

OFFICE OF COUNTY ENGINEER
RAMSEY COUNTY, MINN.

PLAN Survey

NINTH ST.

From T.H. No. 96 To Other Lake Rd

Road Acc't. No. Dr 12

Date Filed 1-23-75 File BK 34

OFFICE OF COUNTY ENGINEER
RAMSEY COUNTY, MINN.

PLAN Survey

Birch Lake Blvd No.

From 35 E To Birch Lake

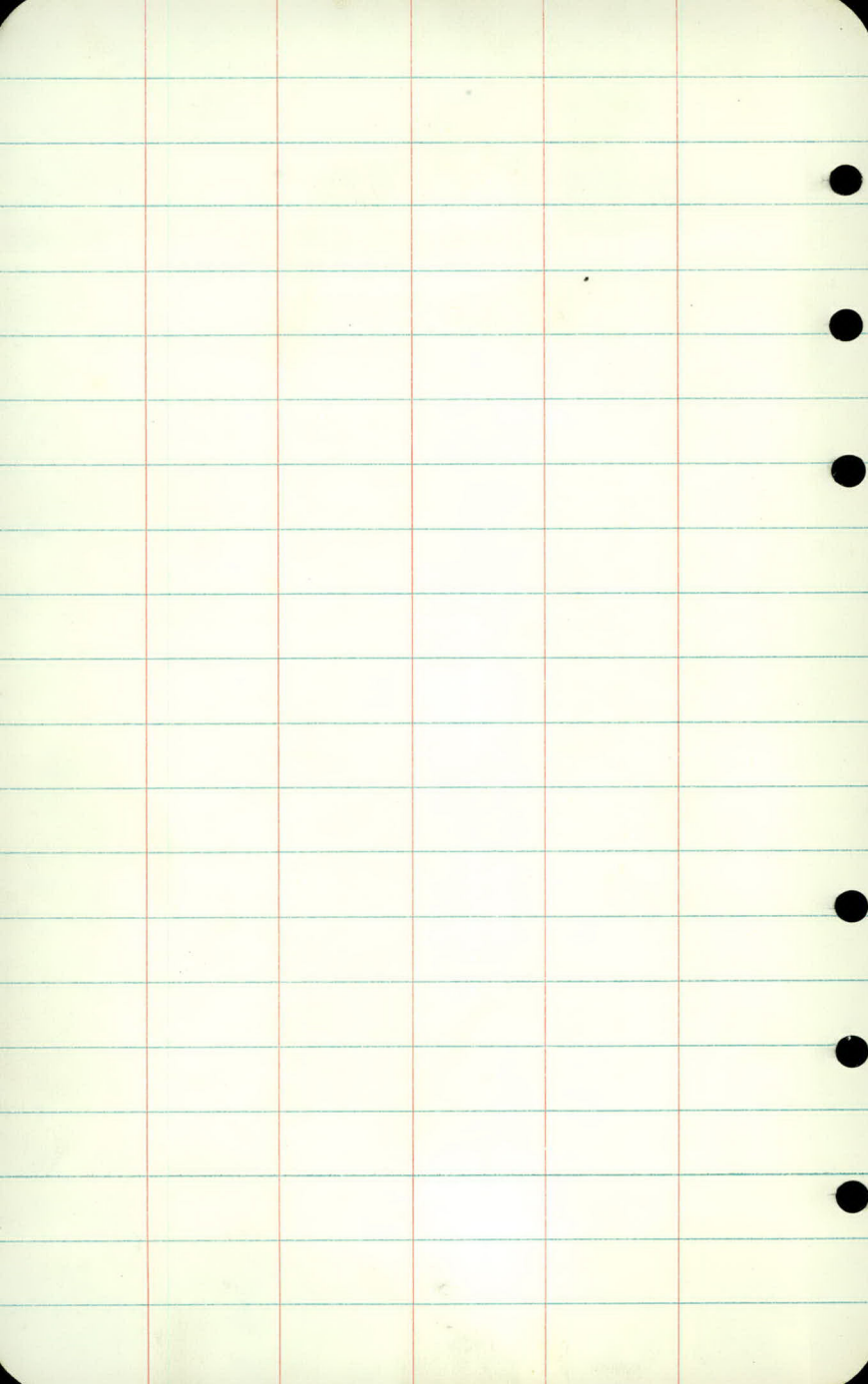
Road Acc't. No. Dr 12

Date Filed 1-23-75 File Bk 34

NINTH STREET

T.H. #96 to Otter Lake Road

PLAN SURVEY



FK
PK
BP
CP
CM

July 31, 1970

2

Alinement

Sta Point ΔL ΔR

9+62.68 P.T.

$11^{\circ} 29' 33\frac{1}{2}''$

+50

$11^{\circ} 00.3'$

9

$19^{\circ} 03.8' \Delta = 22^{\circ} 59' 07''$

+50

$7^{\circ} 45' 58''$
 $7^{\circ} 07.2 D = \underline{7^{\circ} 46.2'}$

8+16.71

150.00

8+16.73 P.I.

$T = \underline{150.02'}$

8

$5^{\circ} 10.7' L = 295.97$

+50

$3^{\circ} 14.1' R = 737.77'$

7

$1^{\circ} 17.6'$

6+66.71 P.C.

$0^{\circ} 00'$

0+00

28
70
18
79

July 31, 1970
Dec. 9, 1970

3

Iron 40 40 Iron

Iron Iron

TH #96

89° 40' →
↓
R.R Spike 0.11 565.6
PK. nail

C.I.
□ Mon.

Sta Point ΔL ΔR

26+68.85 P.O.T. $\frac{1}{4}$ Line Sec. 16

+40.11 P.T. $11^{\circ} 29' 13\frac{1}{2}"$

13 $10^{\circ} 06'$

+50 $8^{\circ} 10.5$

$\Delta = 22^{\circ} 58' 37"$

12 $6^{\circ} 14.0 \frac{1}{2}$

$D = 7^{\circ} 45' 48"$
 ~~$7^{\circ} 45.45"$~~

11+94.14 P.I.

$T = 150.00'$

+50 $4^{\circ} 18.4$

$L = 295.97'$

11 $2^{\circ} 22.8$

$R = 738.04$

+50 $0^{\circ} 27.3'$

+44.14 PC $0^{\circ} 00'$

±

4

Birch Lake Blvd.
5.25' 85.34' 40' 55.09' 3N 9" Ash Spike
conc 10" Elm

Sta Point ΔL ΔR

+41.58 P.T. $31^{\circ}49'17''$ $31^{\circ}52'$

33 $29^{\circ}08'07''$

+50 $25^{\circ}54'19'' \Delta = 63^{\circ}38'34''$

32 $22^{\circ}40'30'' \frac{1}{2}\Delta = 31^{\circ}49'17''$

+50 $19^{\circ}26'42'' D = 12^{\circ}55'14''$

31+24.19
~~31+19.22~~ P.I. $T = 275.18'$

31 $16^{\circ}12'50'' L = 492.57'$

+50 $12^{\circ}59'05'' R = 443.45'$

30 $9^{\circ}45'16''$

+50 $6^{\circ}31'28''$

29 $3^{\circ}17'39''$

+50 $0^{\circ}03'51''$

28+49.01 P.C. $0^{\circ}00'00''$

$\begin{matrix} 7 & 6 & 5 \\ 5 & 4 & 2 \\ 58.76 \\ 5.96 \end{matrix}$

23256

34884

3312096

$3^{\circ}13'48''$

$6^{\circ}27'37''/100'$

360

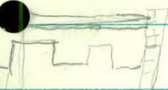
387.6/100'

387.6/100'

FK
PC
CM
BP

July 31, 1970
Curve Aug. 3, 1970

5



Reset iron

R-W
P.I.

7. 63
3, 876
4.97
87132
34884
13504
19.26372
19' 15"

263
360
1360
1548

Iron

iron

Sta	Point	ΔLt	ΔRt
-----	-------	-------------	-------------

43+04.95 P.O.T.

42+80,16 P.O.T.

$35 + 31.56 \text{ P.O.T.}$

August 5, 1970 6

£

186.67

45+06.97
226.31
42+80.16

226.31

Iron

44.64

44.64

44.64

44.64

44.64

Iron

(S)

40'

£

East Line Sec. 16

Sta.	Point	ΔL	ΔR	
+74.66				
+74.64	PT		$13^{\circ} 21'$	
+50			$13^{\circ} 00' 30.5''$	
54			$12^{\circ} 18' 56''$	
+50			$11^{\circ} 37' 21''$	
53			$10^{\circ} 54' 46.5''$	
+50			$10^{\circ} 14' 11.5''$	$4' 02''$
52			$9^{\circ} 32' 37''$	
+50			$8^{\circ} 51' 02''$	
51			$8^{\circ} 09' 27.5''$	$\Delta = 26^{\circ} 42'$
+50			$7^{\circ} 27' 52.5''$	$\frac{1}{2}\Delta = 13^{\circ} 21'$
50			$6^{\circ} 46' 18''$	$D = 2^{\circ} 46' 19''$
$50 + 01.95$			$26^{\circ} 42'$	$T = 490.51'$
49 + 96.89	P.I.		$6^{\circ} 04' 43''$	$L = 963.22$
+50			$5^{\circ} 23' 08.5''$	$R = 2066.94$
49			$4^{\circ} 41' 33.5''$	
+50			$4^{\circ} 00' 00''$	
48			$3^{\circ} 18' 24''$	$41' 35''/50'$
+50			$2^{\circ} 36' 50''$	
47			$1^{\circ} 55' 14.5''$	
+50			$1^{\circ} 13' 40''$	
46			$0^{\circ} 32' 05''$	
+50			$0^{\circ} 00' 00''$	
$45 + 11.44$	P.C.			

FK
PK
CM
BP
CP

Iron

August 5, 1970

Iron

7

54+74.64

R-W-P1

Iron

gone
11-29-73

45+11.44

Iron

Sta Point Δ Lt Δ Rt

62+83.21

~~62+83.19~~ P.I.

65413

56+29.04

57+38.22 POT

✓
56+29.04 P.O.T.

FK
RG
RJ

Dec. 3, 1973

B

4 Otter Lake Rd.

Iron

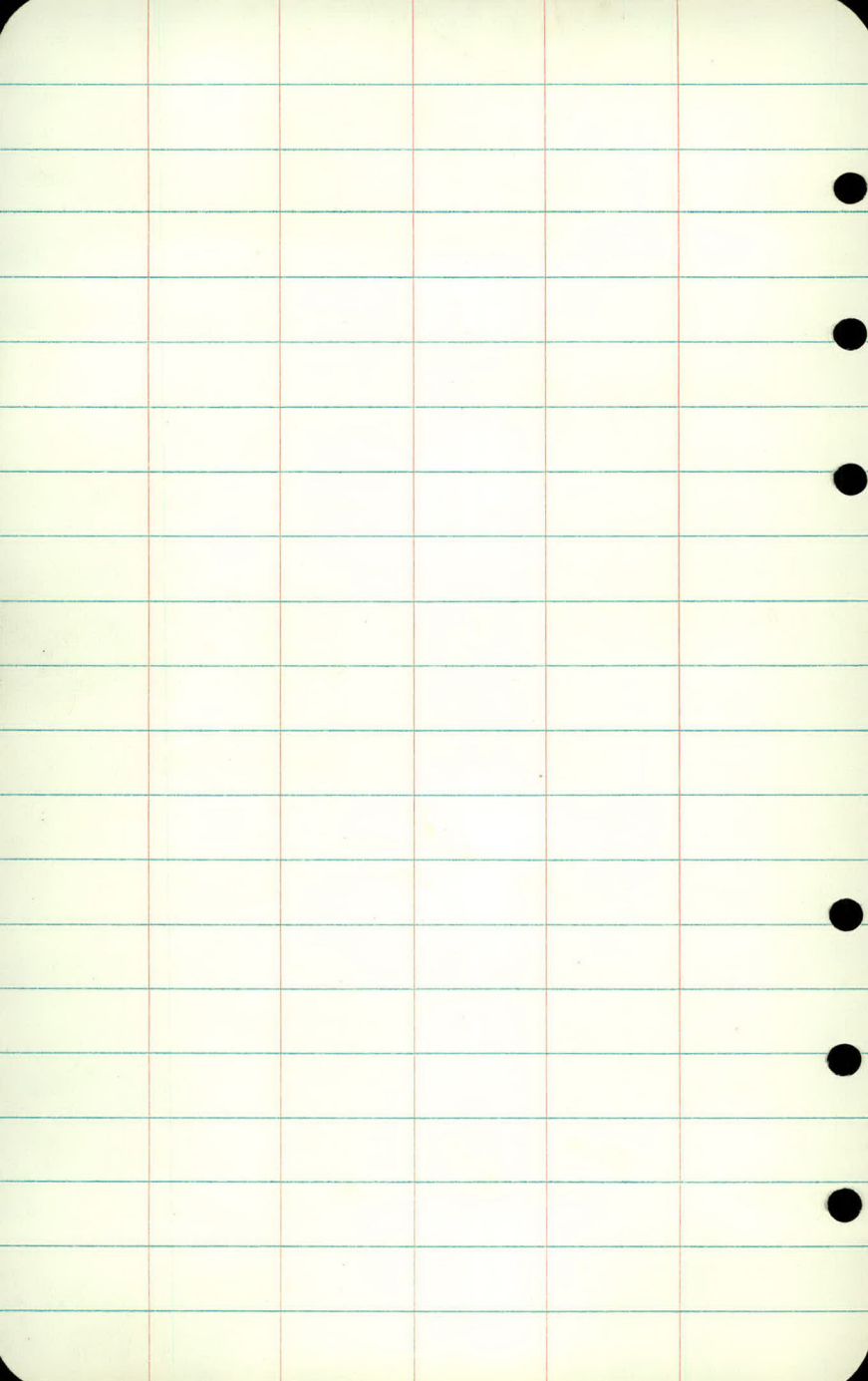
40' 35'

30'
(S)

Spike

Irons
40'

Property Line



TOPOGRAPHY

1
+73 ¹Begin Lake
R+4 Lt.

+69 PP
14

+56 N. Edge
Bit

+24 R Tie
Curb

+21 B-6-24
71

+21 ER Curb
56

+18 End Median
68

+113 FOR
46

+15 B-6-24
71

+03 Beg R Curb
56 Bit

0
-12 E EBL

-34 S. Edge
Bit

FK
KG
HL

Dec. 18, 1970

10

Birch Lake Bay



Marsh

4

④

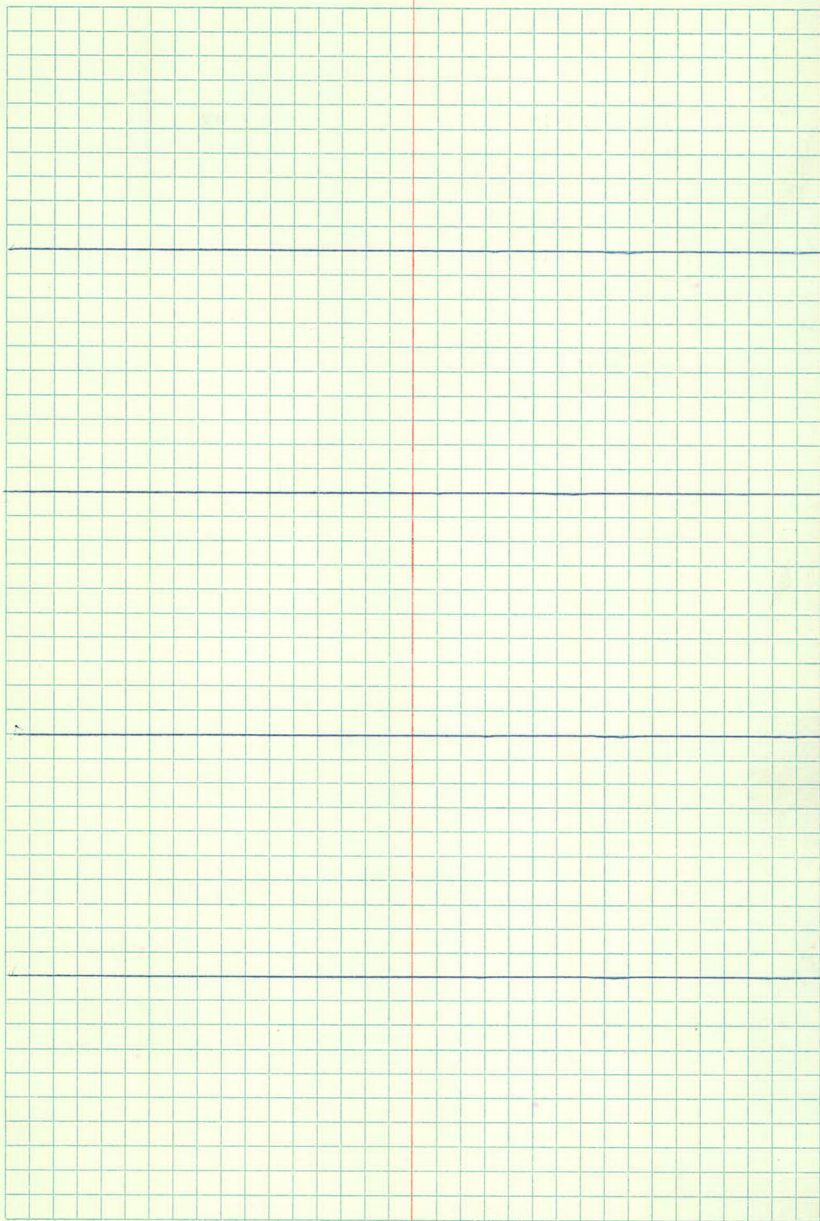
+67 7-10" Willows
99

3

2

Dec. 18, 1970

11



6 £ Ditch
 $\frac{41}{}$

+82 4 Cott
 $\frac{37}{}$

+87 6" Fruit Tree
 $\frac{57}{}$

+150 Ditch
 $\frac{2}{}$

5

8'
 £ Ditch
 $\frac{28}{}$

+20 Edge Lake
 $\frac{2}{}$
 +26 5-12" Willows
 $\frac{2}{}$

+54 Beg Ditch
 $\frac{54}{}$

+16 £ Ditch
 $\frac{41}{}$

+39 Trip 6" BE
 $\frac{8}{}$

+12 Trip 12" Willow
 $\frac{18}{}$

+06 Beg Ditch
 $\frac{21}{}$

+31 5" Willow
 $\frac{51}{}$

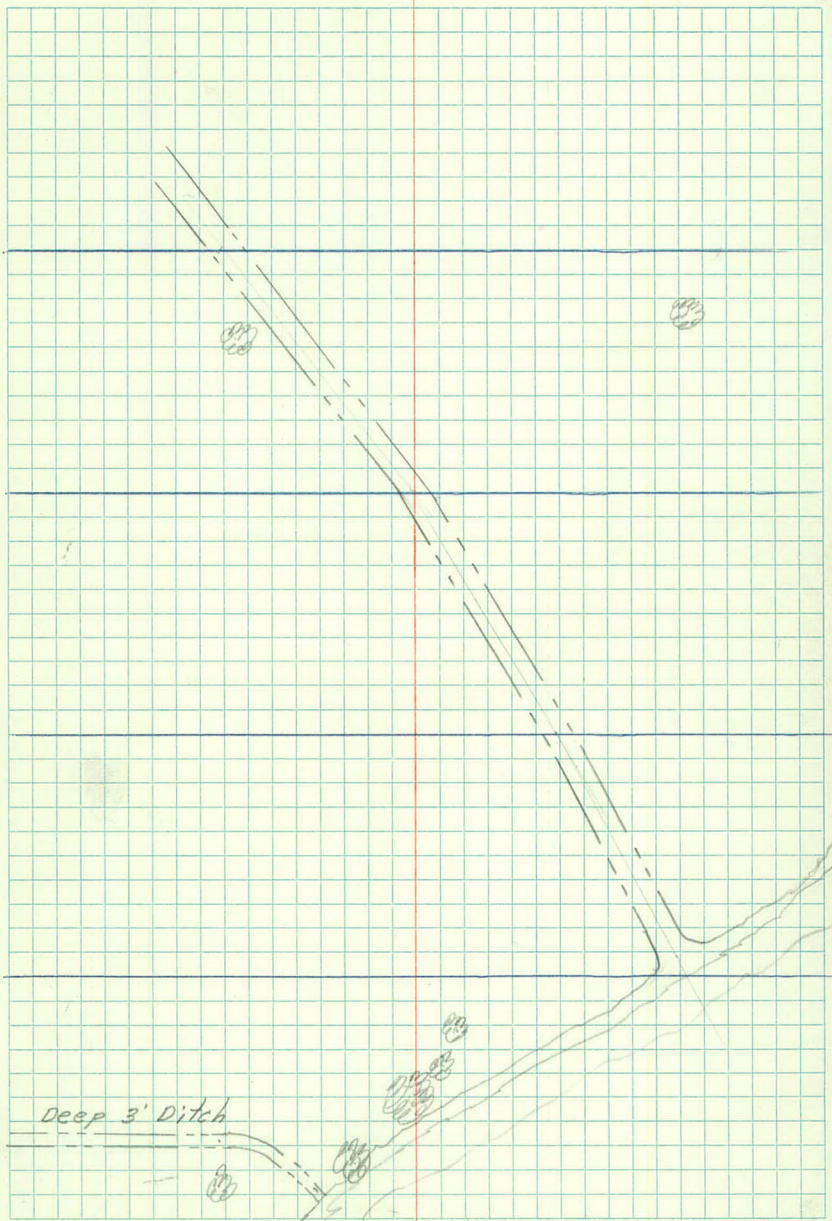
+05 6-10" Willows
 $\frac{41}{}$

4

Shore
 $\frac{23}{}$

Dec. 18, 1970

12



9

$$+67 \frac{5''CE}{16}$$

$$+45 \frac{5''CE}{65}$$

$$+89 \frac{6''BE}{42}$$

8

7

Dec. 14, 1970

13

SS

SS

SS

open Field

150 Lowland
48

8" CoH
+40 90

11
+100 Lowland
55

5" CE
+16 46

10

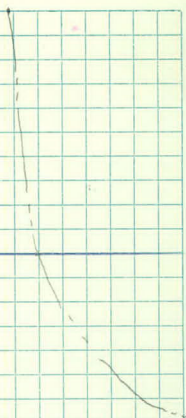
9

Dec 14, 1970

14



Open Field



14

+98 Lowland
£

+91 6" Ash
42

+70 Lowland
98 - 95

+50 Lowland
155

+33 12" Elm
94

Lowland
97 150

13

+50 Lowland
46 - 140

12

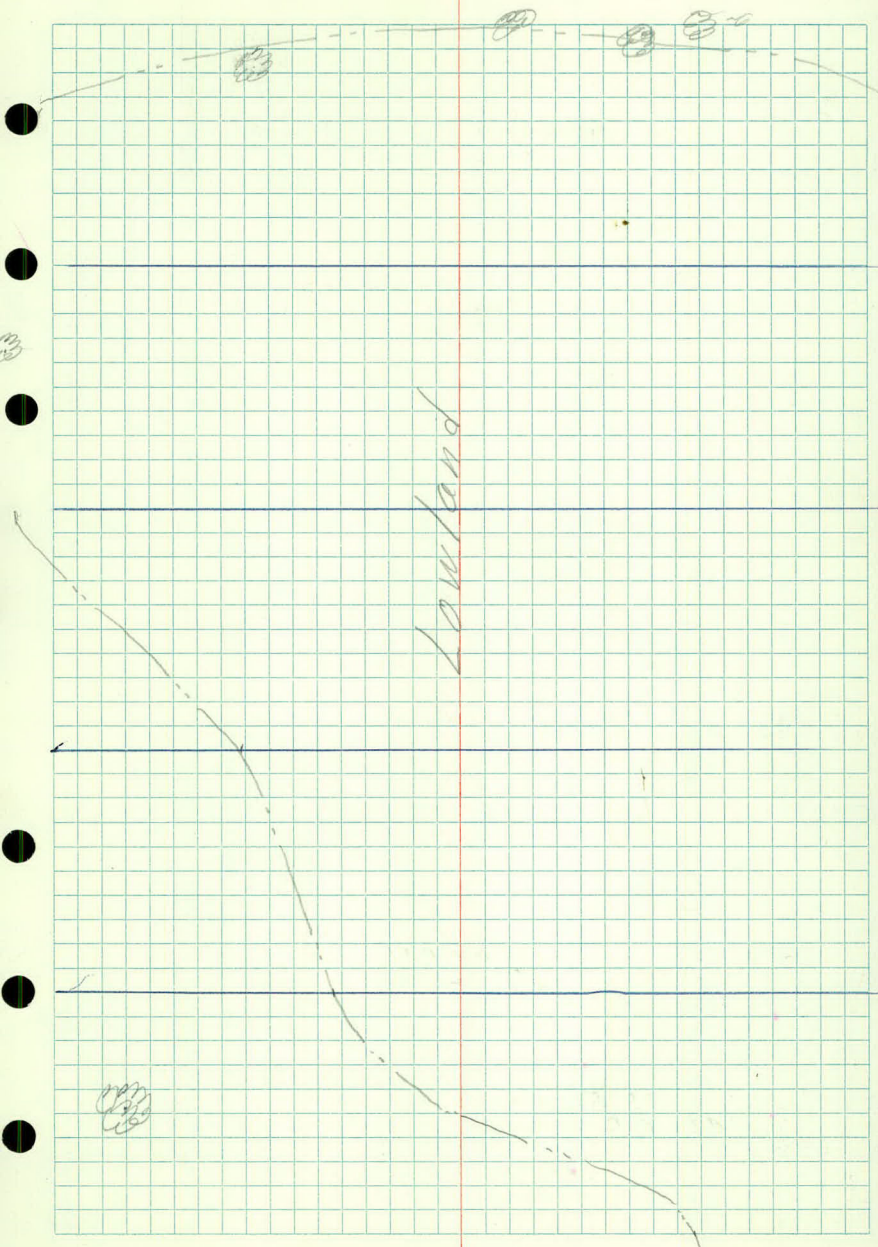
Lowland
27 - 120

+76 30" Oak
70

+74 Lowland
£

Dec. 14, 1970

15



16

15

$$\begin{array}{r} +20 \text{ Twin } 8'' \text{ BE} \\ \underline{\quad 2 \quad} \\ +16 \text{ } 8'' \text{ BE} \\ \underline{\quad 11 \quad} \\ 14 \end{array}$$

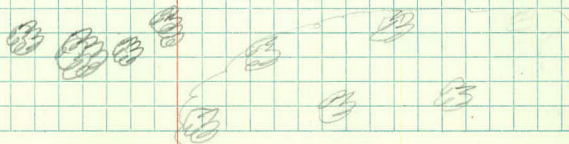
$$\begin{array}{r} +18 \text{ } 8'' \text{ E/m} \\ \underline{\quad 32 \quad} \\ +14 \text{ } 32'' \text{ Willow} \\ \underline{\quad 21 \quad} \end{array}$$

$$13+90 \text{ to } 14+25 \left\{ \begin{array}{l} 16-6'' \text{ Aspen} \\ \text{E}-50'' \end{array} \right.$$

Dec. 14, 1970

16

Open Field



19

18

17

Dec. 14, 1970

17

Open Field

21

20

19

Dec. 14, 1970

18

Open field

24

23

22

21

Dec. 14, 1970

19

Open Field

Sta

+44 S. Edge Rd.
2

+25 PP
10

26

25

24

Dec. 14, 1970

20

Birch Lake Blvd.



Open Field

29

+100

Edge Brush & Trees
60

+90 Cor Brush & Trees
50
+44 SW Corshai 77
+76 Tw 10" Plm 35
8-6-5"CE → +80 E-6-5"CE 29
+60 18" Plm 15
+60 10" Plm 35
+60 10" Plm 35
+33 8" Plm 38
+38 12" Apple 24
+15 47
+30 6" Ash 11
+23 7" Elm 10
+06 SW Corshai 97
+100 Tw 10" Apple 37
59-68
+98 4" CC 7
+92 4" CC 27
+81 10" Apple 38
+90 12" Elm 49
+61 10" Apple 38
+64 8" Ash 52
+79 6" CE 47
+50 8" Elm 44
+50 Ent 61-70
+47 8" P 58
+80 8" Apple 3
+79 Tw 10" Apple 23
+58 22
+41 14" Ash 2
+44 EL Lilac 24
+41 10" Elm 9
+41 1A" Ash 19
+41 5" P 24
+33 B Lilac 2A-24
+02 Row 3" P 83, 22, 59, 47
Ent 61-73

28

+98 4" CC 7
+81 10" Apple 38
+90 12" Elm 49
+61 10" Apple 38
+64 8" Ash 52
+79 6" CE 47
+50 8" Elm 44
+50 Ent 61-70
+47 8" P 58
+80 8" Apple 3
+79 Tw 10" Apple 23
+58 22
+41 14" Ash 2
+44 EL Lilac 24
+41 10" Elm 9
+41 1A" Ash 19
+41 5" P 24
+33 B Lilac 2A-24
+02 Row 3" P 83, 22, 59, 47
Ent 61-73

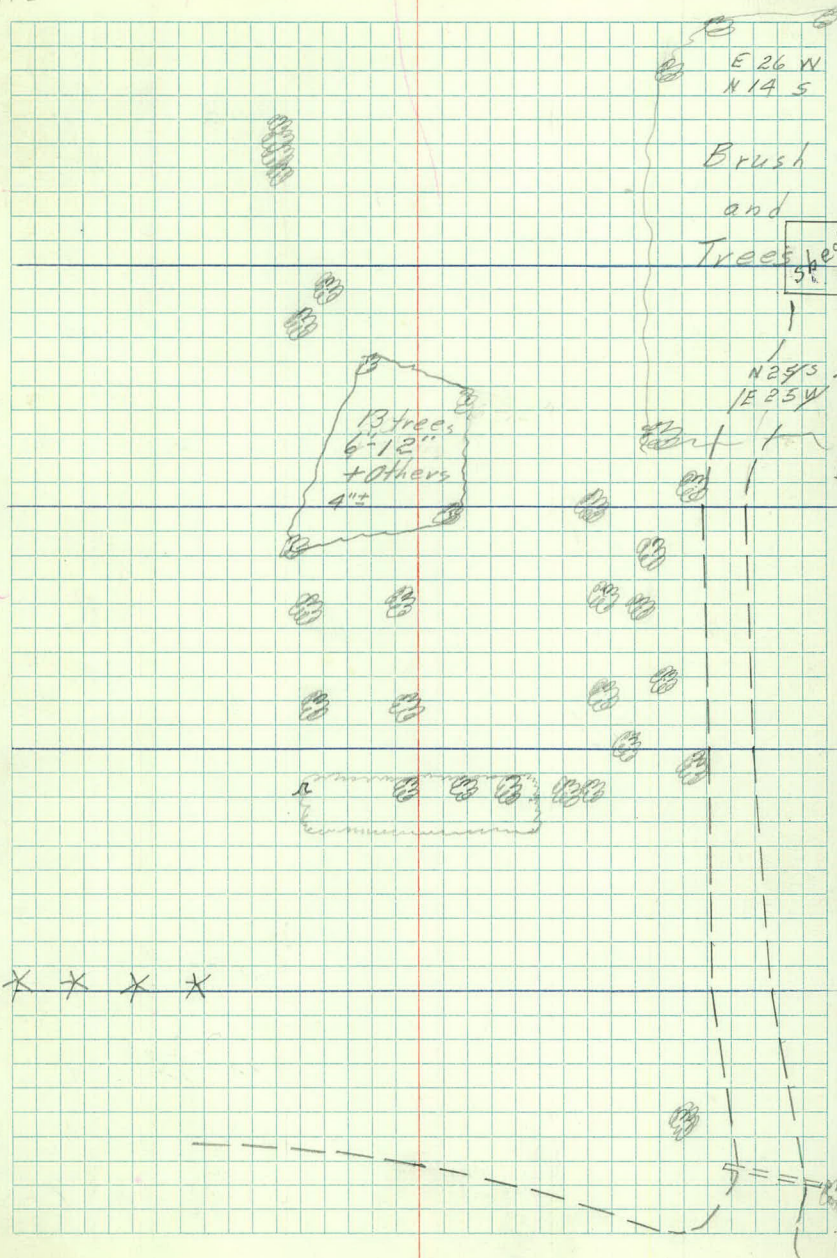
27

+73 10" Elm 55
+64 N. Edge Rd
+64 W. End Culvert 63
+60 E. End 84
+59 12" Elm 86

FH
RG
RJ

Dec. 3, 1973

21



31

+50 $\frac{\text{SwP}}{43}$

+50 $\frac{\text{Water}}{\text{£}}$

30

$\frac{\text{SwP}}{16}$

+60 $\frac{\text{SwP}}{10}$
 +35 $\frac{\text{SwP}}{26} \rightarrow$
 +34 $\frac{6^{\text{th}} \text{ Coll}}{14}$

29

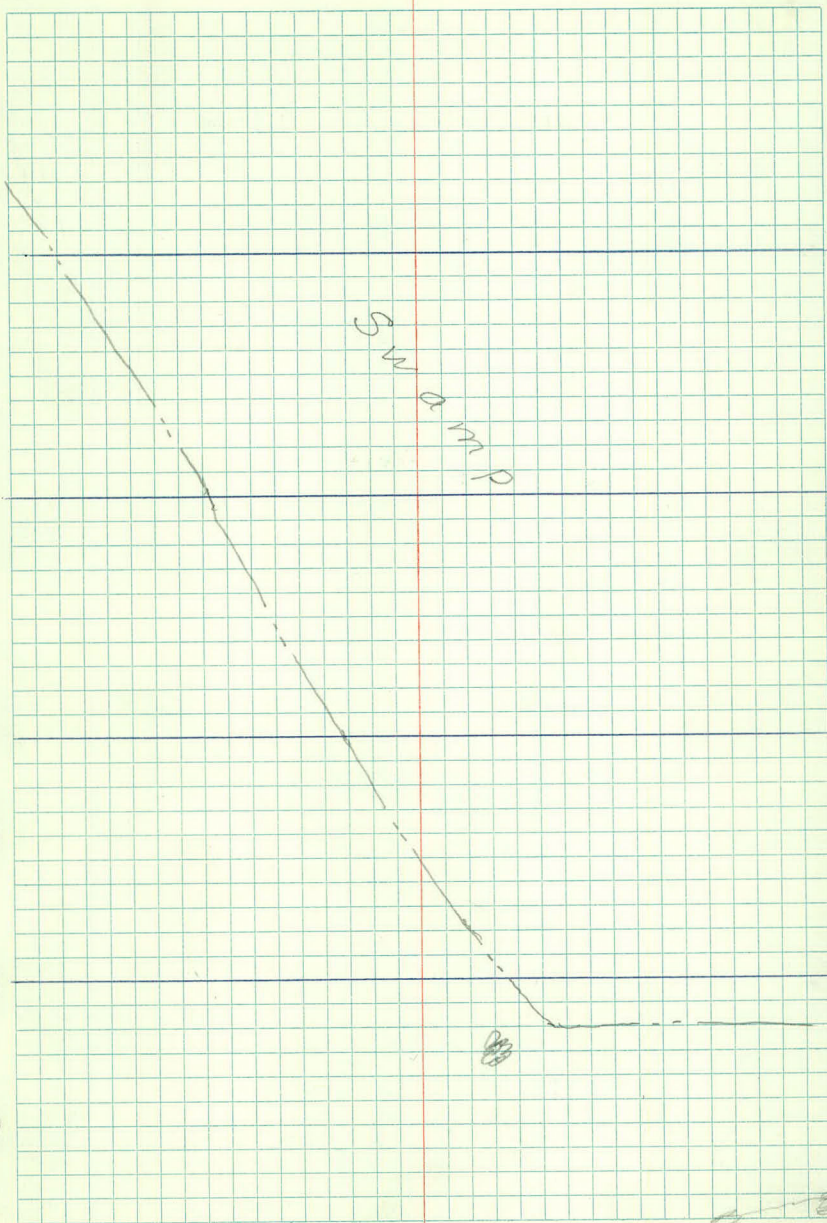
+05 $\frac{\text{£ Brush + Trees}}{97}$

FK
RG
RJ

Dec. 3, 1973

22

Swamp



34

$$+41 \frac{SWP}{73}$$

$$+10 \frac{SWP}{2}$$

33

32

FK
RG
RJ

Dec. 3, 1973

23

open Field

Swamp

+30 $\frac{\text{Ditch}}{42-38}$

36

+45 $\frac{\text{Woods}}{40}$

+20 $\frac{\text{Begin Woods}}{\cancel{4}}$

35

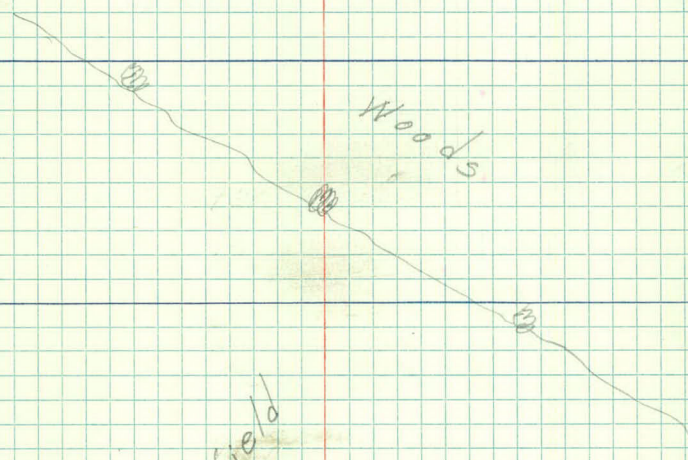
+95 $\frac{\text{Woods}}{40}$

34

FK
RG
RJ

Dec. 3, 1973

24



Woods

Woods

open field

39

$$\frac{SWP}{105}$$

38

$$100 \frac{8' E/m}{62}$$

$$+82 \frac{16'' W, 11'' W}{29}$$

$$+63 \frac{10' E/m}{51}$$

$$+25 \frac{Tw \ 8' E/m}{49}$$

37

$$+05 \frac{10' E/m}{29}$$

$$+85 \frac{8' BE}{13}$$

$$+62 \frac{Ditch}{to +69}$$

$$+73 \frac{20' W, 11'' W}{58}$$

$$+63 \frac{10' BE}{14}$$

Dec. 18, 1970

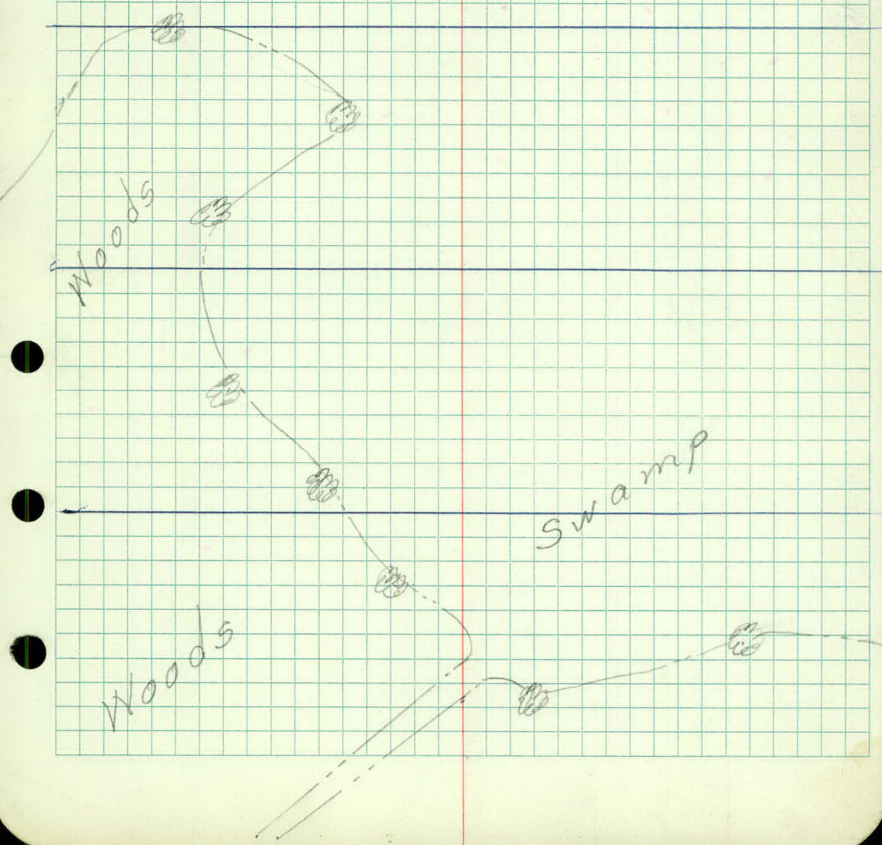
25

Swamp

Woods

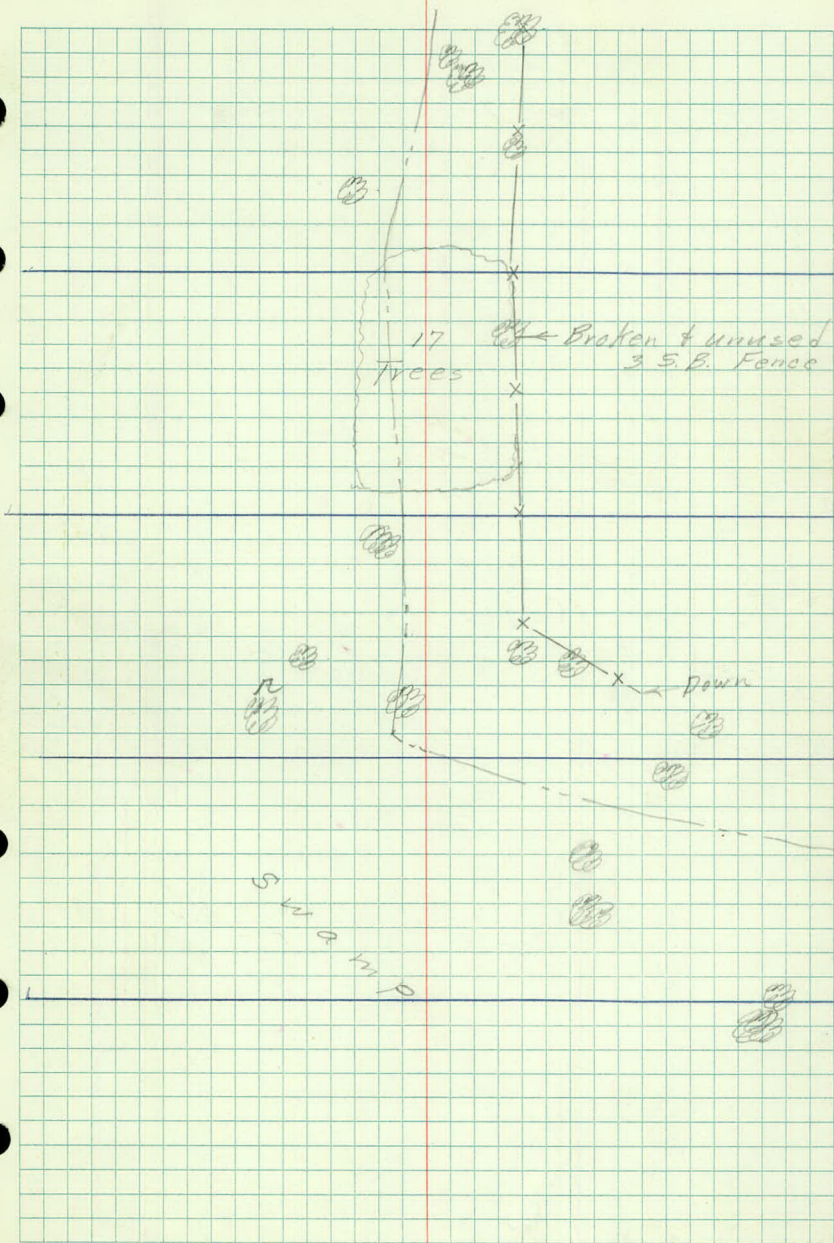
Swamp

Woods



Dec. 18, 1970

26



44

43 $\frac{\text{SwP}}{50}$ +00 $\frac{14'' \text{ Apple}}{1}$

+80 $\frac{\text{SwP}}{41}$ +91 $\frac{\text{Fe Cer}}{24}$

+65 $\frac{\text{SwP}}{14}$

+46 $\frac{5'' \text{ Apple}}{13}$ +53 $\frac{26'' \text{ Oak}}{8}$

42

+25 $\frac{\text{SwP}}{9}$
 $\frac{\text{Fe}}{23}$

+99 $\frac{3-A'' \text{ C. Cherry}}{21}$

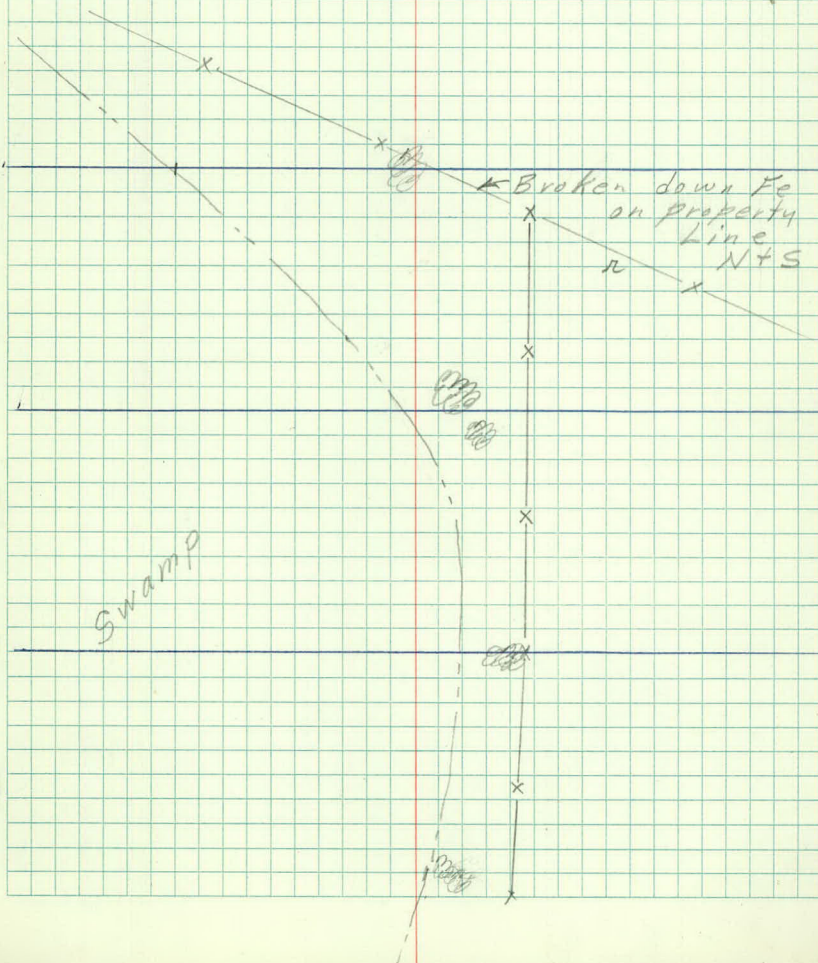
+80 $\frac{\text{SwP}}{7}$

Dec. 18, 1970 27

Open Field

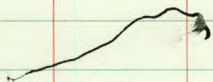
Swamp

Broken down Fe
on property
Line
N+S



46

45



44

Dec 18, 1970

28

Open Field

49

$$\begin{array}{r} \text{SwP} \\ 70 \rightarrow \end{array}$$

$$+61 \frac{\text{SwP}}{2}$$

$$+56 \frac{\text{Tw } 4" \text{ BE}}{30}$$

$$+50 \frac{\text{SwP}}{17}$$

$$+96 \frac{5" \text{ Plum}}{4}$$

$$+34 \frac{6" \text{ Choke C}}{12}$$

$$+33 \frac{6" \text{ BE}}{15}$$

$$+26 \frac{\text{Tw } 6" \text{ BE}}{40}$$

48

$$\begin{array}{r} \text{SwP} \\ 51 \end{array}$$

$$+50 \frac{\text{SwP}}{85}$$

47

FK
KG
GA

Dec 21, 1970

29

Swamp

Swamp

open field

51

$$\begin{array}{r}
 +68 \frac{6^{\circ} \text{Oak}}{40} \\
 +65 \frac{\text{Tr } 10^{\circ} \text{Oak}}{39} \\
 \hline
 \end{array}$$

50

$$\begin{array}{r}
 \text{SwP} \\
 \hline
 2
 \end{array}$$

$$\begin{array}{r}
 +29 \frac{\text{End SwP}}{53}
 \end{array}$$

$$\begin{array}{r}
 \text{SwP} \\
 \hline
 80
 \end{array}$$

$$\begin{array}{r}
 +68 \frac{\text{Trip } 14^{\circ} \text{Oak}}{63}
 \end{array}$$

$$\begin{array}{r}
 +50 \frac{\text{SwP}}{45}
 \end{array}$$

49

Dec. 21, 1970

30

Open Field

egg

egg

Swamp

OK
Correct

54

53

52

Dec. 21, 1970

31

open field

$$+46 \frac{Tw \ 2" P}{2}$$

$$+36 \frac{stp}{11}$$

$$+39 \frac{End \ Fe}{1}$$

$$+28 \frac{Fe \ Cor}{2-20}$$

$$+29 \frac{Fe \ Cor}{36}$$

56

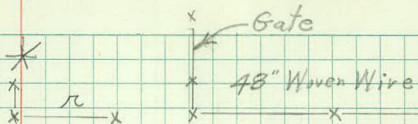
55

$$+24 \frac{A \ Cor}{12}$$

54

Dec. 21, 1970

32



open field

23

59

Box elders

$$+92 \frac{10'' \text{ Apple}}{43}$$

$$+78 \frac{28'' 0}{2}$$

$$+75 \frac{8.4'' \text{ Trees}}{4-8}$$

$$+71 \frac{10'' \text{ Apple}}{43}$$

$$+45 \frac{22'' 0}{4}$$

$$+49 \frac{24'' 0}{18}$$

$$+34 \frac{2'' P}{43}$$

$$+24 \frac{14'' 0}{11}$$

$$+31 \frac{12'' 0}{5}$$

$$+23 \frac{4'' P}{7}$$

$$+23 \frac{8'' 0}{7}$$

$$+05 \frac{2'' P}{43}$$

$$+05 \frac{20'' 0 \text{ pt}}{4}$$

$$+09 \frac{10'' 0}{4}$$

58

$$+99 \frac{18'' 0}{7}$$

$$+92 \frac{1'' P}{3}$$

$$+80 \frac{8'' P}{65}$$

$$+51 \frac{2'' P}{43}$$

$$+02 \frac{2'' F}{2}$$

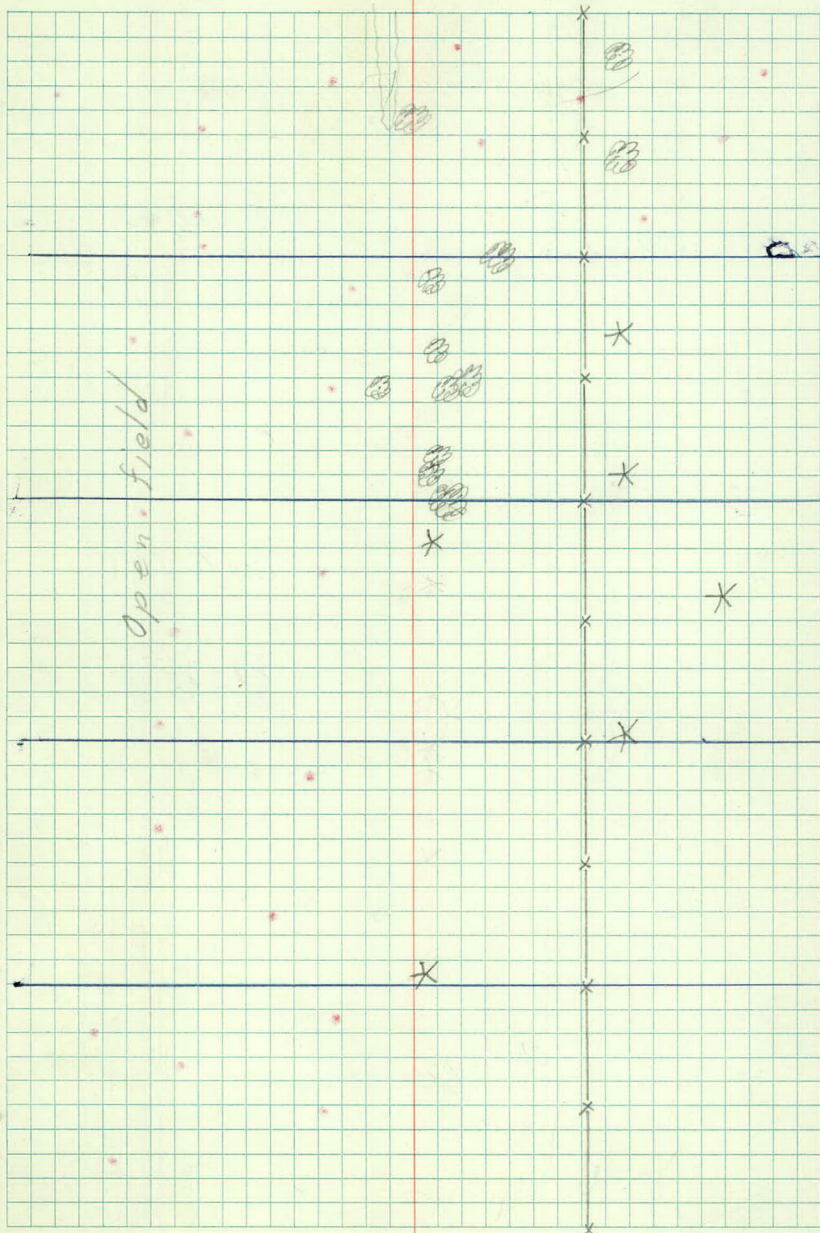
57

FK
RG
RJ

Dec. 21, 1970
Dec. 3, 1973

33

Open field



4

+34 $\frac{4^0}{7}$ + 47 $\frac{4^0}{8}$ Tip 4 Birch
 +24 $\frac{6^0}{7}$ +30 $\frac{8^0}{7}$
 +12 $\frac{16^0}{5}$ Elm
 +06 $\frac{6^0}{6}$ +08 $\frac{6^0}{6}$ End BEs
 61 +00 $\frac{6^0}{6}$ +11 $\frac{6^0}{7}$

+20 $\frac{16^0}{3}$ +28 $\frac{12^0}{23}$ Elm
 +08 $\frac{26}{26}$ Basswood
 +02 $\frac{6^0}{8-17}$ Cutvert
 +93 $\frac{7}{7}$ End Pines

+96 $\frac{5}{5}$ End Fe

+84 $\frac{38}{38}$ Arbivida
 +55 $\frac{38-58}{38-58}$ Row Arbivida

+52 $\frac{36-50}{36-50}$ X-Fe
 +42 $\frac{39}{39}$ E. Row Arbivida

+14 $\frac{39}{39}$ B. Row Arbivida
 +08 $\frac{40}{40}$ E. Row P

+04 $\frac{45}{45}$ E. Row P

Fe
4

Fe
36

+91 $\frac{8}{8}$ Beg Row Pine
 +96 $\frac{11}{11}$ Honeysuckle

+96 $\frac{17}{17}$ Honeysuckle

+80 $\frac{16-25}{16-25}$ Honeysuckle

+48 $\frac{5}{5}$ B. Fe

+58 $\frac{9}{9}$ NWC or Root Cellar

+26 $\frac{3}{3}$ $\frac{23^0}{3}$

+47 $\frac{24^0}{18}$

+23 $\frac{22^0}{9}$

+14 $\frac{38}{38}$ B. Row Pines

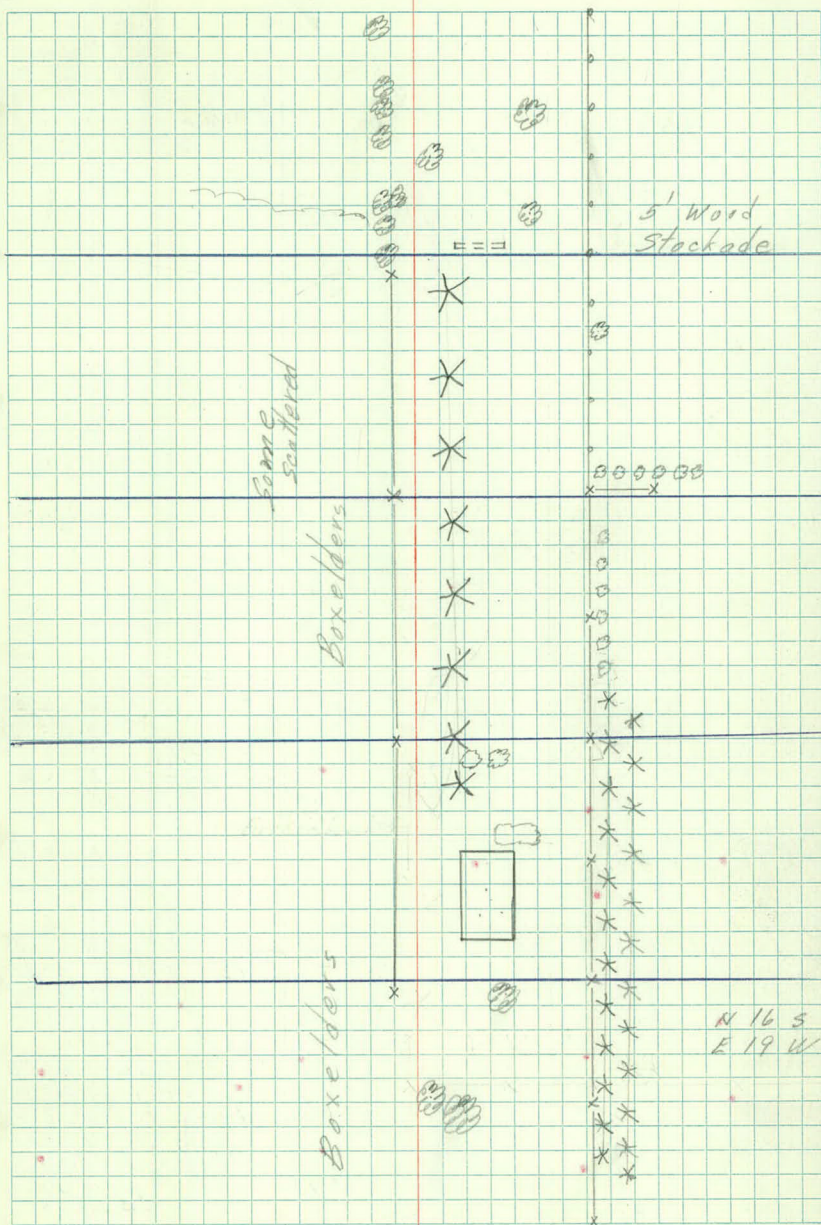
+10 $\frac{43}{43}$ B Row Pine

59

FK
RG
RJ

Dec. 21, 1970
Dec. 3, 1973

34



+71 Edge
Bit

+61 PP
23

+60 PP
29

15"X26"CM
+58 5-21

+60 Hud
35

+49 Fe Post
5

+58 15"X20"CM P.T.
29-59 42-56

+50 E. Hedge
37

+33 Tw 24"0
5

+06 10"0
1

+21 26"0
5

62

+04 14"0
4

Ent
2-15

+97 12"0
1

+85 5"0C
7

+90 BT. Ent
42-56
+66 Fe Cor Beam Hedge
35 Lilac +66 Cor Ga
40

+83 16"0
1

+70 20"0
4

+55 8"0sk
26

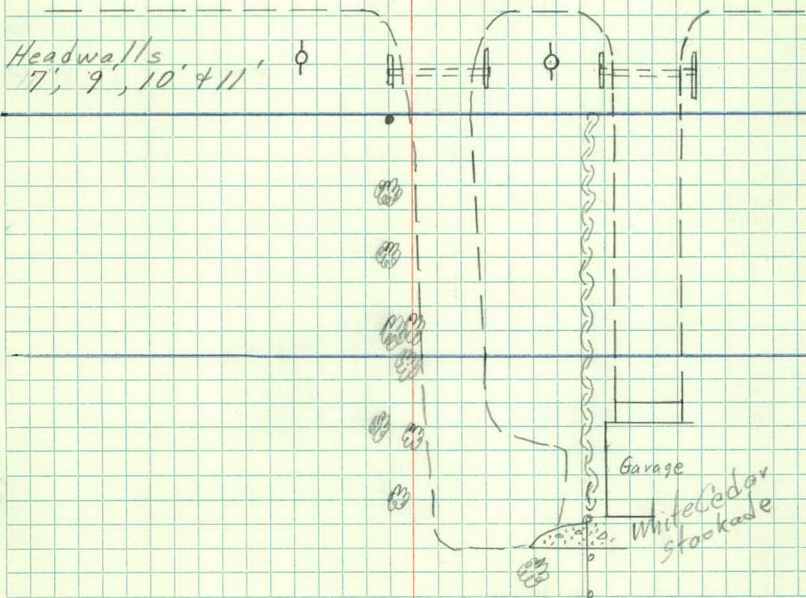
+60 Cor Walk
24

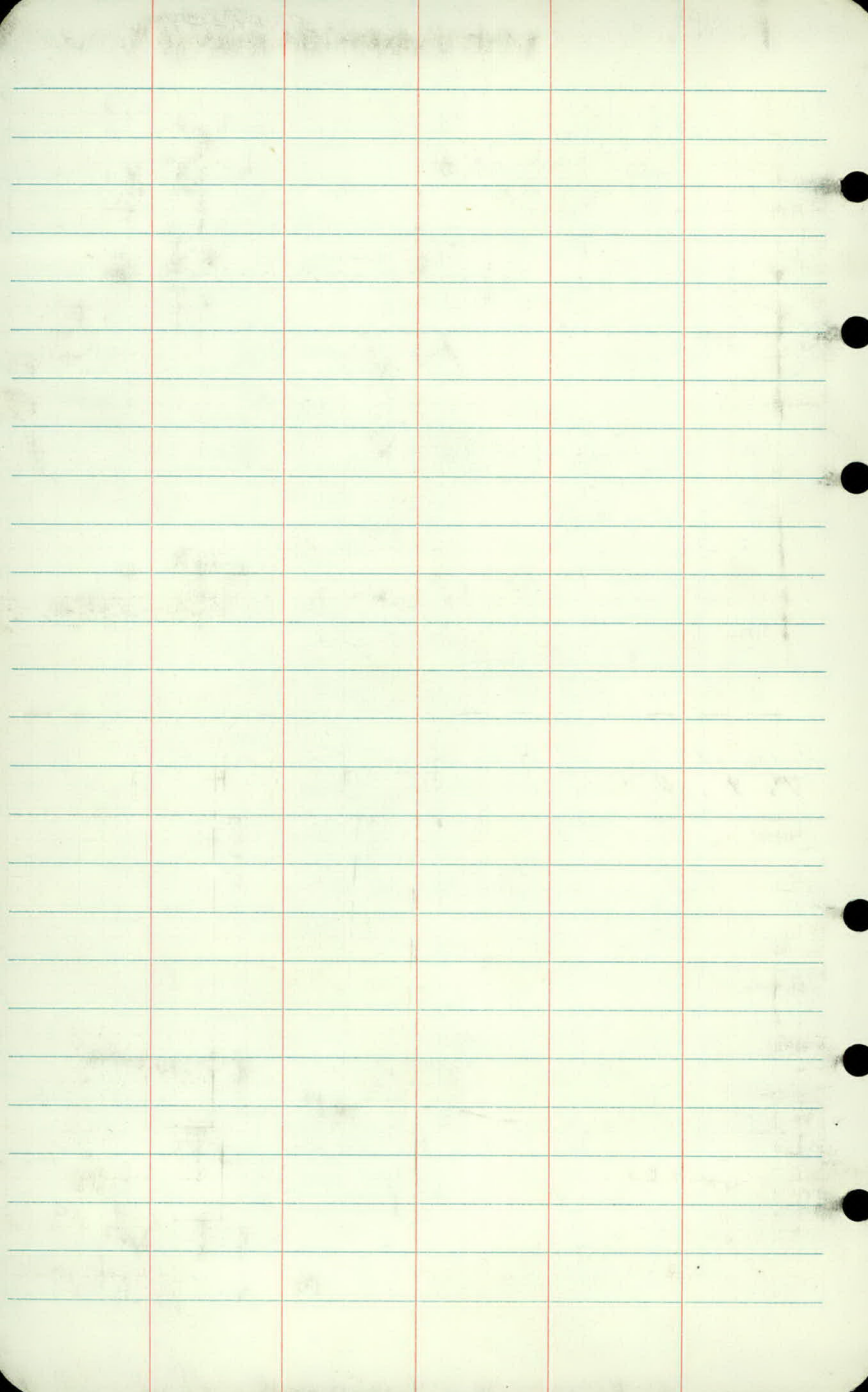
+56 16"0
1

FK
RG
RJ

Dec. 3, 1973

35





FK
RG
RJ

Dec. 4, 1973

36

BENCH LEVELS

Sta	+	π	-	Elev.	
BM	1.155	946.484			945.329
T.P.	1.085	940.339	7.230	939.254	8.768 - 8.777 - 0.758
T.P.	1.891	932.368	9.862	930.477	930.487
T.P.	4.875	931.170	6.073	926.295	
BM	5.874	933.038	4.006	927.164	927.166
BM	5.627	932.003	6.662	926.376	926.376
BM	2.477	930.409	4.071	927.932	927.930
T.P.	10.827	939.416	1.820	928.589	
T.P.	10.635	944.221	5.830	933.586	933.580
T.P.	9.615	944.384	9.452	934.769	934.761
T.P.	7.336	947.459	4.261	940.123	940.113
BM	2.004	945.534	3.929	943.530	943.518
BM	2.978	935.537	12.975	932.559	932.545
BM	6.720	931.332	10.925	924.612	924.596
BM	1.761	925.443	7.650	923.682	923.664
BM	2.788	922.970	5.261	920.182	920.162
T.P.	9.359	929.606	2.723	920.247	920.197
BM	12.191	940.318	1.479	928.127	928.072
T.P.	3.793	934.718	9.393	930.925	930.871

FK
RG
RJ

Dec. 4, 1973

Overcast 23° Windy

37

Bridge No 62834 BM Plate S.E. Wing Wall

628/C

96 over 35 E

East Guard Rail post Entrance to Rod & Gun Club

Trap Walk

Spike in 4" Cottonwood Lt Sta 6+00±

Spike in 5" Elm 60' Lt Sta 8+50±

Spike in 9" Cottonwood Lt Sta 11+50±

Nail

Spike & Sta

Top Fe post Rt

" " " "

^{No. 31}
Spike in P.P. at Birch Lake Ave.

SPIKE IN APPLE TREE 28+30 38' RT

SPIKE IN 3" C. ELM STA 32+00 103 RT

Bent
SPIKE IN 12" OAK STA 36+85 + or -

SPIKE IN 9" C ELM STA 37+90 42' LT

& STA 41+00

SPIKE IN 5" OAK STUMP STA 42+82 40' RT

& STA 47+00

Sta	+	π	-	Elev	
		934.718			
T.P	2.618	934.504	2.832	931.886	931.830
T.P	7.753	938.773	3.484	931.020	930.96
T.P	0.000	936.073	2.700	936.073	936.011
T.P	3.612	932.699	6.986	929.087	929.022
T.P	1.379	930.727	3.351	929.348	929.281
T.P	1.915	928.572	4.070	926.657	926.588
T.P	3.552	929.018	3.106	925.466	925.395
T.P	3.082	929.733	2.367	926.651	926.578
			7.646	922.087	922.012
T.P.	12.435	931.915	10.253	919.480	919.403
T.P.	9.897	940.468	1.344	930.571	930.492
T.P	8.799	948.138	1.129	939.339	939.258
B.M			2.726	945.412	945.329

FK
DS
RT

Dec. 10, 1973
12° Cold

38

ROCK STA 50+75 35' LT

SPIKE IN 6" POPLAR STA 54+30 12' LT

P.K. IN 28" OAK 58+30 14' RT

HYD SW COR 9TH ST & OTTER LAKE ROAD

HYD BY HO[#] 4875 OTTER LAKE ROAD

HYD BY HO[#] 4833 OTTER LAKE ROAD

HYD BY HO[#] 4783 OTTER LAKE ROAD

HYD N.W. COR OTTER LAKE & BIRCH LAKE BLVD

Birch Lake Pump House pipe at Lake

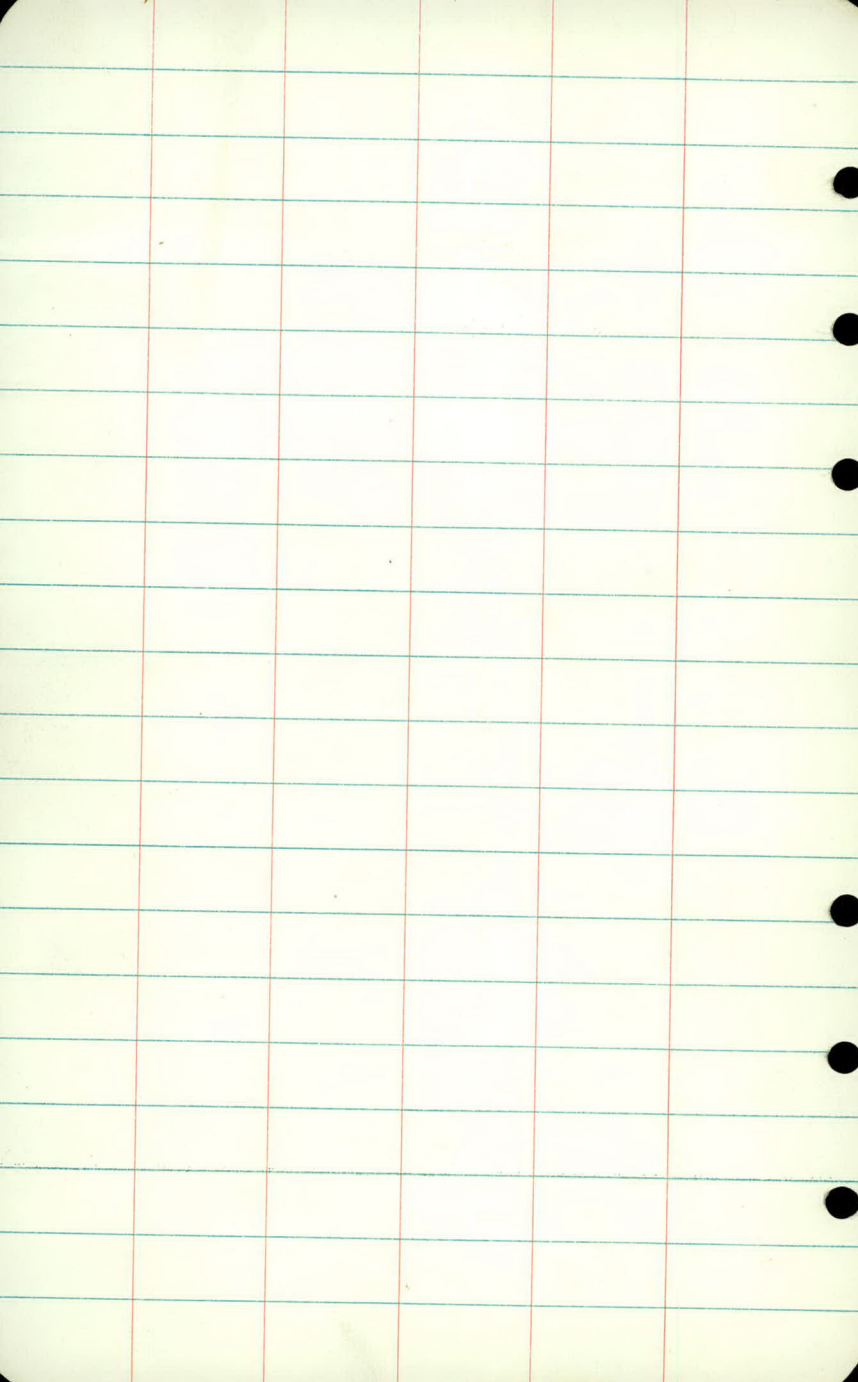
W. S. Birch Lake

TOP E-GATE POST ENT WITH BEAR GUN CLUB

6281 C 96 OVER 35 E

BRIDGE NO 62834 B.M PLATE SE WING WALL

.083
2.010
- .093
1.917
- .090
1.827
- .080
1.747
- .060
1.687



FK
DS
LPD
RJ

HA
P
X
9

Dec. 13, 1973

17° Lt. Snow

X-1

X-sections

Sta

BM

930,487

0+00

+ 17

+ 56 N. Edge Bit

+ 68

+ 73 Water Edge

FK
DS
LPD
RJ

Dec. 13, 1973
E Cold 15° Lt. Snow

X-2

Top East Guard Rail Post Ent to Rod & Gun Club

25.6	25.6	25.3	25.4	25.5	25.5	25.6	25.8	25.9
100	75	50	25		25	50	75	100

26.0	25.84	25.4	25.3	25.4	25.4	25.50	26.05	26.5	26.5
100	C	G	28		25	G	C	75	100
		67					47		

24.6	24.6	24.5	24.4	24.7	24.7	24.8	25.0	24.9
100	80	50	30		30	55	75	100

22.0	21.6	21.7	21.3	21.5	21.8	22.0	22.1	21.9	22.3
100	75	50	35	25		25	46	70	100

19.4		19.4		19.4		19.4		19.4
100		50				50		100

Sta	+	π	-	Elev.
-----	---	-------	---	-------

W.S.		920.03		
------	--	--------	--	--

Birch Lake

1 + 00				
--------	--	--	--	--

✓

+50

✓

2

✓

FK
DS
CM

Lt.

Dec. 11, 1970

Rt

x-3

06.0	16.9	08.9	17.0	906.0	17.9	16.6	07.3	18.5	8.1
14+ - 3.1	11.1 - 3.0	14.0 - 2.1	3.4 - 12.7	1.5 - 10.0					
50	25		25	50					

17.2	09.2	16.9	07.7		08.2	17.4	08.2	18.3	
2.8 - 10.8	3.1 - 12.3	11.8 - 2.6	10.8 - 1.7						
75	100	100	75						

08.6	16.7	08.5	16.8	07.9	16.9	16.7	07.7	16.7	07.7
11.4 - 3.3	11.5 - 3.2	12.1 - 3.1	3.3 - 12.3	3.3 - 12.0					
50	25		25	50					

16.6	10.1	17.0	09.7		07.2	17.2	07.6	16.9	
3.4 - 9.9	3.0 - 10.3	12.8 - 2.8	12.4 - 3.1						
75	100	100	75						

10.1	16.8	09.7	16.5	08.8	16.6	16.9	07.9	16.4	08.0
9.9 - 3.2	10.3 - 3.5	11.2 - 3.4	3.1 - 12.1	3.6 - 12.0					
50	25		25	50					

16.8	10.3	16.6	10.8		06.0	15.9	07.4	16.1	
3.2 - 9.7	3.4 - 9.2	14+ - 4.1	12.6 - 3.9						
75	100	100	75						

Sta	+	π	-	Elev.
-----	---	-------	---	-------

Sta	+	π	-	Elev.
		920.03		

Sta	+	π	-	Elev.
2+50				

Sta	+	π	-	Elev.
2+50				
✓				

Sta	+	π	-	Elev.
3+00				

Sta	+	π	-	Elev.
3+00				
✓				

Sta	+	π	-	Elev.
3+50				

Sta	+	π	-	Elev.
3+50				
✓				

Lt 2 Dec. 11, 1970 Rt. X-4

11.3	16.6	10.7	16.8	10.7	16.6	16.3	09.6	16.8	07.0
8.7-34		9.3-32		9.3-34		3.7-10.4		3.2-13+	
50		25				25		50	

16.6	11.1	16.3	12.3	06.0	16.0	07.9	16.3
3.4 8.9		3.7-7.7		14+ 4.0		12.1-3.7	
75		100		100		75	

17.1	13.2	17.0	12.4	11.5	16.8	16.6	10.7	16.5	10.9
2.9-6.8		3.0-7.6		8.5-3.2		3.4-9.3		3.5-9.1	
50		25				25		50	

17.0	13.8	17.6	14.4	16.4	07.0	16.7	10.0
3.0-6.2		2.4-5.6		3.6-13+		3.3-10.0	
75		100		100		75	

18.7	17.3	18.0	14.8	18.1	14.6	17.1	13.7	17.0	11.8
1.3-2.7		2.0-5.2		1.9-5.4		2.9-6.3		3.0-8.2	
50		25				25		50	

19.2	17.6	19.4	18.9	16.5	10.3	16.5	10.7
0.8-2.4		0.6-1.1		3.5-9.7		3.5-9.3	
75		100		100		75	

STA + 1 - Elev.

BM

927.166

4+00

✓

+50

4+18 for ditch reference only
Access to Trap throwers

4+35

5

CM 47

FA
DS
LFD
RJ

LT

Dec. 11, 1970
Dec. 13, 1973 RT

X-5

Spike in 4" Cott. Lt 6+100

19.4 18.6 8 16.8 17.7 15.0

252 213 223 202 0.6-1.4 1.2-3.2 23-5.0
53 44 38 22 25 50

25.0
75

8 11.6 17.3 17.7
16.8 3.2-8.4 2.8-6.3
100 75

20.0 18.6 17.3 17.7 14.3
262 26.2 25.9 25.4 22.6 0.0 1.4-2.7 2.2-5.7
75 40 21 39 50 75 100

21.4 21.4 21.0 22.4 22.2 19.9
100 50 33 25 15

26.4 26.4 26.3 25.6 20.5 19.7 Water
75 60 37 16 43

26.3 26.3 25.9 20.9 19.7 19.7 23.2
75 40 20 23 30 36

22.2 25.6
75 43

Sta

927.166

5 + 50

✓

+ 80

✓

6

✓

FK
DS
LPD
RJ

Dec. 13, 1973

Lt

Lt

Rt

X-6

26.5 260 205 19.5 19.7 19.7 20.3 24.5 30.5
50 30 7 4 4 7 25 43

26.9
75

27.4
75

24.4 21.3 20.0 20.4 22.5 24.3 30.1 31.3 31.1
57 37 29 7 20 36 42 60

27.4
75

30.0
75

20.3 19.9 21.0 21.8 23.3 25.2 29.6 31.6 30.8
53 46 40 20 20 34 42 58

21.6 24.8
67 75

30.3
75

Sta

6+40

✓

+67

7

7+50

8

FK
DS
LPD
RJ

Lt

L

Dec. 13, 1973

Rt

X-7

24.8 25.4 26.1 27.0 26.6 28.0 30.4 31.3
75 46 20 7 16 33 39

30.8 31.1
75 58

28.9 29.7 30.4 30.5 31.1 31.4 31.6 31.5 31.5
75 65 44 22 21 40 60 75

28.6 29.3 29.7 29.9 29.9 29.6 29.6 29.6
75 65 45 23 30 56 75

26.4 27.9 28.2 27.6 27.0 26.6 26.8 27.6 28.3
75 50 25 12 21 45 65 75

25.7 26.7 27.4 26.6 26.0 26.2 27.1 27.8 28.4
75 55 28 18 24 45 67 75

Sta

8+50

9

BM

926.376

+50

10

+19

+50

FK FK
DS RG
LPD LPD
RJ RJ

Lt.

Dec. 13, 1973
Dec 14, 1973

x-8

25.5 254 256 25.8 26.1 27.4 28.9
75 54 26 25 50 75

28.2 28.1 27.4 26.8 26.3 25.8 25.4 26.8 27.3
75 64 43 24 23 49 68 75
3 spike spike in 5" Elm

30.0 29.3 27.3 25.4 25.9 24.4 24.5 25.1 25.7
75 62 43 20 28 40 63 75

28.8 28.8 28.0 26.4 26.0 25.3 25.5 24.6
75 56 38 17 20 48 75

26.9 27.5 28.1 27.6 27.5 27.1 25.8 25.2 24.1
75 59 38 18 19 43 57 75

27.5 27.6 27.5 27.3 27.0 26.3 24.4 22.4 22.0
75 60 35 10 15 39 62 75

Sta

11+00

BM

927.930

+50

12

+50

13

+50

TP

922.64

FK
RG
LPD
RJ

Dec. 14, 1973

X-9

275	264	25.5	25.1	24.2	23.3	22.0	21.5	21.4
75	62	41	21		20	47	55	75

spike in 9" C.H. sup

26.0	25.2	23.8	23.0	22.5	22.2	21.8	21.7	21.3	22.0
75	68	50	29	15		30	49	68	75

24.3	22.8	21.9	21.1	20.8	20.7	20.3	20.3	20.6	21.4
75	59	38	16	10		20	45	64	75

22.2	21.5	20.7	19.9	19.7	19.5	19.6	20.0	20.0
75	61	36	13		24	52	61	75

21.5	20.8	20.2	19.6	19.4	19.5	19.4	19.5
75	65	45	25		30	57	75

20.4	20.1	19.7	20.0	19.8	19.7	19.9	20.4	21.1
75	60	39	20		18	39	59	75

Fe post

Sta

922.64

14+00

+29

+52

TP

929.67

15

+35

+68

TP

935.82

FK
RG
LPD
RJ

Dec. 14, 1973

Lt.

L

91

X-10

Fe Post Rt in Swamp

23.1	22.4	21.8	21.3	20.9	21.3	21.6	21.6	23.1
75	60	40	20		22	36	55	75

24.0	23.9	24.0	23.9	24.3	24.6	25.4	25.1	25.2
75	65	46	18		16	36	56	75

24.7	24.8	25.1	25.4	25.9	26.3	26.4	26.2	26.0
75	59	40	19		22	44	65	75

branch

27.7	28.7	29.6	30.4	30.9	31.0	30.5	30.7
75	65	43	20		23	45	75

29.1	30.1	31.7	33.1	33.7	34.4	³ 23.6	³ 22.7	³ 22.0
75	63	43	19		23	41	60	75

31.4	32.9	34.6	35.5	36.8	37.9	37.4	36.2	34.5
75	60	41	20		20	41	58	75

RW iron Lt

Sta

16 + 00

+ 45

932.74

+ 65

7

17

+ 50

18

FA
RG
LPD
RJ

Lt

L

Dec. 14, 1973

Rt

X-11

34.4	35.3	35.5	36.5	37.7	38.5	38.7	37.9	36.3
75	60	38	17		17	40	61	75

33.9	33.4	32.6	32.1	32.0	32.0	32.0	32.3	33.5
75	69	42	19		21	40	58	75

Lath

33.5	32.5	31.5	31.0	30.5	30.1	30.5	30.7	30.9
75	55	36	19		22	44	66	75

34.4	33.9	32.2	30.8	29.4	28.5	28.2	27.9	
75	67	43	20		20	47	75	

35.6	34.5	33.0	32.0	30.8	29.9	28.3	26.6	27.0
75	52	33	13		20	43	70	75

38.6	38.9	37.9	37.0	35.3	33.6	32.1	30.0	28.6	27.2
75	60	49	31	15		18	38	56	75

Sta

18+34

+69

TP

932.58

19

+50

20

+32

FK FK
RG RG
LPD DS
RJ RJ

Lt

Dec. 14, 1973
Dec. 17, 1973 RJ

X-12

39.5	40.0	39.3	37.1	35.0	31.8	29.8	28.9	27.0
75	60	36	16		22	40	58	75

38.5	39.1	37.3	35.7	32.7	30.5	28.8	27.1	26.2
75	61	39	21		15	34	61	75

spike 18400 £

37.9	37.6	36.1	32.6	30.5	28.5	27.2	26.2	25.4
75	58	32	14		19	39	64	75

38.4	38.9	37.9	35.0	32.8	30.4	28.8	27.3	26.2
75	59	33	13		15	31	50	75

39.2	39.9	38.9	35.9	33.4	31.4	29.5	28.7	
75	46	20		16	37	62	75	

39.8	39.9	39.3	37.2	35.4	33.3	31.7	30.7	30.0
75	53	32	14		19	40	64	75

Sta

20+68

TP

934.76

21

+35

+72

22

TP

943.625

+19

69

FA
RG
DS
RJ

11

Dec. 17, 1973
16° Overcast
Lt. Snow RT X-13

39.4 39.0 37.3 35.6 34.5 38.5 32.5 31.9 31.3 31.2
75 60 43 25 15 20 44 67 75

Top Fe Post RT.

40.3 39.4 37.8 35.8 34.4 33.4 32.8 32.2 32.1
75 58 38 15 20 44 66 75

40.8 40.3 39.3 37.1 36.0 35.2 34.2 32.5 32.2
75 62 42 20 18 42 68 75

41.7 41.4 40.9 40.2 39.2 38.4 37.2 35.1 33.4
75 65 42 18 12 24 53 75

41.2 40.8 40.3 39.4 38.7 37.6 37.0 35.8 34.6
75 57 37 16 21 36 55 75
Fe Post Lt 21 + 0.5±

40.9 40.5 39.7 38.5 37.8 37.0 36.2 35.6 35.0
75 56 37 15 20 42 62 75

Sta

22+69

23

942.25

+33

+63

24

+50

940.12

FK
RG
DS
RJ

Lt.

Dec 17, 1973
17° Overcast
Lt Snow

Rt

X-14

4

34.6 43.9 42.7 41.9 40.6 38.3 36.7 35.1 34.2 33.7
75 39 16 9 15 27 48 67 75

45.6 44.8 43.8 43.0 41.2 39.4 37.2 35.2 33.4 32.3
75 59 40 28 12 17 35 57 75

Top Post 1' Rt 22491

45.4 44.2 42.5 40.9 39.4 38.2 36.6 34.6 33.1 32.4
75 62 46 31 13 18 40 62 75

41.6 39.5 38.1 37.3 36.7 35.5 34.4 33.1 32.1
75 56 38 17 18 39 58 75

38.4 37.3 36.4 35.8 35.4 34.6 33.5 32.8 32.2 31.7
75 61 42 18 17 30 45 63 75

40.0 38.8 37.4 36.5 35.7 35.5 35.6 36.3 36.9 35.8 35.2
75 66 53 35 18 18 32 48 68 75

Post Rt

Sta

940.113

25+00

+ 33

+ 64

26

+ 21

BM

943.52

+ 32 Ditch Line

FK
RG
DS
RJ

Lt

Dec. 17, 1973
Cold Windy 17°
ft X-15

438 417 397 381 37.3 36.8 37.1 37.3 37.8
75 52 37 19 22 43 62 75

341 428 413 395 38.8 38.5 38.6 390
75 52 35 18 23 44 75

42.4 41.8 41.1 40.5 40.7 41.4 41.8 41.2 40.6
75 61 41 23 19 39 57 75

41.4 40.9 40.8 41.6 42.6 45.1 46.2 46.5 45.7
75 60 40 20 23 37 59 75

41.5 41.1 41.0 41.8 43.1 44.0 45.2 46.7 47.8 47.2
75 56 42 22 8 11 28 50 75

Spike in PP

41.1 40.6 40.3 41.0 41.6 41.6 41.4 40.9 40.7 40.5
66 47 35 26 21 40 60 75
75

Sta

26+41 Shoulder Line

+54 $\angle$ Birch Lake Blvd.

+66 Shoulder line

+75 Ditch Line

+80 Backslope

FK
RG
DS
RJ

LT

Dec. 17, 1973
Cold Overcast 16'
RH X-16

43.4 43.0 43.2 43.2 42.8 42.4 42.2
75 51 24 30 61 75

45.2 44.8 44.6 44.1 43.7 43.1 42.5 41.7 40.9
200 150 100 50 50 100 150 200

44.6 44.4 44.2 44.0 43.7 43.5 43.1
75 49 20 28 43 75

42.3 42.2 42.1 42.0 42.1 41.8 41.3 43.6
75 43 23 20 40 63 64-75
Ent

42.3 42.4 42.8 43.4 43.7 43.3 43.5 43.1
75 60 40 22 24 48 75

41.8 42.6 43.2 43.4 42.9 43.7 43.7
75 50 27 22 47 75

Sta

27 + 30

✓

+50

✓

TP

947.07

28

✓

FR
RG
DS
RJ

Dec. 17, 1973

Lt.

L

Rt X-17

41.7 42.1 43.1 43.7 43.8 43.6 43.3 42.8
75 47 23 22 46 61 63
Ent

42.1 42.9
75 70
Ent

41.1 41.3 41.6 41.8 42.3 42.8 42.9 42.5 42.1
75 58 35 15 14 32 62 64

42.4 41.9
75 69
Ent

27+80 2' Rt str. of branch

37.4 35.4 34.6 34.5 35.1 36.2 36.9 37.7 38.1
67 48 39 15 10 25 36 57

38.7
75

38.3 38.2 37.3 37.6
75 70 68 62
Ent

Sta

28+30

✓

BM

932.545

+68

✓

29

✓

TP

923.965

FK
RG
DS
RJ

Dec. 17, 1973

Lt.

E

RT X-18

33.9 32.5 31.2 30.5 31.0 31.8 32.5 33.3 34.5
56 45 27 15 26 43 58 64

36.0

34.9

75

75

spite in Apple tree 38' RT sta 28+30

Ent

31.4 29.8 28.5 28.0 26.9 27.4 26.8 26.9 27.5
51 36 26 21 19 24 43 51

33.3 34.2
65 75

33.0 31.6 29.8
71 61 53
Bldg

29.9 28.1 27.0 26.1 24.5 24.5 24.5 24.6 25.8
39 30 23 10 20 38 57 59

32.3 33.4 35.4
54 61 75

28.4
75

Sta

29 + 50

30

920.6 = Ice

Top Elev. = Pushed Sounding Rod
+ 50 bottom Elev. = Disk - Top of Muck

31

+ 50

32

FK
RG
DS
RJ

LT

Dec. 18, 1973
± 17° LT. Snow

RT X-19

31.7

29.0	27.9	25.9	24.5	23.9	23.3	22.2	21.6	21.2
75	52	43	33	15	18	41	63	75

28.6	25.9	24.5	23.3	22.6	21.9	21.4	20.7	20.5
75	56	46	30	14		23	47	75

-	21.5	19.7	16.9	18.6	18.0	16.7	10.6	12.1
22.8	22.4	21.7	20.9	20.6	20.2	19.6	19.5	18.5
75	65	44	19		20	40	60	75

Ice

17.1	16.8	17.6	15.6	15.5	15.6	13.5	13.5	15.6
20.1	19.9	19.9	19.7	19.6	19.2	18.5	18.6	19.2
75	60	40	20		20	40	60	75

11.1	14.1	10.7	12.4	13.8	16.0	16.6	16.5	16.8
18.6	19.4	18.9	19.8	18.6	19.8	19.6	19.5	19.8
75	60	40	20		20	40	60	75

14.0	12.8	12.4	15.3	16.7	18.8	17.	17.6	18.0
18.5	18.6	18.9	19.1	19.3	20.0	20.5	20.0	20.5
75	60	40	20		20	40	60	75

Sta

32+50

33

+50

34

+50

35

FH
RG
DS same
RJ

Lt

L

Dec. 18, 1973

Dec. 19, 1973

RT

X-20

09.5	15.0	14.0	17.0	18.6	17.8	17.1			
18.4	18.5	18.7	19.1	19.5	20.0	20.5	21.4	22.4	
75	60	40	20		20	40	60	75	

18.0	17.5	17.2	17.3	18.1					
19.1	19.4	19.5	20.1	20.6	21.2	22.0	22.9	23.9	25.0
75	60	40	20		16	23	40	60	75

21.5	21.7	22.4	23.5	24.3	25.2	25.7	26.9	27.5	
75	54	37	15		17	36	58	75	

24.3	24.8	25.8	26.4	26.2	26.0	26.1	25.9		
75	60	43	23		24	55	75		

24.6	25.2	25.9	26.2	25.7	25.2	24.4	24.0	23.7	
75	63	50	30	12		21	46	75	

22.1	22.3	22.6	23.2	23.5	23.9	23.4	23.1	22.4	
75	54	34	15		17	38	45	75	

Sta

35+42

+63

36

✓

+50

21.8
73

BM

(920.162)

37

FK
RG
DS
RJ

Lt

Dec. 19, 1973
Clear Cold
±

R/ X-21

20.4 20.5 21.9 23.7 25.1 26.2 26.3 26.0 25.2
75 64 40 19 21 42 58 75

19.9 21.5 23.8 24.9 25.5 26.5 26.7 26.8
75 40 17 21 39 58 75

20.4 19.7 20.5 21.4 22.2 23.0 24.0 23.7 23.3
61 58 38 16 21 41 63 75

18.8 19.7 19.9
65 70 75
Ditch

21.1 20.3 20.0 18.9 20.5 20.3 20.3 19.4 18.8
57 41 21 17 11 21 47 75
Ditch

20.5 20.4 19.8 19.3 18.6 18.6 18.5 18.4
75 58 40 21 25 50 75

Sta

37+50

38

+50

39

+50

40

40 ±

9/8.60

FK
RG
DS
RJ

Dec. 19, 1973

1+

£

RT

X-22

19.8	19.5	18.7	18.2	18.0	17.8	17.8	17.8
75	60	37	14		30	58	75

18.9	18.8	18.5	18.3	17.8	17.9	17.7	17.8
74	59	42	17		35	57	75

17.8	17.8	17.8	17.8	17.8	18.0	17.7
75	47	21		25	45	75

17.8	17.9	17.8	17.8	17.8	17.7	17.8
75	40	17		27	50	75

18.2	18.2	18.1	17.8	18.0	18.2	18.2	18.1	18.4
75	64	45	22		20	42	60	75

18.0	18.1	18.4	19.0	18.6	18.8	19.5	19.7	20.2
75	61	47	25		24	39	67	75

Sta

40+50

A1

✓

+50

BM

928,072

42

+50

FX
RG
DS
RJ

Lt

£

Dec. 19, 1973

BL X-23

17.8
18.1 18.6 18.9 19.6 20.6 21.7 22.5 23.3 23.8 24.0
75 60 42 21 10 15 26 41 60 75

18.0 18.3 18.6 19.1 20.2 21.3 22.4 23.6 24.3
75 50 28 10 11 18 26 40

26.4 25.5
75 53

18.1 17.8 18.6 18.8 20.5 22.6 24.0 25.7 26.0
75 48 19 14 29 45 61 75

Spike in stump

18.1 18.1 18.4 18.9 18.6 19.9 21.1 22.8 24.1 25.9
75 51 42 15 15 23 37 50 75

18.2 18.4 19.2 20.3 21.8 22.9 24.0 25.7 27.5 28.3
75 56 30 15 15 25 41 60 75

Sta

43+00

+30

+53

+79

44

+37

70

FK
RG
DS
RJ

Dec. 19, 1973

Lt

E

RT

X-24

195 206 220 229 241 257 266 273 278 284 292
75 67 50 34 16 11 17 35 54 75

20.8 22.5 246 25.8 27.0 27.9 29.2 29.7 30.1 30.8 30.9
75 62 44 36 14 14 23 38 62 75

242 259 276 287 29.8 30.5 31.4 31.6 32.3 32.8 33.0
75 55 39 29 13 15 31 43 64 75

25.7 26.5 284 29.7 30.9 31.7 32.6 31.6 31.2
75 67 54 41 19 27 53 75

27.8 286 296 30.0 29.7 29.7 29.4 29.1 29.3 29.1
75 64 53 30 14 19 44 66 75

297 295 285 273 265 26.1 26.0 26.7 27.4 27.9 28.2
75 50 33 16 6 20 30 41 61 75

Sta

44+70

TP 45 £

928.13

45

+50

46

TP

936.89 stake

+36

+50

Top Stake

923.305
2.50
20.80

47 £

930.871

FK

Dec. 19, 1973

11.

L

RT X-25

31.0	30.2	29.4	28.2	26.7	26.2	26.4	27.3	28.0	29.3
75	59	43	25	12		23	32	48	75

31.6	30.7	29.7	29.0	28.7	27.3	27.3	27.6	27.9	28.7	29.4
75	62	46	29	15		9	30	49	66	75

31.8	31.2	30.8	30.2	29.8	29.5	29.6	29.4	30.5	31.5	32.
75	65	60	44	21		19	40	52	68	75

35.5	35.0	34.3	34.0	33.8	33.4	33.7	34.6	35.2
75	58	38	15		28	49	67	75

39.2	39.3	39.0	38.6	38.2	37.9	37.2	37.1	36.6	36.4
75	60	43	25	11		25	43	63	75

39.4	39.3	38.2	37.6	37.4	37.1	37.1	36.4	36.1
75	50	29	16		18	27	61	75

Sta

47+00

+50

48

926.54 Spike ϕ

+50

49

+50

FN
RG Same
DS
RJ

Dec. 19, 1973
Dec 20, 1973

X-26

32.6 32.4 32.2 31.5 30.9 30.8 30.6 30.8 30.6
75 56 39 19 19 40 57 75

29.4 28.8 28.3 27.7 27.3 27.1 27.1 27.2 27.1
75 58 40 21 23 38 54 75

29.0 28.2 27.4 26.8 26.5 26.3 25.6 25.2 25.0
75 56 38 21 20 39 57 75

26.6 26.0 25.8 25.4 25.9 26.0 25.4 25.5 25.2 24.9
75 66 52 34 16 16 39 62 75

26.0 25.4 25.2 24.6 24.2 24.2 24.0 24.1
75 59 42 20 28 56 75

27.1 26.5 25.8 25.6 24.7 24.6 24.6 24.8
70 55 37 25 23 46 50

sta

50+00

✓

+50

✓

51

+50

FK
RG
DS
RJ

Dec. 20, 1973

Lt

Lt

RT X-27

30.4 29.2 27.8 26.7 25.9 25.7 25.1 25.0 24.8 25.5
(53 48 29 15 9 19 39 57 75

→ 31.0 30.2 30.2
59 62 75

31.8 30.9 29.0 28.7 27.9 27.2 27.0 27.1 27.0 26.8
(46 41 34 24 10 18 33 54 75

→ 31.4 31.9 32.1
49 65 75

29.6 29.3 28.8 28.0 27.5 27.2 27.7 27.4 26.6
75 59 42 33 21 27 55 75

27.4 27.8 27.8 27.7 27.5 26.9 26.7 26.7 26.5
75 58 38 27 18 26 55 75

Sta

52+00

+50

929.37

29.2
75

53

BM

930.96

+50

30.3
75

54

+50

FK
RG
DS
RJ

Dec. 20, 1973

Lt.

L

RT

X-28

27.3	27.7	27.4	27.6	27.3	27.3	27.3	27.6	28.2	28.2
75	47	29	26	20		27	50	67	75

29.3	28.6	28.5	29.8	29.0	29.3	29.8	30.1	30.8	31.7
54	36	19	15	13		22	43	59	75

30.9	29.9	29.5	29.0	28.5	28.7	28.9	29.5	30.6	31.2
75	62	46	27	7		21	39	57	75

Spike in 5" Pop. 54 + 12' 11"

30.6	30.4	30.2	29.6	30.3	29.3	29.5	30.2	31.1	31.8
65	49	32	14	6		21	38	59	75

31.1	30.7	30.6	30.0	30.5	30.1	30.2	30.7	31.6	31.9
75	57	26	11	4		28	44	63	75

32.4	32.0	31.8	31.4	31.0	31.6	30.6	30.0	29.8	29.9	30.4
75	63	44	26	7		4	24	46	63	75

sta

55+00

+50

56

Rock at sta

933.79

+50

37.7
75

57

+50

FA
DS
RB
RJ

Dec 20, 1973

Lt

♀

Rt

X-29

33.2 32.3 32.2 32.0 32.7 31.8 31.7 31.3 30.8
75 50 27 8 4 31 58 75

34.1 33.2 32.9 31.8 32.3 31.1 31.7 32.3 31.4
75 49 27 6 6 30 52 75

36.0 35.2 34.5 33.6 32.7 33.3 32.4 31.5 31.6 31.8
75 61 43 26 8 4 34 59 75

37.2 37.0 35.7 35.2 36.1 35.4 33.5 33.0 32.9 33.6 33.5
55 38 22 8 4 12 20 34 56 75

37.7 37.6 38.2 37.4 36.6 37.8 37.3 36.1 35.4 35.2 34.7 34.5
75 54 39 23 8 3 11 24 34 55 75

34.7 35.3 36.2 37.5 37.1 38.8 38.4 37.6 36.7 36.6 36.4
75 67 49 30 8 4 11 34 53 75

sta

58+00

+50

59

BM

28.7

75

(936.011)

+50

60

TP

930.15

+50

TP

922.075

Dirt

FK FK
RG RG
DS LPD
RT RT

LT

Dec. 20, 1973

Dec. 21, 1973

RT X-30

31.8 33.4 34.5 34.8 36.4 36.1 36.2 36.5 36.9 36.2
75 50 33 8 4 14 35 60 75

32.0 32.9 33.6 34.0 35.0 34.7 35.0 35.7 36.4 36.8
75 49 37 10 5 14 35 58 75

29.6 31.0 31.8 32.7 34.6 34.5 35.0 35.1 35.5 35.9
65 49 36 12 5 20 31 55 73
P.K. Nail in 28" Oak 14' 8" Sta 58+30

21.1 21.8 22.2 25.4 26.8 28.9 29.2 30.4 31.3 32.1 33.6 34.6
75 68 55 29 12 5 15 26 35 57 75

17.8 18.5 19.7 21.8 24.3 25.7 28.0 28.7 29.5 31.0 31.5
75 60 41 22 9 9 25 35 57 75

Cor Conc block

14.6 17.2 20.4 22.9 24.6 25.2 28.0 28.3 31.2 31.2 31.3 31.5
75 50 24 11 4 7 24 35 46 62 75

Sta

61

17.3 18.6
75 65

+50

62

45

✓

57
66

+57

FK
RG
LPP
RJ

Dec. 21, 1973

Lt

£

Rt X-31

20.4 20.7 23.4 25.8 27.0 27.6 29.1 30.3 31.2 31.4 31.6
44 34 22 9 4 8 23 35 55 75

18.239 25.3 26.0 26.6 29.3 29.8 30.3 31.1 31.4 31.7
5 59 37 21 12 4 15 35 55 75

23.7 25.0 26.1 27.1 27.8 29.8 30.0 30.2 30.8 31.1 31.3 31.45 31.6
75 67 41 22 9 5 15 27 38 48 56 75
Ent walk

26.7 27.0 27.1 27.3 28.9 29.1 28.5 28.2 29.7 29.6 29.5
64 43 26 10 6 5 17 21 41 44
Ent

→ 26.6
75
30.4 30.3 29.7
75 60 56
Ent

24.8 25.1 25.3 25.4 26.9 27.3 27.6 27.3 27.6 25.0 25.9
54 37 18 4.5 4 10 21 21.5 22 38
Wall Wall

→ 24.3
75
26.4 26.1 28.2 28.3 28.1
75 60 59 50 39
Wall Ent Wall

Sta

62 PW

+66 Shoulder Line

BM

929.022

+84 2 Otter Lake Road

BM 3.19 923.35

920.162

Top C.I. Pipe 4.79 918.56

Top Crown 918.26

Diameter - 2.50 = 30"

Inv. 915.76

FK
RG
LPD
RJ

Dec. 21, 1973

X-32

26.5	26.6	26.8	27.0	27.3	27.5	27.5	27.7	27.7
75	55	38	20		9	22	50	75

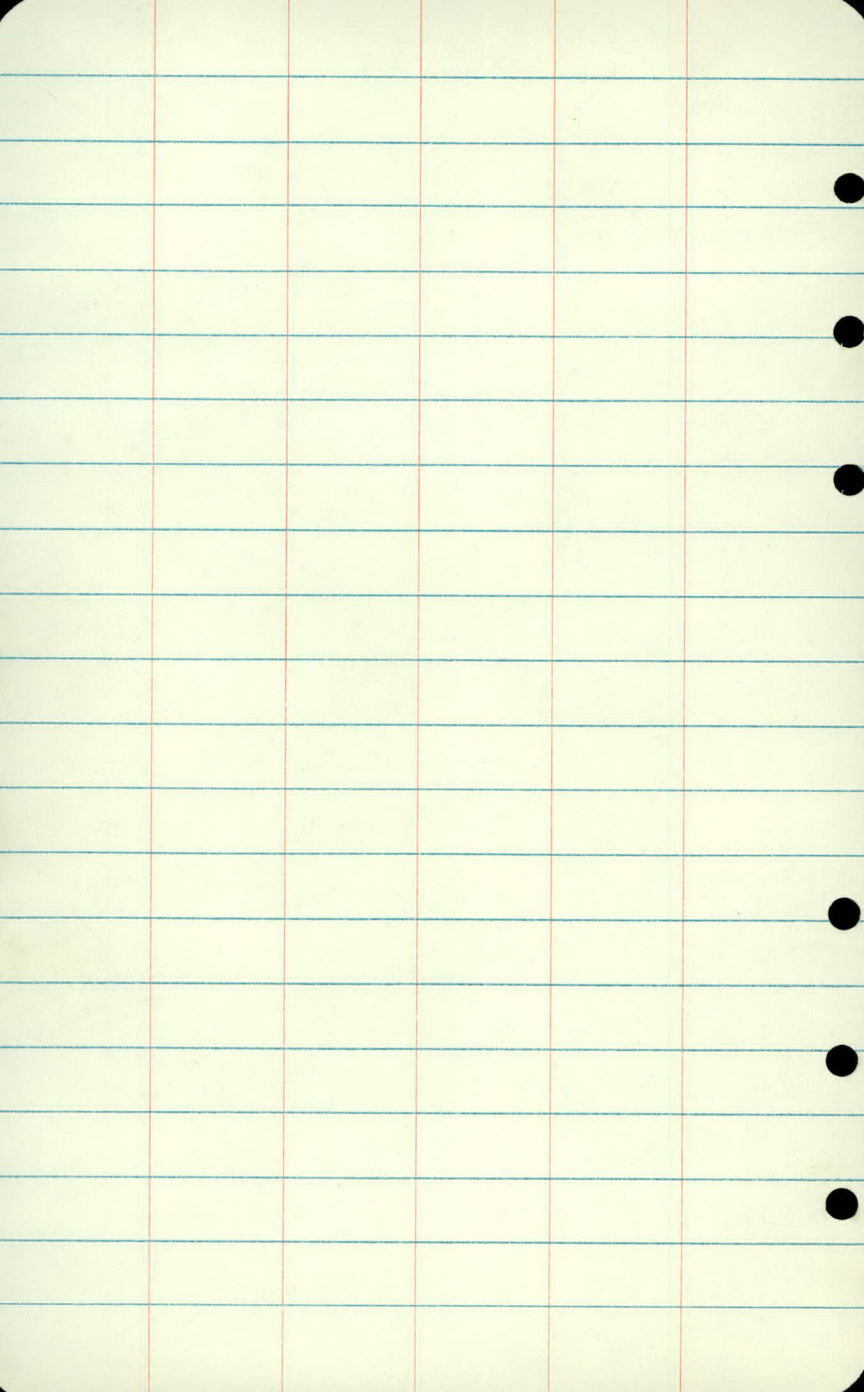
Top Hyd

26.9	27.0	27.0	27.2	27.5	27.4	27.6	27.7	27.8
100	75	50	25		25	50	75	100

26.5	26.2
150	200

28.1	28.0
200	150

Spike in 9" Elm Lt. 42' Sta 37+90
under RR.



Jan. 14, 1974

1

BIRCH LAKE BLVD. NORTH

Centerville Rd to Otter Lake Rd.

PLAN SURVEY

Sta Point ΔL ΔR

+17.4 PT $14^{\circ} 50'$

26 $13^{\circ} 49'$

+50 $12^{\circ} 34'$

25 $11^{\circ} 19'$

+50 $10^{\circ} 04' \Delta = 28^{\circ} 30'$

24 $8^{\circ} 49' \frac{1}{2} \Delta = 14^{\circ} 15'$

+50 $7^{\circ} 34' D = 5^{\circ}$

23+38.5 P.I. $T = 291.1$

23 $6^{\circ} 19' L = 570.0$

+50 $5^{\circ} 04' R = 1146.3$

22 $3^{\circ} 49'$

+50 $2^{\circ} 34'$

21 $1^{\circ} 19'$

+50 $0^{\circ} 04'$

20+47.4 PC $0^{\circ} 00'$

12+00

FM
DS
J Mosquito
in Centerville

Jan. 14, 1974

£

2

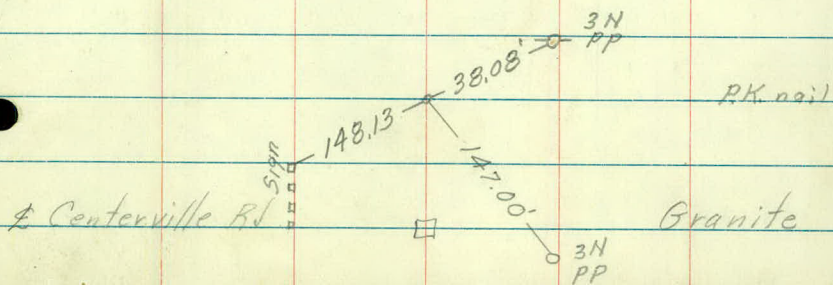
3 R Nails
TP 0

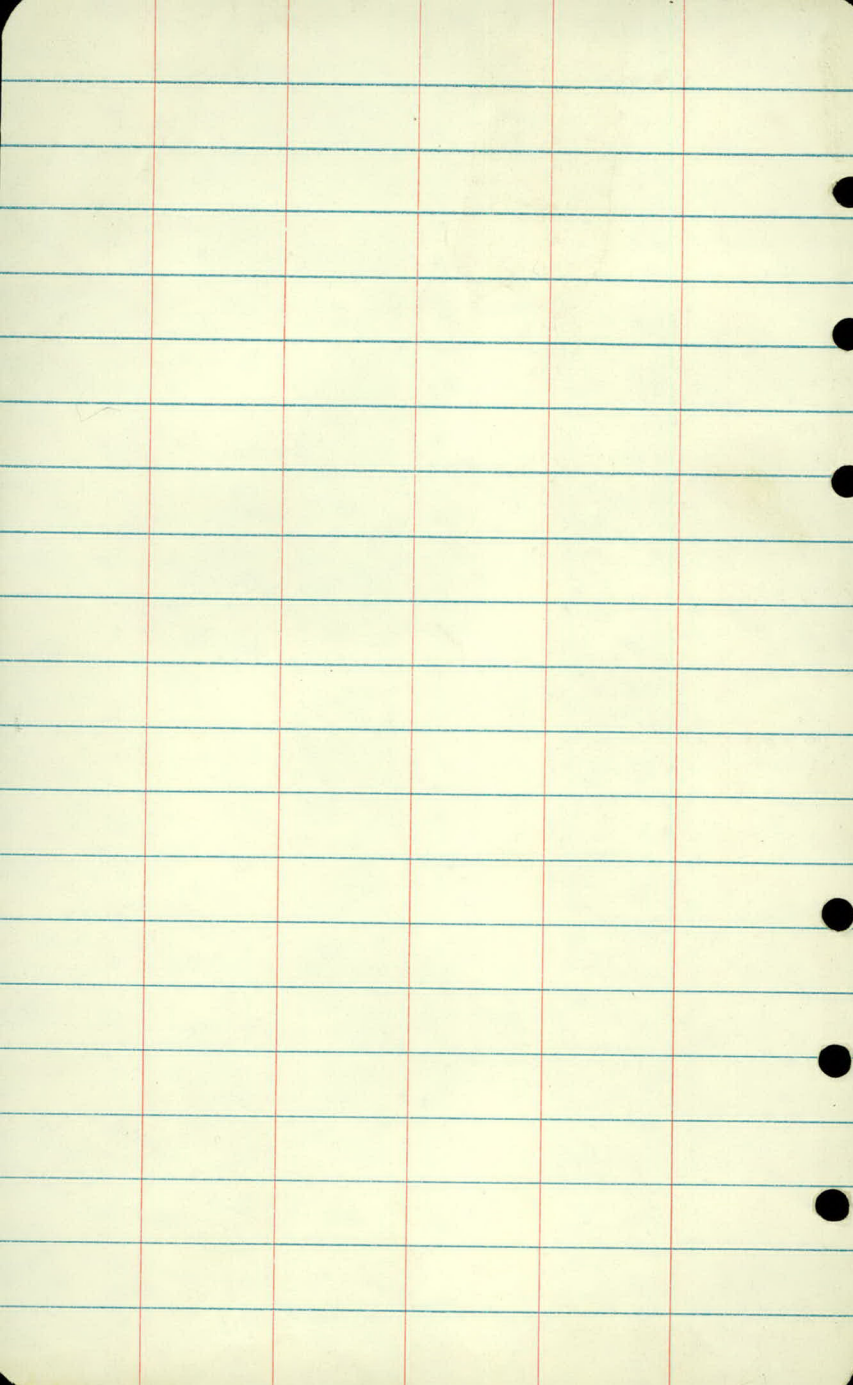
61.60

338.5
107.81
230.69

Spike

22+30.69 P.O.S.T. = £ 91# S1





FH
DS
J
M

Jan 14, 1974

3

TOPOGRAPHY

$$+150 \frac{Fe}{25}$$

$$+16 \frac{Fe \text{ Cor}}{28}$$

$$\frac{Road}{10 \ 11}$$

$$+49 \frac{X-Drain \ 24" \ SCP}{24 \ 27}$$

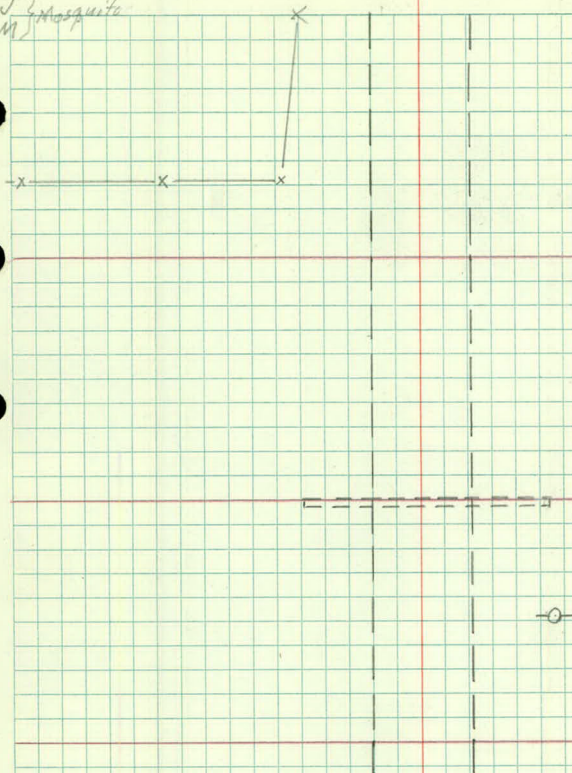
$$+26 \frac{PP}{28}$$

$$\frac{Road}{10 \ 11}$$

FK
DS
LPD
J2 Mosquito
M2

Jan 15, 1974
Clear 15°

4



16

Road
10 10+93 $\frac{12'' \text{Apple}}{49}$ +80 $\frac{8'' \text{P}}{49}$ +59 $\frac{38'' \text{G.H.}}{41}$ +49 $\frac{4 \text{ } 13'' \text{Ent}}{?}$ +30 $\frac{PP}{28}$ +27 $\frac{18'' \text{P}}{29}$ +39 $\frac{SE \text{ Cor Ho}}{71}$ +15 $\frac{SW \text{ Cor Ho}}{69}$ Road
10 10

15

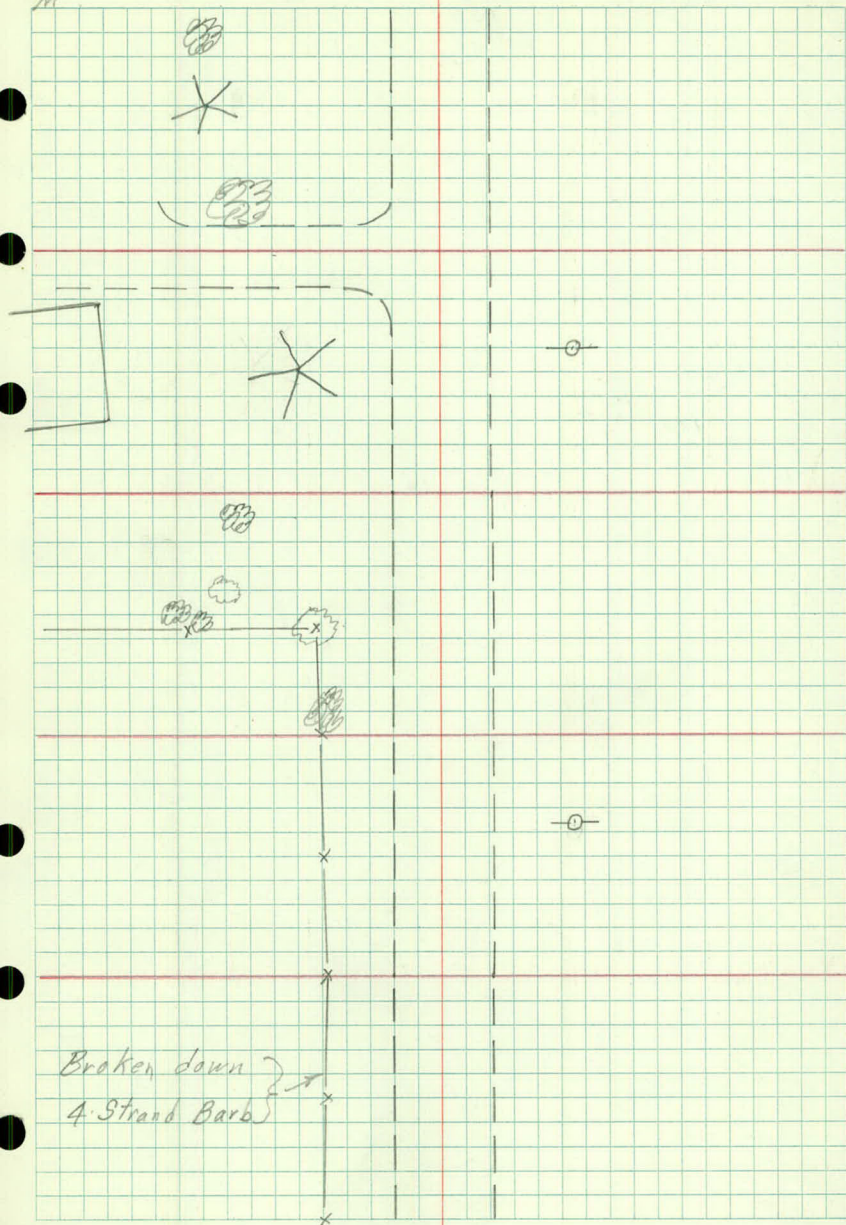
+95 $\frac{12'' \text{Ash}}{42}$ +73 $\frac{8'' \text{Locust}}{50}$ +75 $\frac{Tw. 4'' \text{Locust}}{55}$ +72 $\frac{Fe \text{ Cor}}{26}$ +72 $\frac{Lilac}{26}$ +79 $\frac{Lilac}{45}$ +56 $\frac{6-4'' \text{B, E}}{23}$ +32 $\frac{PP}{28}$ Fe Road
24 10 11

14

FK
DS
LPD
J
M

Jan 15, 1974
Clear 16°

5



Fe
28

+37 $\frac{PP}{28}$

18

Fe
28

Road
10 10

+65 $\frac{FeCor}{29}$

Road
10 10

17

+77 $\frac{Arc L1}{37}$

+57 $\frac{425 Ent}{?}$

+23 $\frac{18" Apple}{38}$

+07 $\frac{20" Apple}{37}$

+33 $\frac{PP}{26}$

16

Road
10 10

FK
DS
LPD
MJ
J

Jan 15, 1974
Clear 15°

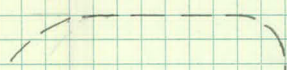
6

2-S-B. over 24" W. W. 7



PARKING

Lake
Sanitation



21

$$+100 \frac{2''P}{35}$$

$$\frac{\text{Road}}{10 \ 10}$$

$$+88 \frac{4''P}{36}$$

$$+77 \frac{3''E/m}{21}$$

$$+71 \frac{2''BE}{21}$$

$$+75 \frac{1''P}{35}$$

$$+62 \frac{2''P}{35}$$

$$\frac{\text{Road}}{10 \ 10}$$

$$+49 \frac{2''P}{35}$$

$$+31 \frac{2''P}{35}$$

$$+40 \frac{PP}{28}$$

$$+18 \frac{1''P}{35}$$

$$+14 \frac{1''P}{35}$$

$$+24 \frac{1''P}{35}$$

$$+21 \frac{4''BE}{28}$$

$$\frac{\text{Road}}{10 \ 10}$$

20

$$+96 \frac{\text{Fe Cor}}{27}$$

$$+77 \frac{5''Oak}{29}$$

$$+50 \frac{\text{Fe}}{27}$$

19

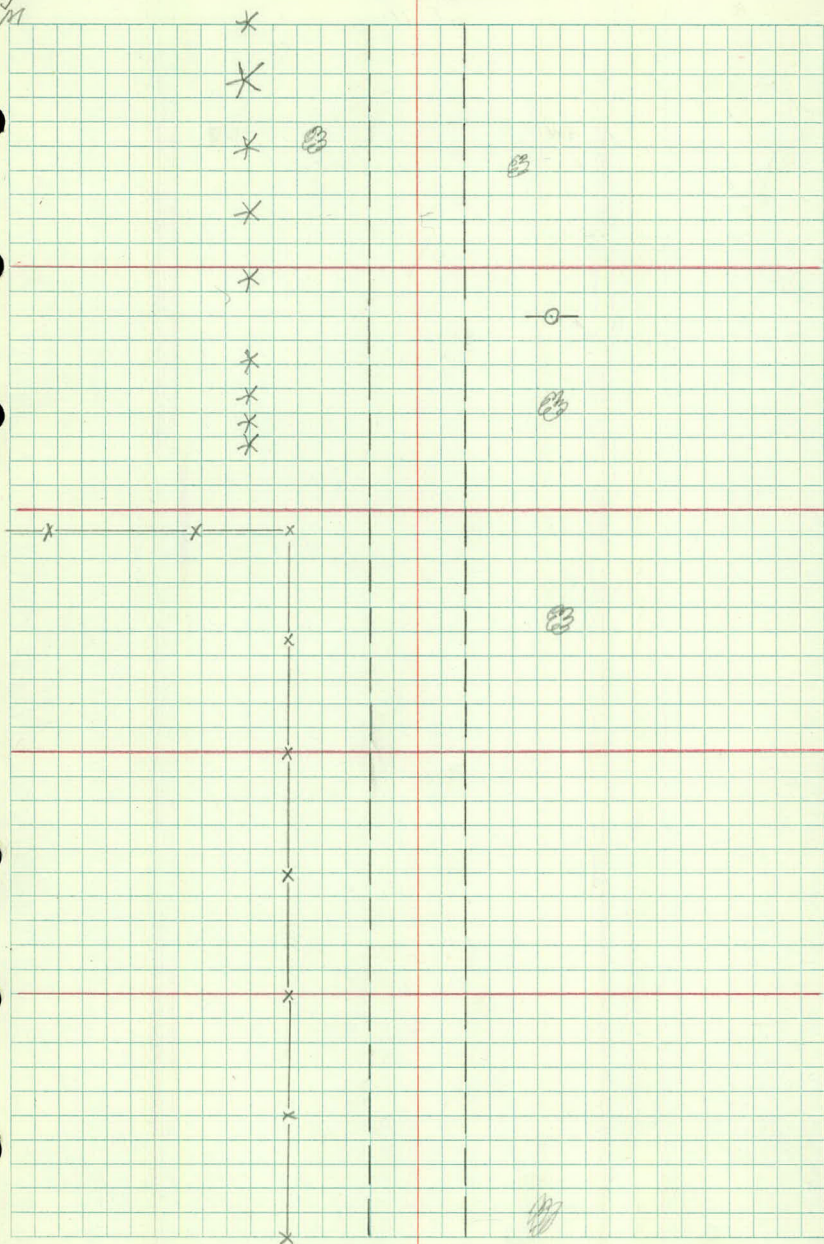
$$\frac{\text{Fe}}{27} \quad \frac{\text{Road}}{10 \ 10}$$

$$+58 \frac{4-2''BE}{25}$$

LA
DS
LPD
JM

Jan 15, 1974
Clear 14°

7



Road
10 11

150 Pine Bush
52

+36 Spirea
51

+46 10" Ash
43

+31 10" Ash
37

+11 10" Elm
59

+14 10" Ash
22

23 100 ± 14" Ent
Road
10 11

+82 10" Ash
34

+61 4-2" BE
26

Road
10 11

+26 PP
30

22 Road
10 11

+81 3" P
43

+71 2" P
41

+58 2" P
40

Road
10 11

+47 3" P
38

+37 1" P
38

+26 3" P
38

+12 2" P
36

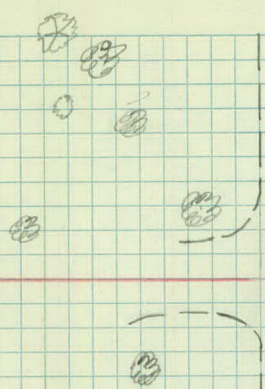
Road
10 10

21

FK
LPD
DS
J
M

Jan 15, 1974
Clear 14°

8



26

Road
10 10

+71 Arbutus
59

+88 5" Maple
38

+86 2" P
53

67 S. Cor. Ho
56

Road
10 10

+56 Bush
55

+15 10" P
64

+17 PP
30

-50 Fe Cor
41

+43 R. Tie
Fe

+14 10" P
61

+42 W. Cor. Ho
64

+09 26" P
50

+11 4" P
56

+06 15" P
45

25

Fe Road
37 10 10

+04 22" P
40

+71 5" BE
32

+50 PP
29

Beach
10 10

+47 Fe Cor
35

+34 Fe Cor
69

24

Road
10 10

86 Spirea
31

+88 14" Ash
39

+88 PP
63

78 Spirea
42

+81 Spirea
37

+83 Spirea
34

71 14" Elm
64

+77 20" Elm
55

+72 Spirea
47

+81 4" BE
24

+70 Spirea
50

+63 Spirea
55

+66 Spirea
53

+53 PP
32

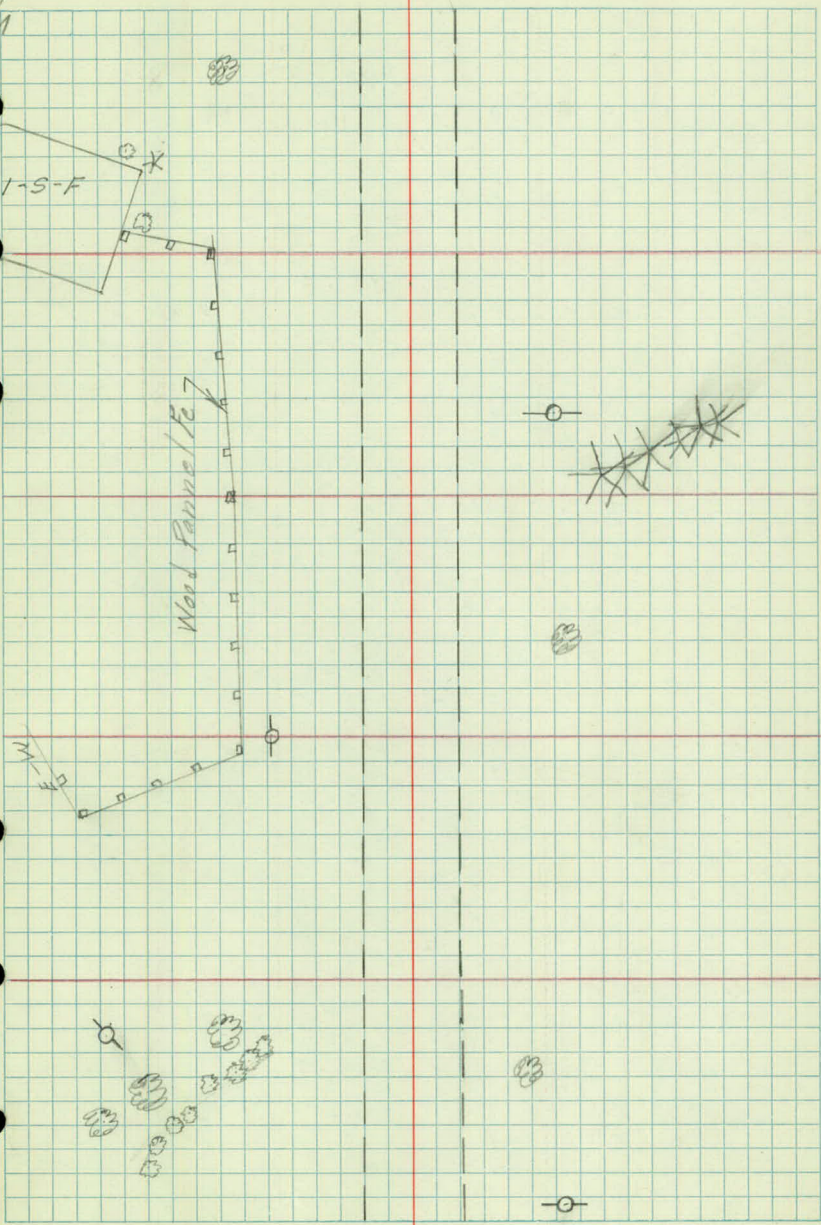
FK
LPD
DS
J
M

Jan 15, 1973
Clear

I-S-F

Wood Pannel Fe 7

1/2



Bush 5" P 20" Cat
 +40 34 +44 69 +46 42
 10" Cat 8 Birch 15" Cat
 +34 41 +36 63 +38 42
 12" Catalpa NW Cor Ho 12" Catalpa
 +18 41 +22 74 +26 42
 Bush
 +13 34
 24" Catalpa
 +106 41 +11 10" Catalpa
 Road 14" Catalpa
 10 11 +00 41

28

5" P
 +98 35
 10" Ent
 +88 33

R. Tie
 Ent
 +78
 18" Catalpa
 +82 40

Pine Bush
 +80 53
 15" P
 +63 64

14" P
 +57 57
 Lilac Lilac Lilac
 +21 63 +04 24 +28 64

27

Road 14" Apple
 10 12 +02 72
 Bush PP NE Cor Ho
 +91 30 +94 30 +97 108

Bush
 +83 33
 14" P
 +66 88
 NW Cor Ho
 +75 120

R. Tie
 Ent
 +55
 12" Ent
 +47 61
 Road
 10 10

Bush
 +42 31
 5" P
 +23 70
 Ent
 +23 38
 Bush
 +35 35

4" P
 +16 57
 R Tie
 Ent
 +07
 5" P
 +13 45

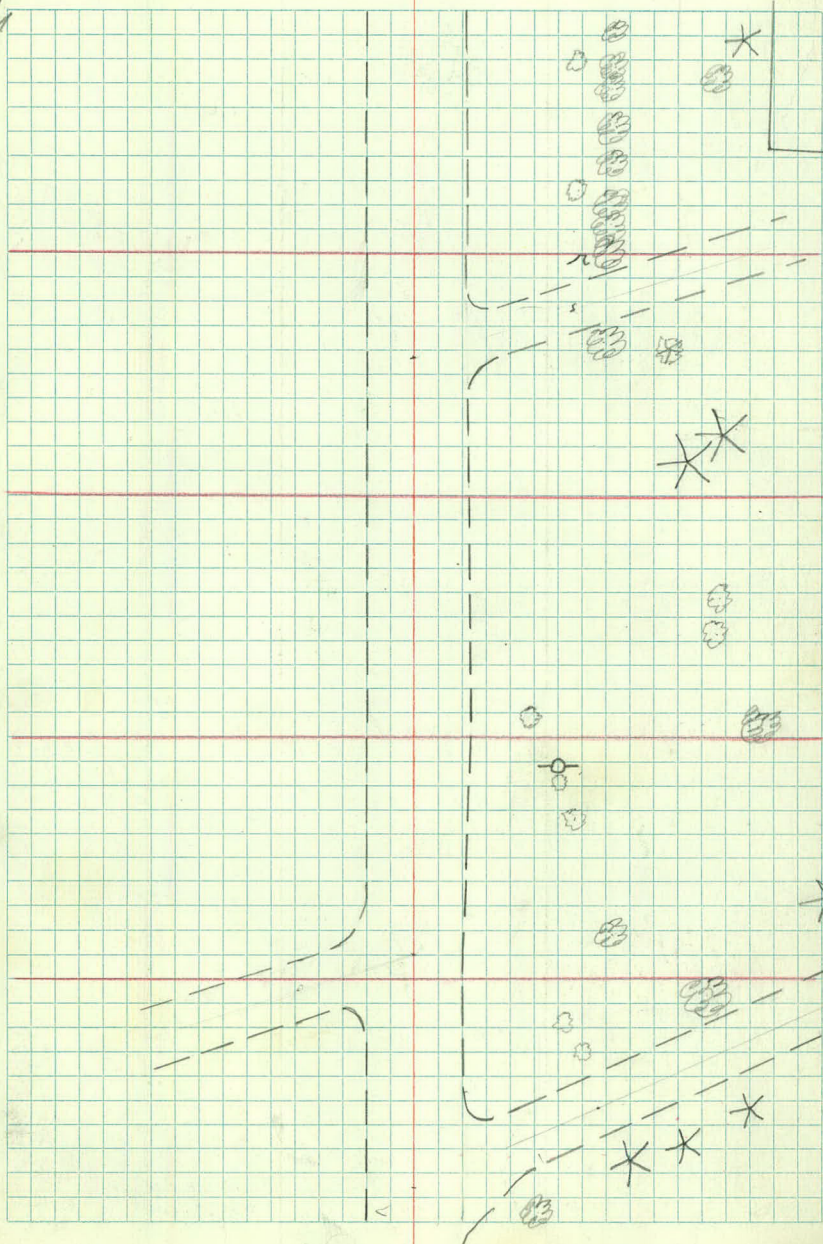
26

Road
 10 10
 12" Apple
 +02 26

FK
DS
LPD
J
M

Jan. 15, 1974
Fair 16°

10



31

+50 $\frac{\text{Road}}{12 \ 10}$ +62 $\frac{\text{BE}}{37}$
+65 $\frac{34''\text{Oak}}{41}$ +37 $\frac{20''\text{Apple}}{33}$ +37 $\frac{\text{Bush}}{37}$
+35 $\frac{18''\text{Oak}}{41}$ +16 $\frac{6''\text{Oak}}{41}$ +28 $\frac{\text{PP}}{30}$
+17 $\frac{22''\text{Oak}}{46}$ +17 $\frac{22''\text{Oak}}{48}$ +15 $\frac{6''\text{Ash}}{34}$ +101 $\frac{\text{SPirea}}{31}$
+15 $\frac{20''\text{Oak}}{54}$ +101 $\frac{\text{SPirea}}{28}$

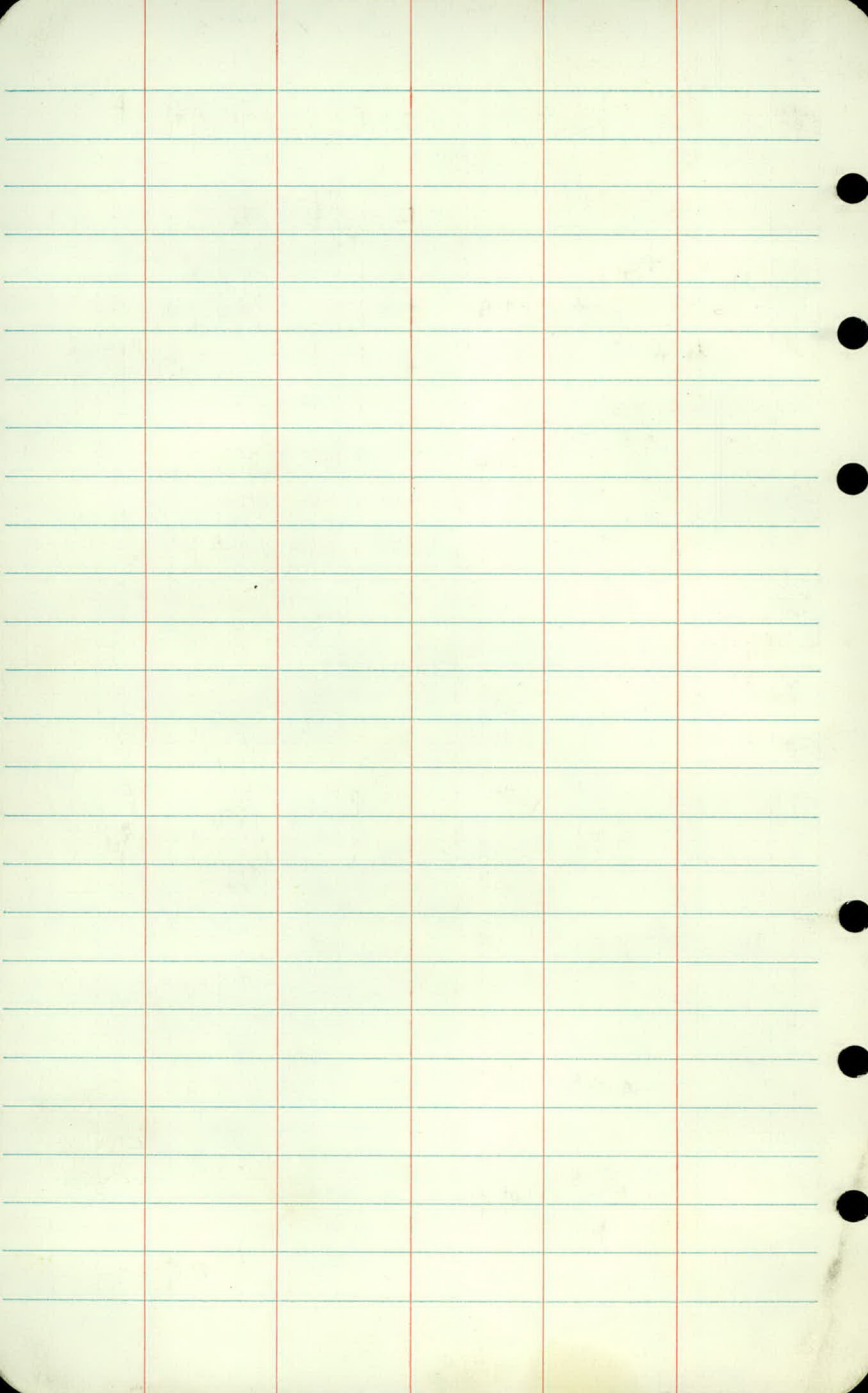
30

+97 $\frac{36''\text{O}}{78}$
+79 $\frac{8''\text{P}}{45}$ +74 $\frac{6''\text{P}}{58}$

29

+47 $\frac{31''\text{Oak}}{25}$ +41 $\frac{12''\text{CMP}}{23}$
+22 $\frac{12''\text{CMP}}{22}$ +29 $\frac{410''\text{Ent}}{23}$
+14 $\frac{30''\text{Oak}}{43}$
+88 $\frac{4''\text{P}}{60}$ +80 $\frac{5''\text{P}}{54}$
+12 $\frac{\text{PP}}{28}$ +86 $\frac{5''\text{P}}{35}$
+70 $\frac{\text{SPirea}}{34}$ +64 $\frac{\text{NE Cor Ho}}{75}$

11



FK
DS
J
M

Jan 21, 1974
Overcast 33°

x-1

X-Sections

Sta

BM 8.172 951.69

943.518

BM 2.12 951.95 1.86 949.83

BM 3.10 947.23 7.82 944.13

BM 7.42 939.81

12

+50

✓

13

+50

Jan. 21, 1974

Lt.

E

Rt

x-2

Spike in pp SW Cor 9TH + Birch Lake Blvd. N

Spike in pp 28' Rt Sta 18+40[±] Birch Lake Blvd. N

Spike in pp 28' Rt Sta 14+30[±] " " " "

R.R. Spike in PP 28' Rt Sta 12+27[±] " " " "

268	270	384	41.5	42.0	42.2	41.9	41.2	37.8	37.2
50	43	26	15	9		11	20	34	50

36.2	37.41	40.8	41.5	41.8	41.5	40.7	93.79	36.2
24	23	16	10		11	18	To Rert 27	28
Top Culv								

35.8	35.1					36.0	36.0
37	50					50	41

34.8	36.4	41.1	41.7	41.9	41.7	41.1	37.2	37.3	37.2
50	30	16	10		11	16	26	38	50

36.0	37.4	38.3	41.3	42.0	42.1	42.0	41.5	39.0	38.2
50	37	25	16	10		11	18	30	50

Sta

14+00

✓

+50

✓

15

BM

949.06

(949.13)

+50 Ent Lt.

FK
DS
J
M

Lt.

Jan 21, 1974
Overcast 33° Rt x-2

36.4 38.6 39.9 42.1 42.3 42.4 42.3 41.8 40.5 42.6
50 35 23 15 10 11 17 21 27

41.0 41.0
50 43

38.1 39.5 42.2 42.6 42.8 42.6 42.2 40.7 41.1
33 24 16 9 10 16 21 26

36.8
50

40.6 40.5
50 39

40.9 40.5 40.1 42.6 43.0 43.1 43.0 42.4 41.3 41.7
50 44 22 14 10 11 18 30 50

Spike in PP 28' Rt Sta 14+30±

41.8 41.9 42.2 43.4 43.6 43.6 43.4 42.5 42.9 43.0
73 50 27 11 11 18 23 34 50

Sta

16+00

✓

+50 Ent Lt.

✓

17

✓

FA
DS
J
M

Lt.

Jan 21, 1974
Overcast 33°
Pt.

X-4

42.4 42.1 43.7 43.9 43.9 44.0 43.5 42.9 44.0
42 26 15 10 10 18 22 27

42.3
50

44.6 44.3
50 37

41.5 42.6 43.6 44.2 44.3 44.3 44.1 44.1 47.9
80 50 28 10 11 19 20 29

48.5 48.3
50 40

43.1 43.2 43.5 44.6 44.7 44.7 44.8 48.2 52.0
50 40 26 10 11 23 28 36

53.8 52.4
75 50

Sta

17+50

✓

18

✓

TP

947.09

1.92

945.17

945.11

18+00 ±

BM

949.83

1.97

+50

✓

FK
DS
J
M

Lt.

Jan. 21, 1974
Overcast 33°

FK

X-5

42.8 43.4 43.9 44.8 44.9 45.0 44.7 44.2 48.0
50 34 23 11 11 17 21 28

54.9 54.4 53.0 52.9
100 75 53 38

46.5 43.8 44.5 45.0 45.1 45.2 44.9 43.7 47.7
27 21 17 12 12 17 21 28

46.0 45.4
44 50

53.1 53.0 51.6 52.0
100 75 51 35

Spike in PP 28' Lt Sta 18+40[±]

46.5 43.9 44.8 45.1 45.2 45.3 44.9 44.0 46.9
27 22 18 12 10 17 21 27

45.7 44.7 43.2 42.0 51.4 50.4 50.3 50.1 47.6
36 66 83 100 100 75 50 34 29

Sta

19+00

✓

+50

✓

20

✓

FK
DS
LPD
J

11

Jan 22, 1974
Overcast 26°

RT. X-6

46.0 43.9 44.5 45.2 45.3 45.3 45.0 43.9 47.0
26 21 18 12 10 16 21 28

45.3 43.7 41.5
55 71 100

48.5 47.1 46.7
100 76 50

44.7 43.6 44.6 45.2 45.4 45.3 44.9 43.9 45.1
25 20 16 11 11 16 22 27

43.8 43.8 43.0 41.3 41.3
44 62 82 97 100

46.0 45.8 45.6
100 79 57

43.7 43.9 44.8 45.3 45.4 45.2 44.8 43.4 46.3
28 21 16 10 11 17 23 30

43.2 42.3 40.8
51 72 100

45.6 46.3 46.5
100 82 56

Sta

20+50

✓

T.P.

944.79 Sta 21 ±

21

✓

+50

✓

FN
DS
LPD
Joe

Lt.

Jan 22, 1974
Overcast 28°

Rt. x-7

42.9 42.9 44.8 45.2 45.1 44.7 44.0 43.1 47.8
33 24 16 10 12 18 22 32

41.9 40.7 40.1
53 76 100

47.3 47.5 48.0
100 86 62

41.2 42.5 44.8 45.0 44.8 44.3 43.8 43.1 44.2
39 23 16 11 14 17 23 34

40.7 39.9 40.3
60 85 100

46.4 45.3 44.4
100 78 60

41.7 42.3 44.3 44.7 44.5 43.8 43.4 41.4 41.8
43 24 16 11 11 18 25 47

41.1 40.9
65 100

42.9 42.0
100 72

Sta

22+00

✓

22+32 E = E of 9TH ST.

+50

✓

23

Ent Lt

✓

Jan. 22, 1974

14

RT X-8

43.3 41.9 43.9 44.3 44.0 43.2 42.7 40.9 41.0
33 23 16 11 12 17 26 53

→ 43.2 42.4 41.3 40.9 40.7
61 86 100 100 77

43.7 42.3 43.2 43.8 43.5 43.0 42.7 41.5 45.9
26 21 16 11 12 16 22 31

→ 43.9 44.0 43.2 40.2 42.5 44.4
48 75 100 100 72 49

43.2 43.7 43.4 43.2 42.9 42.5 42.0 40.5 47.6
79 55 30 11 12 18 23 36

→ 42.7 39.6 40.8 43.3 46.0
100 100 87 66 52

sta

23+50

✓

24

TP

941.50 sta £

✓

BM

943.518 (943.518)

+50

✓

FX
DS
LPD
Joe

Lt.

Jan 22, 1974
Overcast 28°

Rt. X-9

42.6	41.2	41.8	42.5	42.3	41.8	41.5	40.2	46.7
30	21	16	11		13	17	23	35

42.9	43.3	40.4
52	70	100

40.6	41.2	43.2	45.4
100	86	65	47

44.2	41.5	41.7	41.7	41.5	41.2	40.9	39.9	48.3
35	22	16	11		11	16	22	37

44.3	44.0	42.4	41.6
57	85	94	100

42.4	43.6	45.9
100	90	66

Spike in P.P. SW Cor 9th & Birch Lake Blvd.

42.9	40.6	40.7	40.9	40.7	40.2	40.1	38.8	42.6
34	24	19	13		12	16	21	30

43.0	43.2	43.5	44.2	39.4	39.5	39.8	40.5	41.5
46	65	75	100	100	94	25	60	43

Sta

25+00

✓

+50

✓

26

✓

TP

937.60 sta 26 ±

+26

Profile of Ent Rt

FK
DS
LFD
RJ
J

Jan. 22, 1974
Overcast 29°

Lt.

Rt

x-10

41.4 39.4 39.6 39.8 39.7 39.2 38.9 37.8 36.6
35 23 20 13 13 16 23 45

→ 41.9 41.7 41.6 36.4 36.2
49 66 75 79 65

42.5 40.5 38.8 38.7 38.8 38.7 38.1 37.6 35.5 35.4 35.1
39 32 23 17 11 11 17 25 51 75

→ 42.4 42.68
47 Con. Walk
53

39.7 37.5 37.6 37.7 37.6 37.1 36.7 35.4 36.9
32 21 15 10 13 17 23 32

→ 39.3 38.1 36.3 34.5 36.1
53 63 75 in Ent 75 49

37.1 36.8 36.9 36.2 35.8 35.6
13 29 53 75 100

Sta

26+50 Ent Lt

✓

27

✓

+50

✓

+92 Profile Ent Rt

FA
DS
LPD
RJ
Joe

11

Jan. 22, 1974
Fair 30° to
Partly Cloudy Pt X-11

356 364 366 365 363 361 367 369 374
75 50 28 10 12 17 21 35

371 377
75 50

347 343 348 351 351 350 350 353 367
23 19 15 9 12 17 21 30

339 339
47 75

371 370
75 51

325 319 336 338 338 336 329 328 354
30 22 15 9 13 20 23 32

319
50

352 363 373
75 58 41

327 327 329 332 331
14 27 42 50

Sta

28+00

T.P.

932.47 Sta

+50

✓

29

+50

30

FK
DS
LPD

Jan. 22, 1974

Broken 30°

lt.

RT X-12

31.9 32.1 32.1 30.9 32.1 32.3 32.5 32.3 31.6 32.8 33.6 33.1
56 39 26 21 15 11 15 21 27 34 50

30.0 29.6 30.8 31.0 31.2 31.0 30.1 29.9 31.6
23 19 15 10 14 18 22 29

29.5 29.5
39 53

33.28 32.8 32.3
68 49 34
Sidewalt

22.4 27.7 27.8 30.0 29.7 29.8 29.8 29.4 28.7 30.2 30.1
65 45 21 15 8 10 18 22 30 54

26.6 27.6 27.8 27.2 28.6 28.6 28.7 28.8 28.8 27.4 28.4 26.9 26.6
60 47 28 20 16 9 12 16 21 24 40 59

24.2 25.6 25.9 27.4 27.6 27.9 28.0 27.7 26.1 25.3 23.8
59 39 21 16 12 13 17 23 32 56

