  
 +15  $\Delta$  8°49' R.  
 2796  
 2795  
 2794  
 2793 12" pipe needed.  
 2792  
 2791  
 2790 2790+45 = 12" pipe  
 2789  
 2788

Sta. 2796+15 to 2809+77  
 Light clearing  
 + grubbing

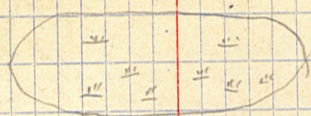




+70  
 2815  
 +70  
 2814  
 2813  
 2812     2812 + 75 = 18" pipe needed  
 +63<sup>3</sup>     ○ P.O.T.  
 2811  
 2810  
 +77     ○ P.O.T.  
 2809     12" pipe needed.  
 2808  
 2807     12" pipe needed.  
 2806  
 2805  
 2804  
 2803     2802 + 75 = 12" pipe needed.  
 2802  
 +32     ○ P.O.T.  
 2801  
 2800  
 2799     ○ P.O.T.  
 2798     12" pipe needed.  
 2797     2796 + 40 = 12" pipe  
 2796+15     △ 8°49' R.

1/8/15

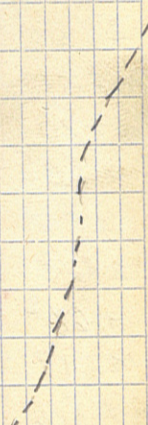
65



sta 2809+77 To  
 2841+56<sup>6</sup> Light +  
 Medium Clearing  
 +grubbing.

700' To old Road.

200'





2837

2836

2836 + 55 = 18" pipe wanted

2835

2834

2833

2832

2832 + 56 = 12" pipe needed

2831

+57<sup>2</sup>

○ P.O.T.

2830

2829

2828

2828 + 70 = 12" pipe needed

2827

2826

2825

○ P.O.T.

2824

2823

2822

2821

18" pipe needed,

+70

2820

2819

2818

+68<sup>2</sup>

A

7°49' L.

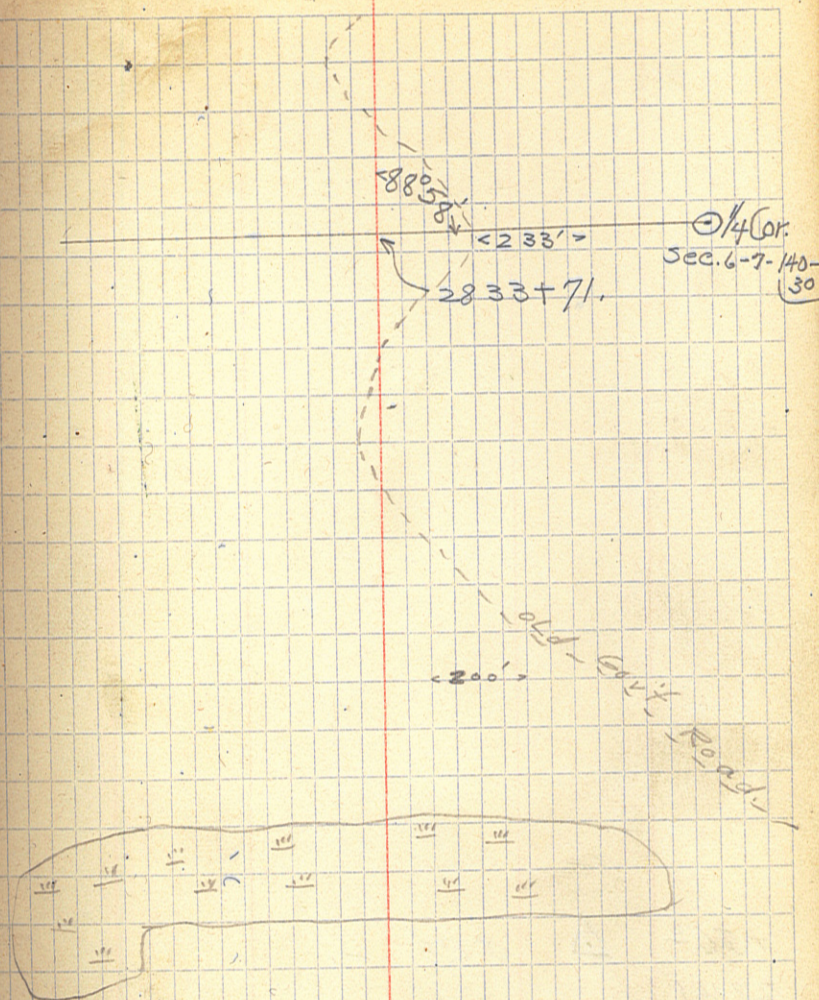
Spike

2817

2816

1/8/10

66





|       |       |
|-------|-------|
| 2837  | 132.9 |
| 2833  | 71    |
| <hr/> |       |
| 361   | 9     |

+56<sup>6</sup>     $\triangle$     0°28' L.

2841

2840

2839

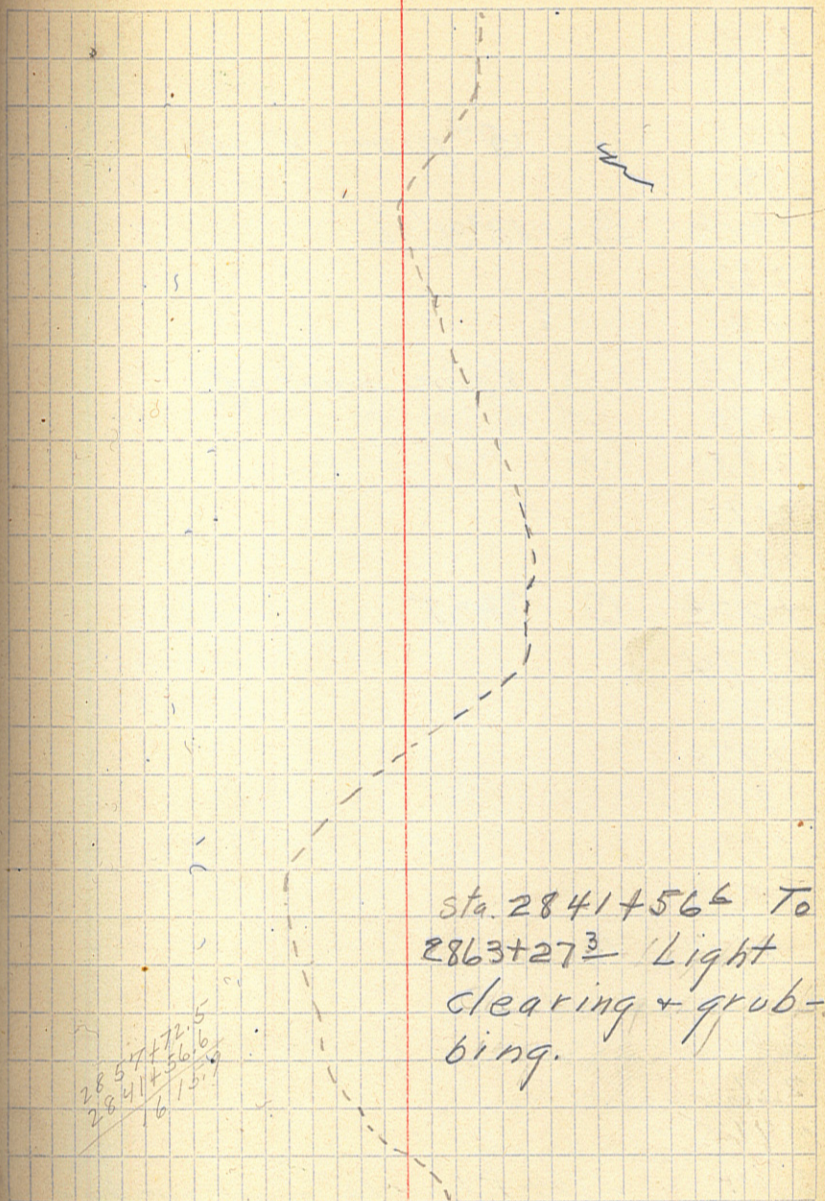
2838

+32<sup>2</sup>     $\triangle$     18°44' R.



+27<sup>3</sup>    ○    P.O.T.  
 2863  
 2862  
 2861  
 2860    2860+40 = 18" pipe wanted.  
 2859  
 2858  
 +72<sup>5</sup>    Δ    16°06' L.  
 2857  
 2856  
 2855  
 2854  
 2853  
 2852  
 2851  
 2850    ○    P.O.T.  
 2849  
 2848  
 2847    2847+75 = 18" pipe wanted  
 2846  
 2845    2845+35 = 12" pipe wanted  
 2844  
 2843  
 2842  
 2841+56<sup>6</sup>    Δ    0°28' L.

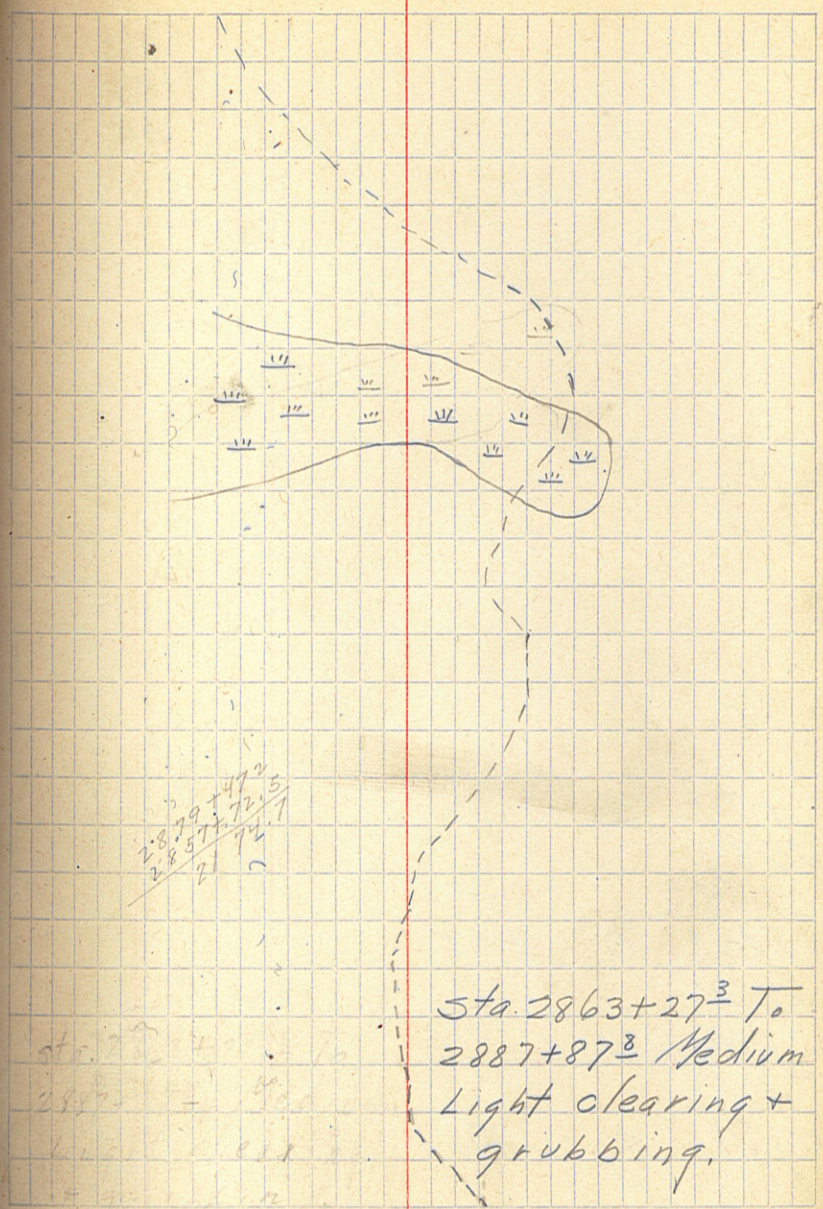
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2882  
 2881  
 +25      15" pipe needed.  
 2880  
 +47<sup>2</sup>    Δ    13°36' L.  
 2879  
 +95  
 2878      18" pipe wanted.  
 +70  
 2877  
 2876  
 2875  
 +234    ○    P.O.T.  
 2874  
 2873  
 2872  
 2871  
 2870  
 2869  
 +174    ○  
 2868  
 2867  
 2866  
 2865  
 2864      2864+17 = 12" pipe needed.

1/9/15





52

|      |   |        |
|------|---|--------|
| +752 | △ |        |
| 2889 |   |        |
| 2888 |   |        |
| +872 | ○ | P.O.T. |
| 2887 |   |        |
| 2886 |   |        |
| 2885 |   |        |
| 2884 | ○ | P.O.T. |
| 2883 |   |        |

1/9/15

70

100'

2889 + 75.7  
2879 + 47.2  
10 28.5



2145 ①

$$\begin{array}{r} .0102 \\ 4664.7 \overline{) 48.0000} \\ \underline{46647} \\ 135300 \\ \underline{139841} \\ 93294 \\ \hline \end{array}$$

.0102

$$\begin{array}{r} 1700 \\ .0102 \\ \hline 3400 \\ \underline{1700} \\ 173400 \end{array}$$

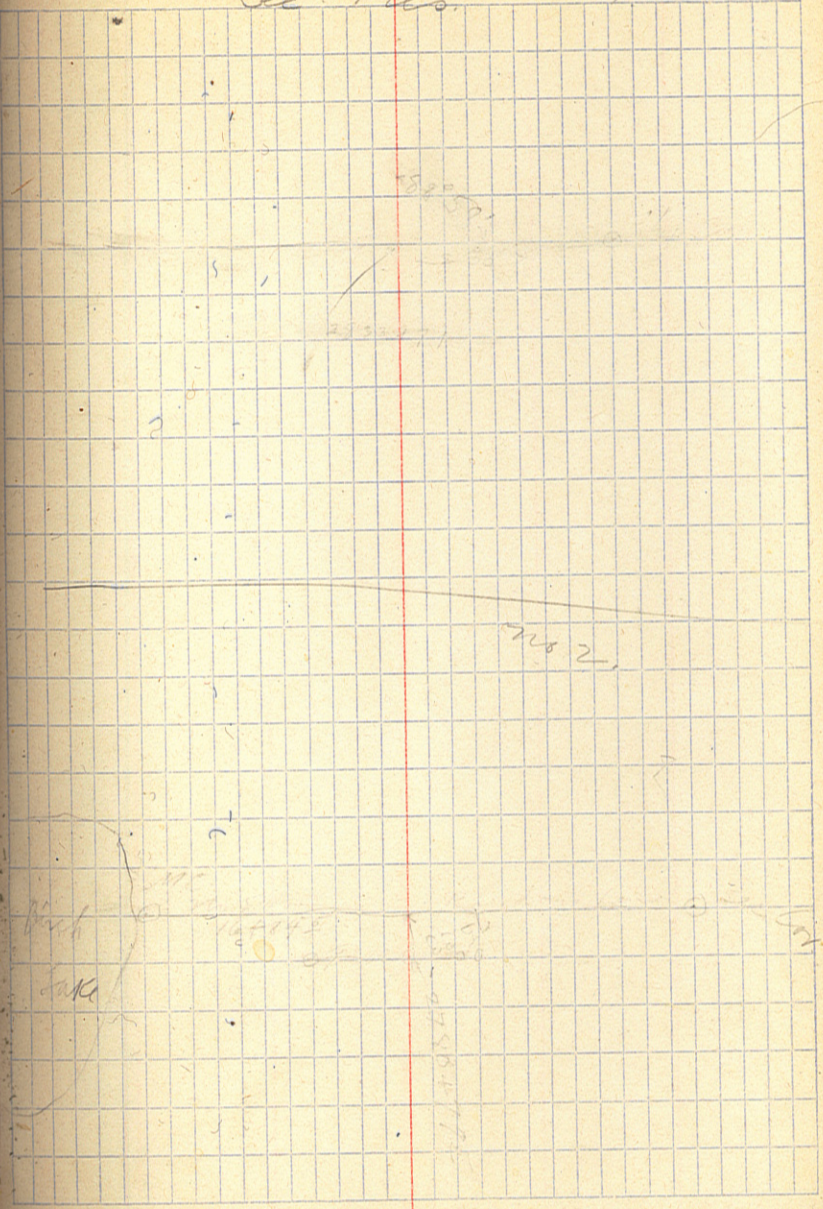
$$\begin{array}{r} 4664.7 \overline{) 48.0000} \\ \underline{46647} \\ 135300 \\ \underline{93294} \\ 42060 \end{array}$$

$$\begin{array}{r} 1134.2 \\ .0102 \\ \hline 22684 \\ \underline{11342} \\ 1156884 \end{array}$$

1/14/15

71

See Tico no 1









KEITH'S RAILROAD CURVE TABLES  
Published by KEITH'S PRESS CO., New York

TABLE I. — Minutes in Decimals of a Degree.

|    |       |     |       |     |       |     |       |     |       |     |        |
|----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|--------|
| 1' | .0167 | 11' | .1833 | 21' | .3500 | 31' | .5167 | 41' | .6833 | 51' | .8500  |
| 2  | .0333 | 12  | .2000 | 22  | .3667 | 32  | .5333 | 42  | .7000 | 52  | .8667  |
| 3  | .0500 | 13  | .2167 | 23  | .3833 | 33  | .5500 | 43  | .7167 | 53  | .8833  |
| 4  | .0667 | 14  | .2333 | 24  | .4000 | 34  | .5667 | 44  | .7333 | 54  | .9000  |
| 5  | .0833 | 15  | .2500 | 25  | .4167 | 35  | .5833 | 45  | .7500 | 55  | .9167  |
| 6  | .1000 | 16  | .2667 | 26  | .4333 | 36  | .6000 | 46  | .7667 | 56  | .9333  |
| 7  | .1167 | 17  | .2833 | 27  | .4500 | 37  | .6167 | 47  | .7833 | 57  | .9500  |
| 8  | .1333 | 18  | .3000 | 28  | .4667 | 38  | .6333 | 48  | .8000 | 58  | .9667  |
| 9  | .1500 | 19  | .3167 | 29  | .4833 | 39  | .6500 | 49  | .8167 | 59  | .9833  |
| 10 | .1667 | 20  | .3333 | 30  | .5000 | 40  | .6667 | 50  | .8333 | 60  | 1.0000 |

TABLE II. — Inches in Decimals of a Foot.

|       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1-16  | 3-32  | 1/8   | 3-16  | 1/4   | 5-16  | 3/8   | 1/2   | 5/8   | 3/4   | 7/8   |
| .0062 | .0078 | .0104 | .0156 | .0208 | .0260 | .0313 | .0417 | .0521 | .0625 | .0729 |
| 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    |
| .0833 | .1667 | .2500 | .3333 | .4167 | .5000 | .5833 | .6667 | .7500 | .8333 | .9167 |

TABLE III. — Radii, Ordinates and Deflections.

| Deg.   | Radius | Mid. Ord. | Tan. Def. | Chd. Def. | Def. for 1 Foot | Deg. | Radius | Mid. Ord. | Tan. Def. | Chd. Def. |
|--------|--------|-----------|-----------|-----------|-----------------|------|--------|-----------|-----------|-----------|
| 0° 10' | 34377. | .036      | .145      | .291      | 0.057           | 7°   | 819.0  | 1.523     | 6.105     | 12.21     |
| 20     | 17189. | .073      | .291      | .582      | 0.10            | 20'  | 781.8  | 1.600     | 6.395     | 12.79     |
| 30     | 11459. | .109      | .436      | .873      | 0.15            | 30   | 764.5  | 1.637     | 6.540     | 13.03     |
| 40     | 8594.4 | .145      | .582      | 1.164     | 0.20            | 40   | 747.9  | 1.673     | 6.685     | 13.27     |
| 50     | 6875.5 | .182      | .727      | 1.454     | 0.25            | 50   | 716.8  | 1.746     | 6.976     | 13.97     |
| 1      | 5729.6 | .218      | .873      | 1.745     | 0.30            | 8    | 688.2  | 1.819     | 7.266     | 14.74     |
| 10     | 4911.2 | .255      | 1.018     | 2.036     | 0.35            | 20   | 674.7  | 1.855     | 7.411     | 14.75     |
| 20     | 4297.3 | .291      | 1.164     | 2.327     | 0.40            | 30   | 661.7  | 1.892     | 7.556     | 15        |
| 30     | 3819.8 | .327      | 1.309     | 2.618     | 0.45            | 40   | 648.3  | 1.965     | 7.846     | 15        |
| 40     | 3437.9 | .364      | 1.454     | 2.909     | 0.50            | 20   | 614.6  | 2.037     | 8.136     | 16        |
| 50     | 3125.4 | .400      | 1.600     | 3.200     | 0.55            | 30   | 603.8  | 2.074     | 8.281     | 16        |
| 2      | 2864.9 | .436      | 1.745     | 3.490     | 0.60            | 40   | 593.4  | 2.110     | 8.426     | 16        |
| 10     | 2644.6 | .473      | 1.891     | 3.781     | 0.65            | 10   | 573.7  | 2.183     | 8.716     | 17        |
| 20     | 2455.7 | .509      | 2.036     | 4.072     | 0.70            | 30   | 546.4  | 2.292     | 9.150     | 18        |
| 30     | 2292.0 | .545      | 2.181     | 4.363     | 0.75            | 11   | 521.7  | 2.402     | 9.585     | 19        |
| 40     | 2148.8 | .582      | 2.327     | 4.654     | 0.80            | 30   | 499.1  | 2.511     | 10.02     | 20        |
| 50     | 2022.4 | .618      | 2.472     | 4.945     | 0.85            | 12   | 478.3  | 2.620     | 10.45     | 20        |
| 3      | 1910.1 | .655      | 2.618     | 5.235     | 0.90            | 30   | 459.3  | 2.730     | 10.89     | 21        |
| 10     | 1809.6 | .691      | 2.763     | 5.526     | 0.95            | 13   | 441.7  | 2.839     | 11.32     | 22        |
| 20     | 1719.1 | .727      | 2.908     | 5.817     | 1.00            | 30   | 425.4  | 2.949     | 11.75     | 23        |
| 30     | 1637.3 | .764      | 3.054     | 6.108     | 1.05            | 14   | 410.3  | 3.058     | 12.18     | 24        |
| 40     | 1562.9 | .800      | 3.199     | 6.398     | 1.10            | 30   | 396.2  | 3.168     | 12.62     | 25        |
| 50     | 1495.0 | .836      | 3.345     | 6.689     | 1.15            | 15   | 383.1  | 3.277     | 13.05     | 26        |
| 4      | 1432.7 | .873      | 3.490     | 6.980     | 1.20            | 30   | 370.8  | 3.387     | 13.49     | 26        |
| 10     | 1375.4 | .909      | 3.635     | 7.271     | 1.25            | 16   | 359.3  | 3.496     | 13.92     | 27        |
| 20     | 1322.5 | .945      | 3.718     | 7.561     | 1.30            | 30   | 348.5  | 3.606     | 14.35     | 28        |
| 30     | 1273.6 | .982      | 3.826     | 7.852     | 1.35            | 17   | 338.3  | 3.716     | 14.78     | 29        |
| 40     | 1228.1 | 1.018     | 4.071     | 8.143     | 1.40            | 18   | 319.6  | 3.935     | 15.64     | 31        |
| 50     | 1185.8 | 1.055     | 4.217     | 8.433     | 1.45            | 19   | 302.9  | 4.155     | 16.51     | 33        |
| 5      | 1146.3 | 1.091     | 4.362     | 8.724     | 1.50            | 20   | 287.9  | 4.374     | 17.37     | 34        |
| 10     | 1109.3 | 1.127     | 4.507     | 9.014     | 1.55            | 21   | 274.4  | 4.594     | 18.22     | 36        |
| 20     | 1074.7 | 1.164     | 4.653     | 9.305     | 1.60            | 22   | 262.0  | 4.814     | 19.08     | 38        |
| 30     | 1042.1 | 1.200     | 4.798     | 9.596     | 1.65            | 23   | 250.8  | 5.035     | 19.94     | 39        |
| 40     | 1011.5 | 1.237     | 4.943     | 9.886     | 1.70            | 24   | 240.5  | 5.255     | 20.79     | 41        |
| 50     | 982.6  | 1.273     | 5.088     | 10.18     | 1.75            | 25   | 231.0  | 5.476     | 21.64     | 43        |
| 6      | 955.4  | 1.309     | 5.234     | 10.47     | 1.80            | 26   | 222.3  | 5.697     | 22.50     | 44        |
| 10     | 929.6  | 1.346     | 5.379     | 10.76     | 1.85            | 27   | 214.2  | 5.918     | 23.35     | 46        |
| 20     | 905.1  | 1.382     | 5.524     | 11.05     | 1.90            | 28   | 206.7  | 6.139     | 24.19     | 48        |
| 30     | 881.9  | 1.418     | 5.669     | 11.34     | 1.95            | 29   | 199.7  | 6.360     | 25.04     | 5         |
| 40     | 859.9  | 1.455     | 5.814     | 11.63     | 2.00            | 30   | 193.2  | 6.583     | 25.88     | 5         |

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1 1/2 TO 1.

FOR SINGLE TRACK EMBANKMENT.

|    | 0    | .1   | .2   | .3   | .4   | .5   | .6   | .7   | .8   | .9   |    |
|----|------|------|------|------|------|------|------|------|------|------|----|
| 0  | 7.0  | 7.2  | 7.3  | 7.5  | 7.6  | 7.8  | 7.9  | 8.1  | 8.2  | 8.4  | 0  |
| 1  | 3.5  | 8.7  | 8.8  | 9.0  | 9.1  | 9.3  | 9.4  | 9.6  | 9.7  | 9.9  | 1  |
| 2  | 10.0 | 10.2 | 10.3 | 10.5 | 10.6 | 10.8 | 10.9 | 11.1 | 11.2 | 11.4 | 2  |
| 3  | 11.5 | 11.7 | 11.8 | 12.0 | 12.1 | 12.3 | 12.4 | 12.6 | 12.7 | 12.9 | 3  |
| 4  | 13.0 | 13.2 | 13.3 | 13.5 | 13.6 | 13.8 | 13.9 | 14.1 | 14.2 | 14.4 | 4  |
| 5  | 14.5 | 14.7 | 14.8 | 15.0 | 15.1 | 15.3 | 15.4 | 15.6 | 15.7 | 15.9 | 5  |
| 6  | 16.0 | 16.2 | 16.3 | 16.5 | 16.6 | 16.8 | 16.9 | 17.1 | 17.2 | 17.4 | 6  |
| 7  | 17.5 | 17.7 | 17.8 | 18.0 | 18.1 | 18.3 | 18.4 | 18.6 | 18.7 | 18.9 | 7  |
| 8  | 19.0 | 19.2 | 19.3 | 19.5 | 19.6 | 19.8 | 19.9 | 20.1 | 20.2 | 20.4 | 8  |
| 9  | 20.5 | 20.7 | 20.8 | 21.0 | 21.1 | 21.3 | 21.4 | 21.6 | 21.7 | 21.9 | 9  |
| 10 | 22.0 | 22.2 | 22.3 | 22.5 | 22.6 | 22.8 | 22.9 | 23.1 | 23.2 | 23.4 | 10 |
| 11 | 23.5 | 23.7 | 23.8 | 24.0 | 24.1 | 24.3 | 24.4 | 24.6 | 24.7 | 24.9 | 11 |
| 12 | 25.0 | 25.2 | 25.3 | 25.5 | 25.6 | 25.8 | 25.9 | 26.1 | 26.2 | 26.4 | 12 |
| 13 | 26.5 | 26.7 | 26.8 | 27.0 | 27.1 | 27.3 | 27.4 | 27.6 | 27.7 | 27.9 | 13 |
| 14 | 28.0 | 28.2 | 28.3 | 28.5 | 28.6 | 28.8 | 28.9 | 29.1 | 29.2 | 29.4 | 14 |
| 15 | 29.5 | 29.7 | 29.8 | 30.0 | 30.1 | 30.3 | 30.4 | 30.6 | 30.7 | 30.9 | 15 |
| 16 | 31.0 | 31.2 | 31.3 | 31.5 | 31.6 | 31.8 | 31.9 | 32.1 | 32.2 | 32.4 | 16 |
| 17 | 32.5 | 32.7 | 32.8 | 33.0 | 33.1 | 33.3 | 33.4 | 33.6 | 33.7 | 33.9 | 17 |
| 18 | 34.0 | 34.2 | 34.3 | 34.5 | 34.6 | 34.8 | 34.9 | 35.1 | 35.2 | 35.4 | 18 |
| 19 | 35.5 | 35.7 | 35.8 | 36.0 | 36.1 | 36.3 | 36.4 | 36.6 | 36.7 | 36.9 | 19 |
| 20 | 37.0 | 37.2 | 37.3 | 37.5 | 37.6 | 37.8 | 37.9 | 38.1 | 38.2 | 38.4 | 20 |
| 21 | 38.5 | 38.7 | 38.8 | 39.0 | 39.1 | 39.3 | 39.4 | 39.6 | 39.7 | 39.9 | 21 |
| 22 | 40.0 | 40.2 | 40.3 | 40.5 | 40.6 | 40.8 | 40.9 | 41.1 | 41.2 | 41.4 | 22 |
| 23 | 41.5 | 41.7 | 41.8 | 42.0 | 42.1 | 42.3 | 42.4 | 42.6 | 42.7 | 42.9 | 23 |
| 24 | 43.0 | 43.2 | 43.3 | 43.5 | 43.6 | 43.8 | 43.9 | 44.1 | 44.2 | 44.4 | 24 |
| 25 | 44.5 | 44.7 | 44.8 | 45.0 | 45.1 | 45.3 | 45.4 | 45.6 | 45.7 | 45.9 | 25 |
| 26 | 46.0 | 46.2 | 46.3 | 46.5 | 46.6 | 46.8 | 46.9 | 47.1 | 47.2 | 47.4 | 26 |
| 27 | 47.5 | 47.7 | 47.8 | 48.0 | 48.1 | 48.3 | 48.4 | 48.6 | 48.7 | 48.9 | 27 |
| 28 | 49.0 | 49.2 | 49.3 | 49.5 | 49.6 | 49.8 | 49.9 | 50.1 | 50.2 | 50.4 | 28 |
| 29 | 50.5 | 50.7 | 50.8 | 51.0 | 51.1 | 51.3 | 51.4 | 51.6 | 51.7 | 51.9 | 29 |
| 30 | 52.0 | 52.2 | 52.3 | 52.5 | 52.6 | 52.8 | 52.9 | 53.1 | 53.2 | 53.4 | 30 |
| 31 | 53.5 | 53.7 | 53.8 | 54.0 | 54.1 | 54.3 | 54.4 | 54.6 | 54.7 | 54.9 | 31 |
| 32 | 55.0 | 55.2 | 55.3 | 55.5 | 55.6 | 55.8 | 55.9 | 56.1 | 56.2 | 56.4 | 32 |
| 33 | 56.5 | 56.7 | 56.8 | 57.0 | 57.1 | 57.3 | 57.4 | 57.6 | 57.7 | 57.9 | 33 |
| 34 | 58.0 | 58.2 | 58.3 | 58.5 | 58.6 | 58.8 | 58.9 | 59.1 | 59.2 | 59.4 | 34 |
| 35 | 59.5 | 59.7 | 59.8 | 60.0 | 60.1 | 60.3 | 60.4 | 60.6 | 60.7 | 60.9 | 35 |
| 36 | 61.0 | 61.2 | 61.3 | 61.5 | 61.6 | 61.8 | 61.9 | 62.1 | 62.2 | 62.4 | 36 |

Calculated by Julien A. Hall, M. Am. Soc. C. E.

MADE IN GERMANY.