

PLANS SURVEY
ST. PAUL-ANOKA ROAD

From Como-Phalen Ave

To Anoka

CO. PROJ. NO.

RD. % NO. 93

Office of Ramsey Co. Engineer
ST. PAUL, MINN.

Date Filed 3-25-23

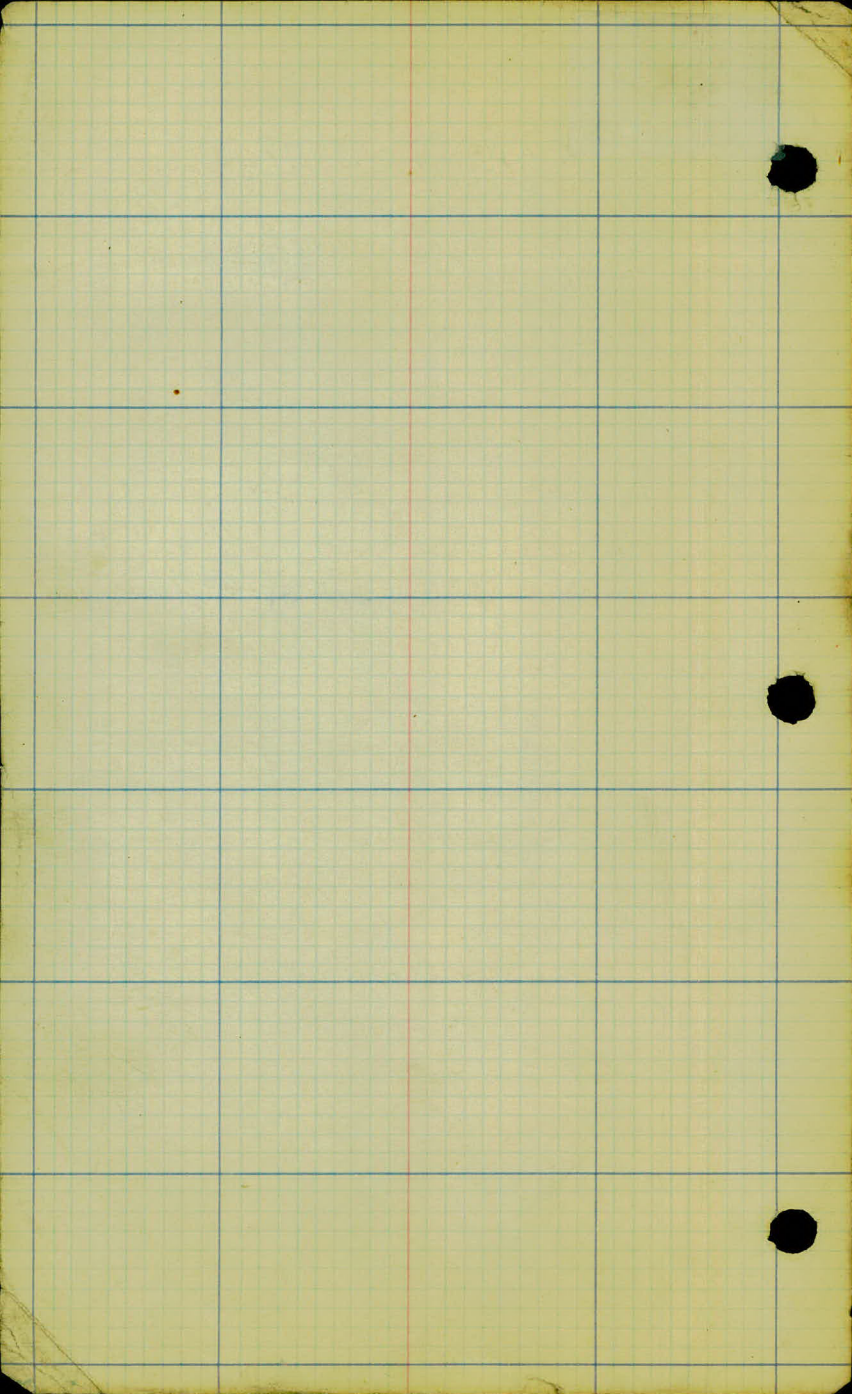
File No. "4"

ST. PAUL - ANOKA SURVEY

ALIGNMENT NOTES

A, B, C & D Lines.

R. Bonister
Supt. in charge
F. Conners - transit



ST. PAUL-ANOKA SURVEY

Preliminary Alignment Notes

Sta. Point ΔL AR Course

24+00 P.O.T.

N 41° 03' W

6+30

6+15

6+00 Δ 4° 14'

N. 36° - 49' W

0+00 38° 00'

Party 3/12/23

Bannister - Chief

Conner - Transit

Webber - H. Chain

Rittenberg - R. ✓

17th Manus - B. Flag

Franko - Stake, Int.

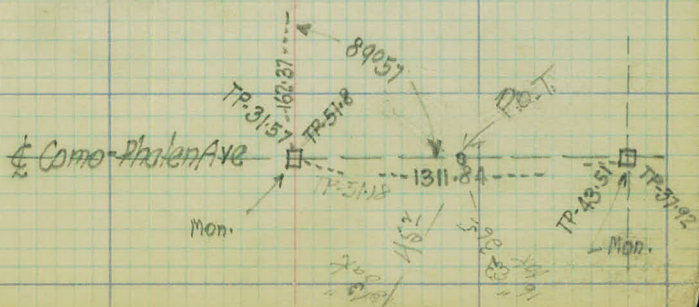
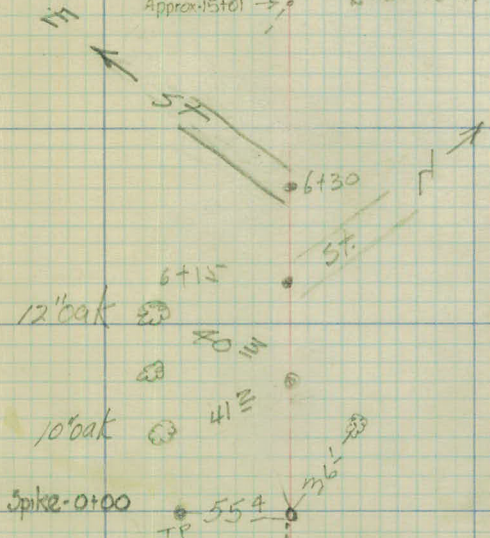
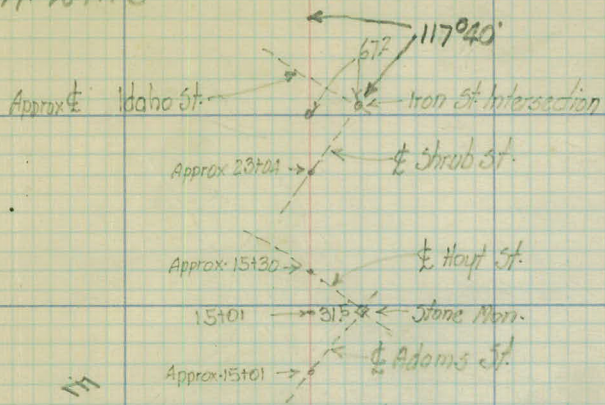
Carley - Level

Stark - Rod

S.P. & H. Survey
H. Line

⊕

R
FIVE 3/12/23

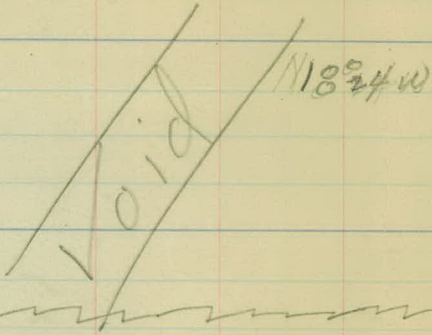


Sta. Pt. Lt. Δ Rt. Calc. Bear.
N30°-06'W

74+50 Δ 11°-42'

63+06 Δ POT

50+22 Δ POT



43+50 Δ POT

~~23°-50'~~

39+82 POT

N41°-03'W

33+21° POT

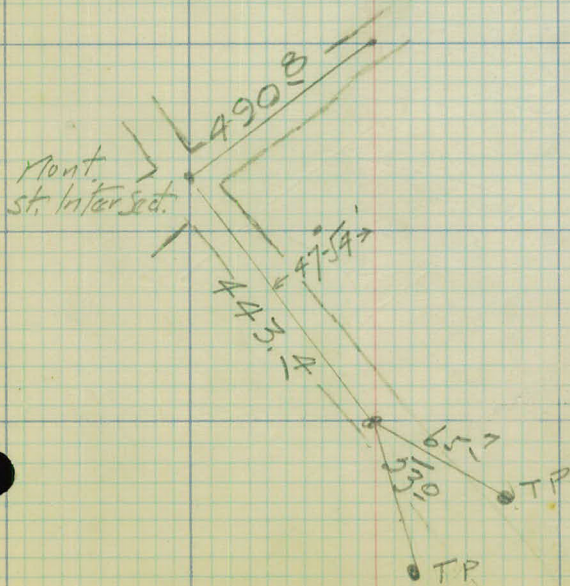
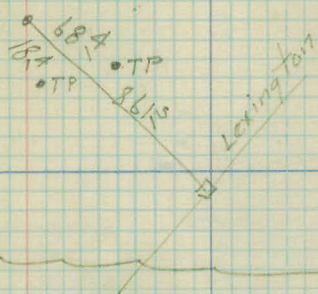
St. P. & F. Survey
A line

W

FM 2 3/12/23

Void

634063



Sta Pt. Lt Δ PCT Cole, Bear

146+03² POT

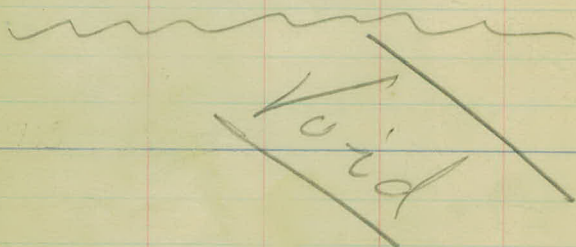
144+82⁵ POT

N00°00'W

103+80°

~~20°51'~~

N00°00'W



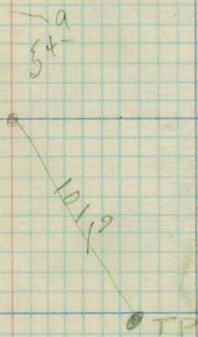
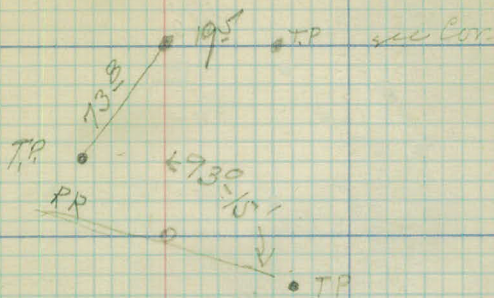
91+86¹ POT

3/13/23

1430-06W

St P's Survey
A line

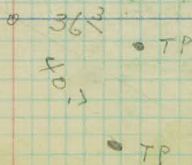
FMC 3/13/28



Mar. 11

Quantity 120 B
57.6
61-40

VOID



Sta Pt LZ Δ TP7 Calc. Bearing =

193+790 Pt 42°40'

N.42°-41'W

187+964# 90T

N.00°-01'W

172+240 Δ 0°01'

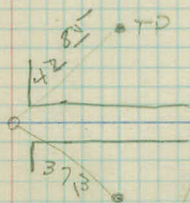
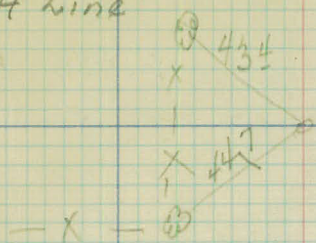
3/4/23

N.00°-00'W

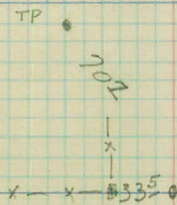
St.P. & H. Survey
A line

卷

FMC 3/14/23



TPS to St
163 + 45.5
other line



25.7

TP

Sta Pt. Lt Δ Rt. Calc. Bear.

A 107 + 53 = A 103 + 80

N 00° 00' W

99 + 02 = 0-32

99 + 24 = P.T.

41° 35'

N 00° 32' E

68 + 13 = P.O.T.

N 41° 03' W

61 + 00

59 + 50 - R/T. Lt. 1/4 of 1/4 cor. (?)

50 + 80 P.O.T.

A 43 + 50 P.O.T.

A 43 + 50 =

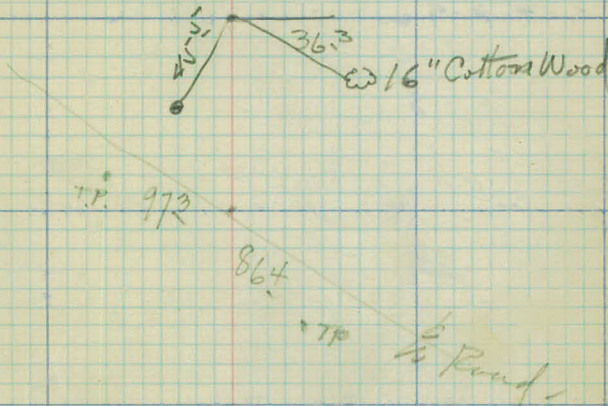
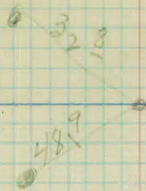
A 43 + 50

N 41° 03' W

St. P. & H. Survey
H. line

6

F.M.C. 3/14/23



T.P. 973

T.P.

Sta. Pt. Δ T. Calc. Bear.

238+00

14° 46'

N 28° 22' W

232+86° P.I.

34° 00'

N 13° 36' W

N 47° 36' W

224+812

P.I. 47° 25'

212+00 P.O.T.

N 00° 11' W

207+52⁶ P.I.

22° 30'

N 22° 41' W

201+95⁷ P.I.

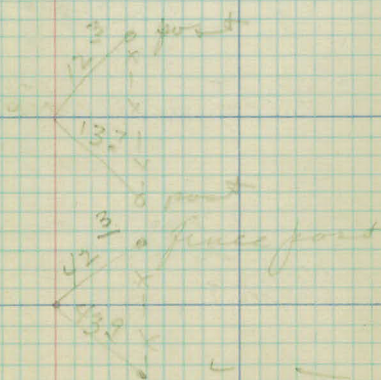
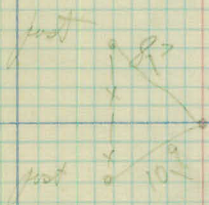
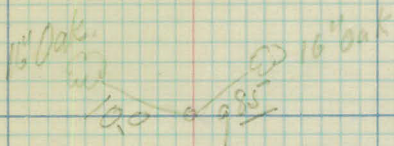
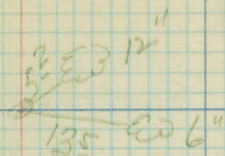
20° 00'

N 42° 41' W

St. P. & H. Survey
A line

$\frac{1}{2}$

FMC 3/16/23



TP • 42 • 373 • TP

RP
B.M.

Sta. Pt. Lt. A RA

272+40° POT

262+12⁹ POT

N 76-44' W

256+32⁷ PI 72° 25'

N 40-19' W

51+46⁶ PI 55-40'

249+45⁷ POT

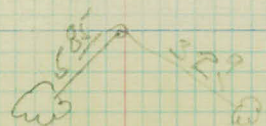
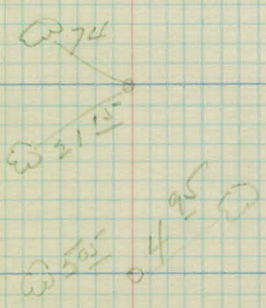
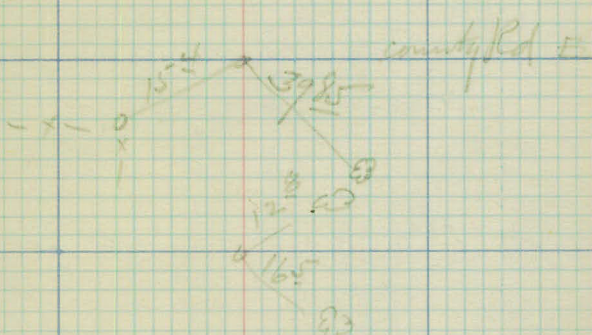
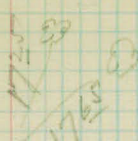
N 59-59' W

241+09⁷ PI 31-37

N 28-22' W

STP. E.H. - Survey
H Line

3/16-23-FMC



Sta. PT. LT Δ RT Calc. Bear
N 22° - 34' W

299+48³ PT 11°-52'

N 10° - 42' W

294+00 PT 12°-12'

286+57⁴ POT $\frac{1}{2}$ line Trestle

N 22° - 52' W

283+00 PT 16°-25'

277+62⁶ POT

N 39° - 19' W

276+00 PT 37°-25'

N 16° - 44' W

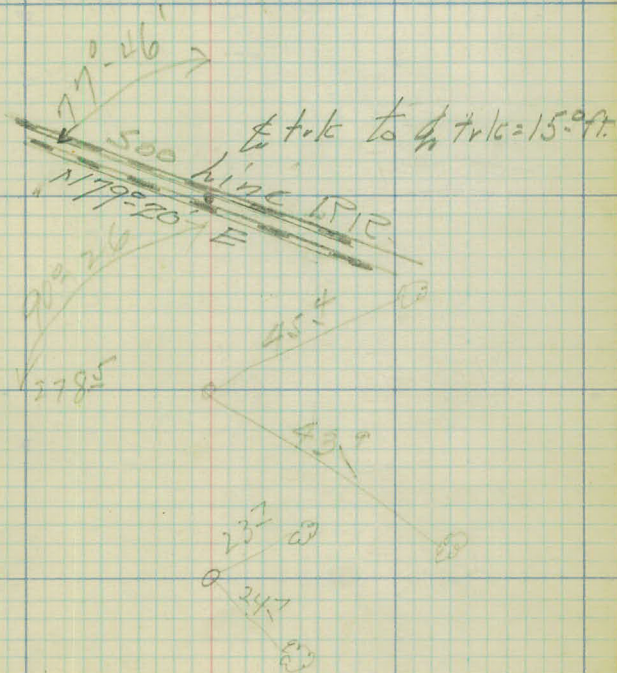
St. P. - H. Survey
H. Line

3/19-E3-FMC.

33
110° 11' 00"

4466
Mont.

790.00'
true angle



Sta PT. 1+ Δ RT Cale. Bear,

367+68⁰ End $\frac{1}{4}$ Cor. Sec 20/21 T30N R23W

361+69² POT RR Xing

N00°-21'E

360+46¹ PI

38°-15'

N37°-54'W

349+21⁷ PI 15°-20'

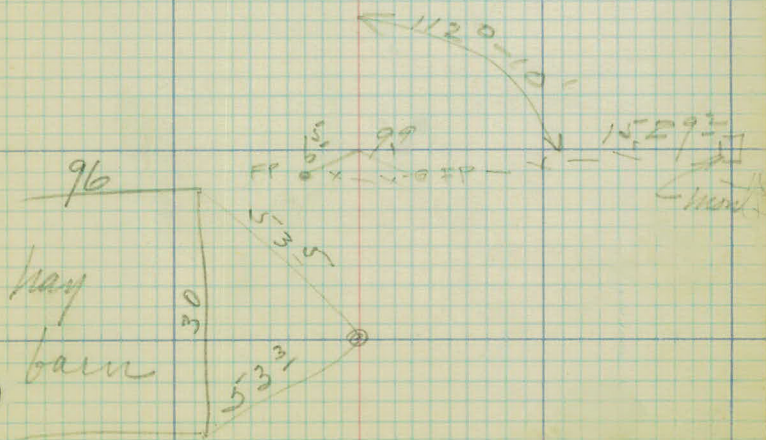
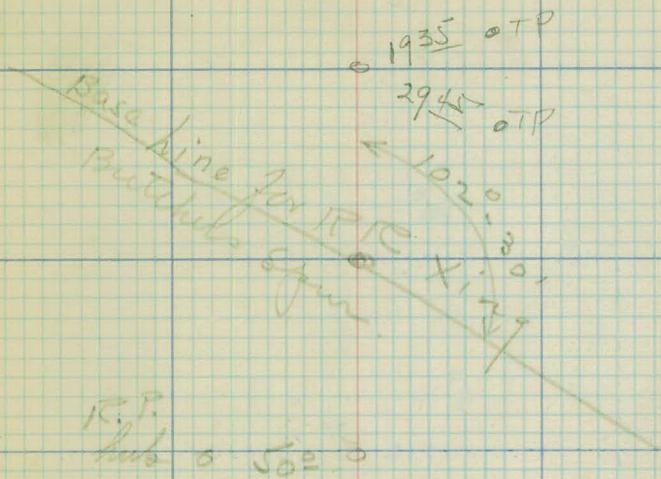
338+21⁹ POT

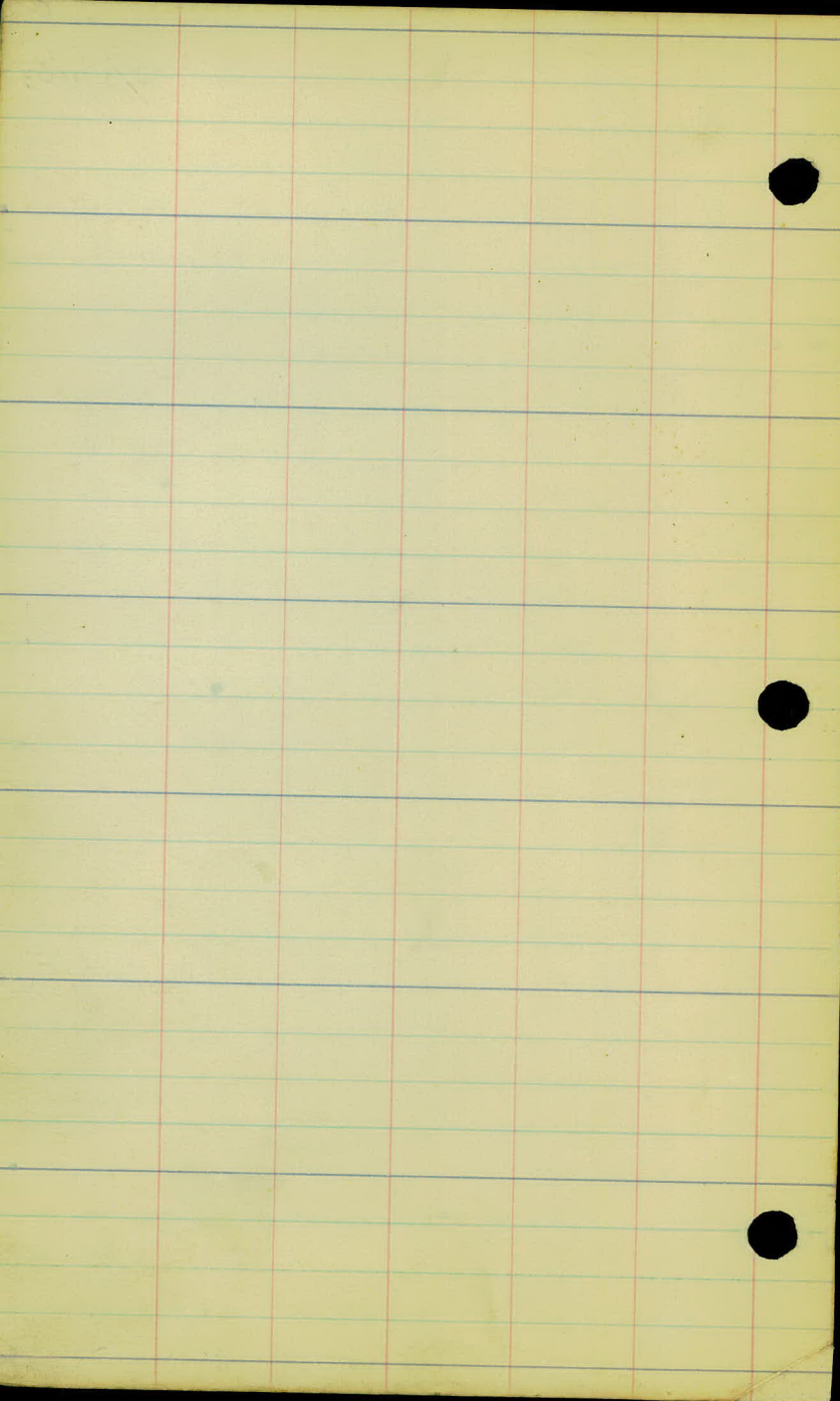
323+27⁵ POT

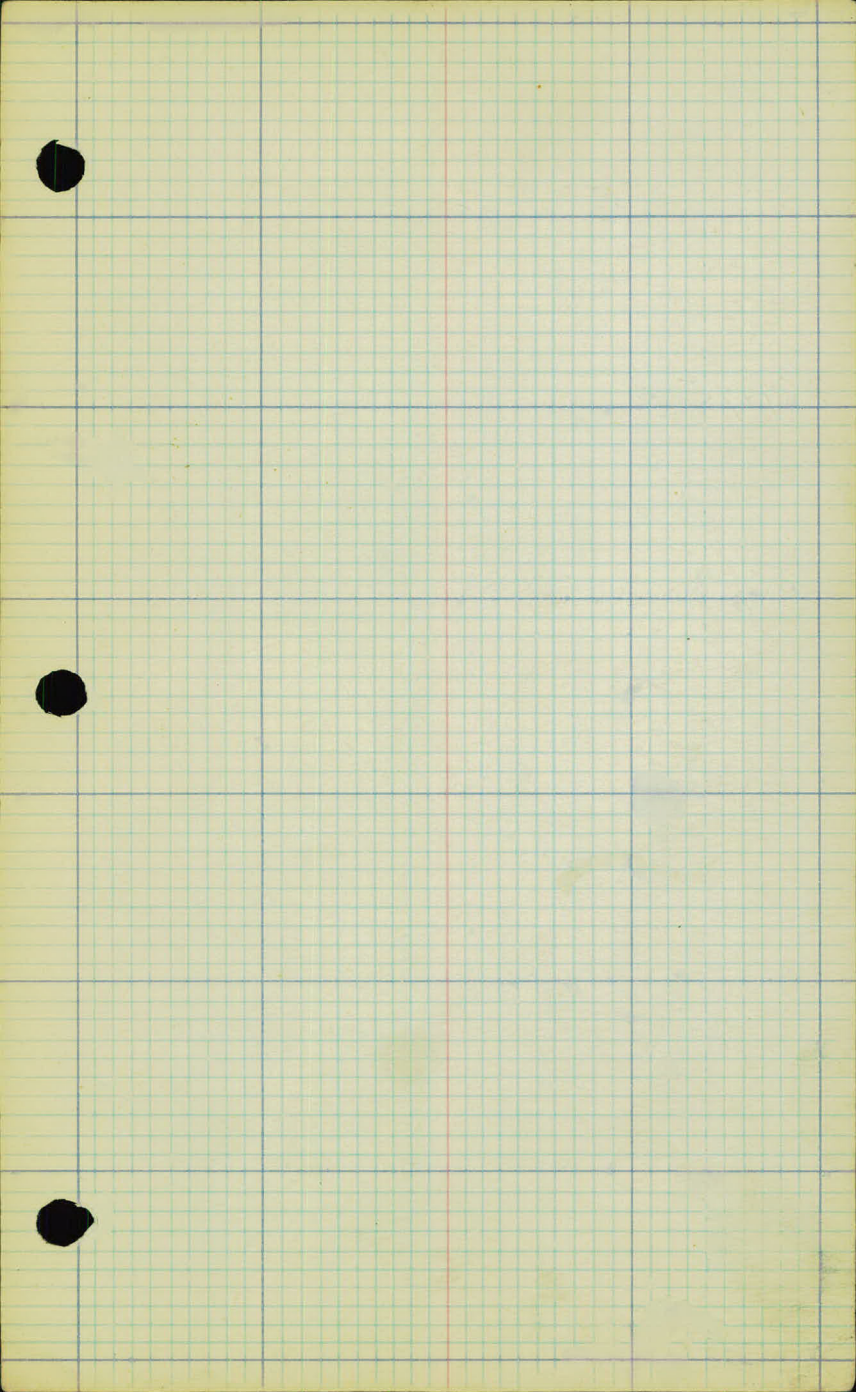
N22°-34'W

St. P & H Survey
H. Linx

FMC-3/20/23







Sta P.T. Δ RT Cate Course

~~260708 = P.T. 0°46'~~ N 8°28' W
Road E

N 7°42' W

~~257775~~ 5°30'

N 13°12' W

~~255736⁹~~ 0°35'

N 12°37' W

~~249754⁷~~ 25-45

N 13°08' E

19°00

B 244750

N 5°52' W

B 241709⁷

A 241709⁷ = 22°30

N 28°22' W

St. P & H Survey
B line

FMC 3/21/23

⊙ 4675 26.00

⊙ 34 15 ⊙

⊙ 76 10"
3219

⊙ 342 9/0
10"0
⊙ 12 9/0
18"0ok

⊙ 12"

Sta PT Lt Δ Rt. Calc Bear.

N50°03'W

309+10

90°37'

N80°40'W

288+00

7°35'

N75°05'W

280+250

64°37'

270+71⁰

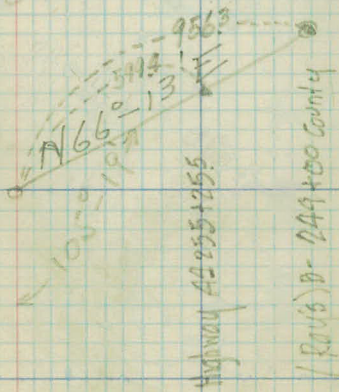
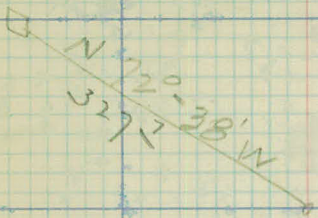
q Trk. 500.

N08°28'W

St. P & A. Survey
B-Line

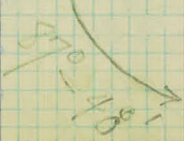
FMC 3/22/27

Monit.



4796/27

3194



ϕ_n to ϕ_n $15^{\circ} E$

Sta PT Lt. Δ Rt. Calc. Bear.

N22°31'W

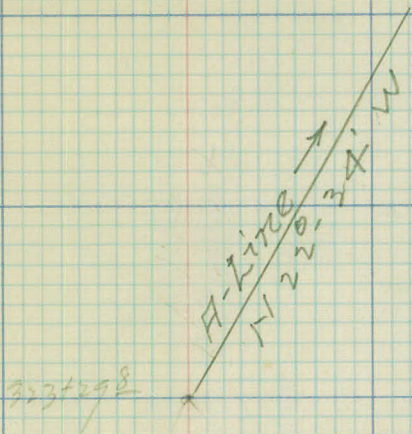
B
323 + 298 =
A 318 + 196

27°32'

N50°03'W

STP & H-Survey
B-Line

F.M.C. 3/22/23



309+10 ○

Sta PT. Lt. Δ Rt. Calc. Bear

N 00°-21' E

A 360 + 46'

C 362 + 38' PI

0°-28'

N 00°-07' W

351 + 85' \searrow PI

46°-14'

N 46°-21' W

A 334 + 00' PI
C 334 + 00'

23°-49'

N 22°-34' W

ST. P. 9A Survey
C link

FMC 3/22/23

Sta. Pt Lt Δ Pt Calc. Bear.

339+62^o

N03°-33' E

321 PI

17°22'

312+79 PI 29°-27'

N13°-49' W

N15°38' E

302+00 PI

22°-00'

N06-22 W

292+00 PI

48°-52'

N55-14' W

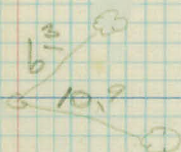
B280+25
D280+25 PI 46°-46'

N08°-28' W

276+70 POT

S.T.P & H Survey
D-hing

FMC ³/23/23



0

Sta. Pt. Lt. Δ Tht. Calc. Bear.

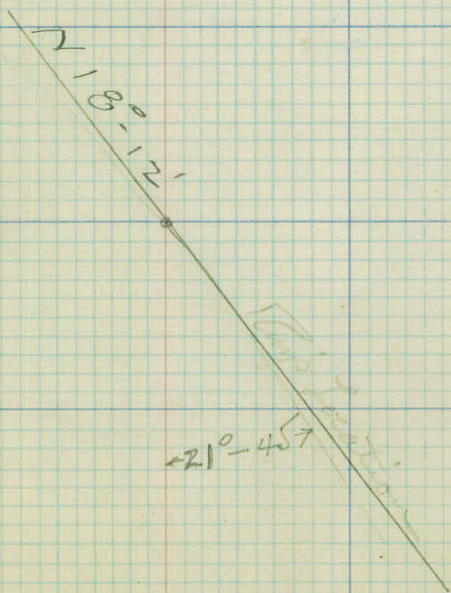
D 349 + 86⁰ = B 312 + 49⁵ Rays location
N 03⁰ - 33' E

D 344 + 29⁰ = High. line L 306 + 61³

D 341 + 91⁰ = Highway line L 308 + 05⁰

STP&H Survey
D-line

FMC 3/24/23



Sta. Pt. Lt. Δ Rt. Calc. Bear

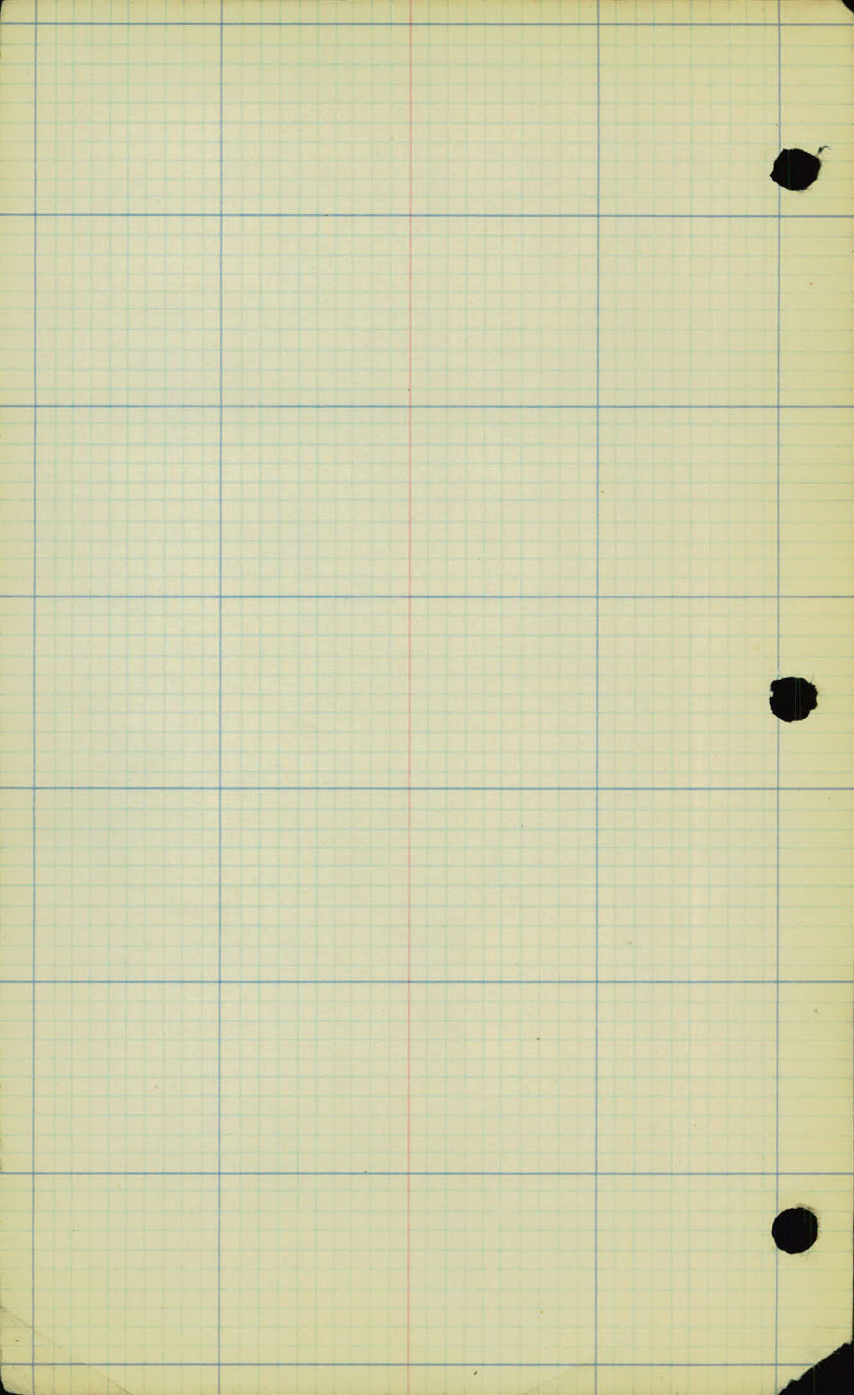
ST. PAUL - ANOKA SURVEY

ARTIFICIAL TOPOG. NOTES

A, B, C & D LINES -

R.R. Benoit - Eng. in Charge

F. Green - Topographer -



St. Paul Survey
A-Line

00

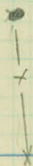
-25

-1+00

St. P 9# Survey
H line

FMC
DOW
EHR 3/29/23

-25 TP 50



-25 X 25

F 41

F 23

6

5

4

3

2

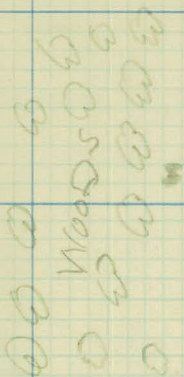
1

00

St. P. & H. Survey
A-Line

FMC 3/29/23

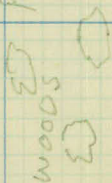
+19 TP 23
+14 TP 23



+19 TP 23
+15 TP 23

Plated Property
Stumps

+37 TP 23

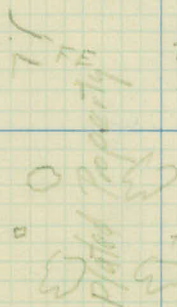


+22 TP 34

FE + 78

+55 Mx 24

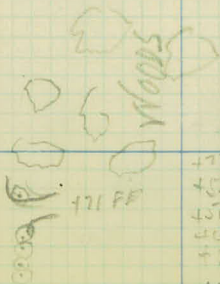
cultivated



+43

+48 Mx 21

+44 TP 25



+21 PE

+77 tree 12
+55 tree 15
+50 tree 12
+40 tree 10
+37 tree 8

+10 cor 3's
ledge 26

gen

12

11

10

9

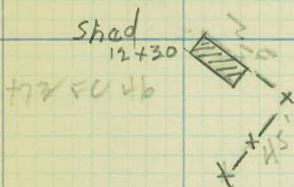
8

7

6

St. P. & A Survey
A-Line

FMC 3/29/23



+68 TP10
+36 TP34
+22 TP24

NEBRASKA
QUINCY St.
AVE

+47 TP15

18

17

16

15

14

13

12

St P^h Survey
A-Line

R
Banister
FMC 1/29/23

18

17

16

15+30 & Hoyt St. Intersect.
15+01 - Man - 315'R

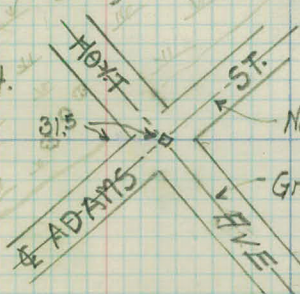
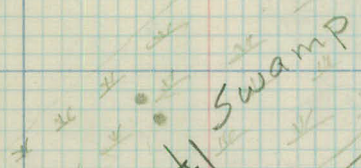
14+00 Cor. Ho - 24'R

13+69 Cor. Ho - 54'R

13+28 - Cor of Garage - 35'R

12

Cultivated

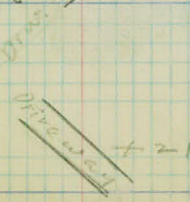
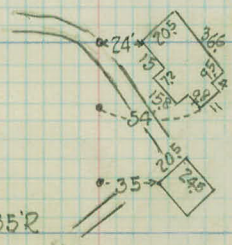


Not Graded.

Graded

House with full
Conc. + Stone Basin.

Double Garage



22

21

20

19

18

St. P & A. Survey
A-Line

FMC 3/29/23

PLATED PROP.
Cultivated

Cultivated

PLATED PROP.

28

27

26

25

24

23

22

St. P. & H. Survey
A-Line

FMC 2/29/23

Cultivated

Cultivated

34

33

32

31

30

29

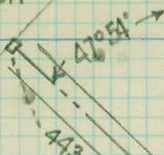
28

St. P. & H. Survey
 F-Line

R
 Banister
 P.M.C. 1/29/23

LEXINGTON

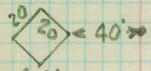
34 - 10 TP 29
 72 TP 25



33+21 - Co. Rd. A.
 103 M 16



32+55 - Cor. Ho. 40'



House with full
 Conc. Basmt.

Co. Rd. A.

32

31

PLANTED PROP.

Cultivated

Cultivated

PLANTED PROP.

30

29

28

38

37

36

35

34

St. P. & H. Survey
F-Line

FMC 3/29/23

Cultivated

Cultivated

44

$$A43+50 = A,43+50$$

43

42

41

40

39

38

St. P. & A. Survey
A & A₁ - Lines

FMC 3/9/23

Cultivated

Cultivated

Cultivated

LEXINGTON FIVE
x 82

Cultivated

462 m 57
464 FP 54
+ John N.

463 FP 7

50

49

48

47

46

45

44

St. P. & A. Survey
Hi-Line

FMC 2/29/23

Cultivated

Cultivated

56

55

54

53

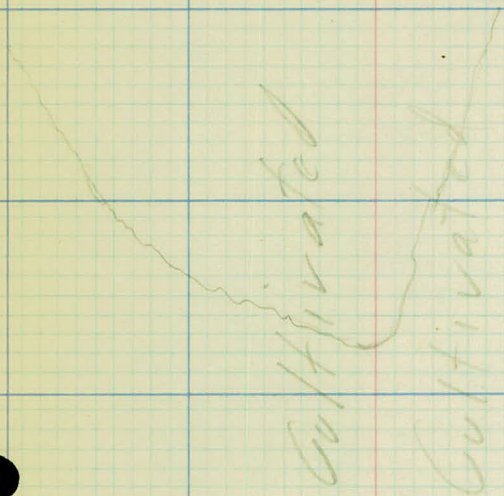
52

51

50

St. P & A Survey
A₁-line

FMC 3/29/23



62

61

60

59

58

57

56

St. P. & A Survey
F₁-Line

FMC 3/29/23

Cultivated

Cultivated

+47 Group 1

Cultivated

Cultivated

68

67

66

65

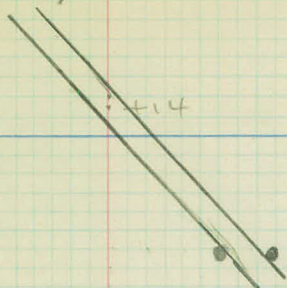
64

63

62

St. P. & A. Survey
Airline

FMC 3/29/33



+40 TP 60
+38 TP 88

Cultivated

Cultivated

74

73

72

71

70

69

68

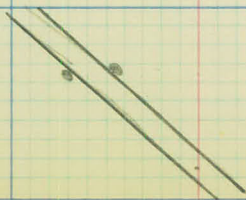
St. P. & A. Survey
A. - Line

FMC 3/29/23

Cultivated

Cultivated

+68-47
+65-71



80

+ () PI

79

78

77

76

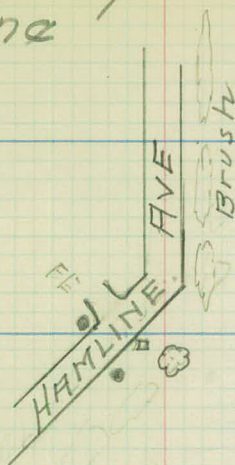
75

74

St. P. & F. Survey
A₁-Line

FMC 3/29/23

+05334w
+95 m6e11
+49TRW



+85 tree 3

Cultivated

Cultivated

86

85

84

83

82

81

80

St. P. & F. Surrey
F₁-Line

FMC 3/29/23

+21

Cultivated

>

FE

Cultivated

+51 TP 13

FE

+27 tree
+15 TP 13
+13 MBL 12
+09 tree 27

+62 TP 20

+05 FE

└

HAMLINIE AVE.

Brush.

Cultivated

+90 - mbl 12
+85 - TP 13

TP 20

Cultivated

•

HAMLINIE

+50 TP 13

+41 TP 20

•

•

+06 TP 13

92

91

90

89

88

87

86

St. P. & F. Survey
F₁-Line

FMC 2/29/23

+77 TP 22

Cultivated

HAMLIN AVE

Cultivated

TP 12

+19 TP 20

+63 TP 13

+57 TP 20

+27 TP 13
+27 2nd 12

+89 FE

FE

J.L

Cultivated

+90 TP 20

Cultivated

+90 TP 13

98

97

96

95

94

93

92

STP. 9A Survey

A₁-Line

FMC } 3/28/23
DOW }
EHR. } 3/29/23

30



ROSE TOWN HALL

+35 sign 24
+24 TP 25

COUNTY ROAD B

+80 TP 39-41

+80 TP 22-42



+49 TP 12

WOODS

Cultivated

HAMLIN AVE.

+91 TP 21

+12 TP 11

+84

FE

+95 FC 32

+69 TP 12

+33 TP 22

+73 FE

FE

+56 mb 41

+35 TP 12

104

103

102

101

100

99

98

St. Peter-Survey
A-Line

FMC 3/28/23

+34 foot
104

tree 27
tree 27
tree 27



103

+94 TP 15

102 + 24 TP 13

101

+51 TP 21

Cultivated

Cultivated

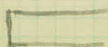
100

+19 TP 15

99 + 14 TP 21

+91 TP 13

98



+34 stud 23
+17 stud 33

106

105

104

$$17. 753^2 = A103 + 80$$

107

106

105

104

STRA Survey
A, B Lines

FMC 3/28/23

cultivated

Cultivated

+30TP17

+04TP17

+28TP17

+20TP17
+22TP17

00

10

+06TP17

112

111

110

109

108

107

106

St. P & H Survey
H-Line

FMC 3/28/23

WOODS
478 TP 15
448 WOODS

442 TP 16

407 TP 16

450 TP 16

454 TP 17

486 FC 33

FE

Pasture

Barré & Zimmerman

Cultivated

448 FC 34

x - x

11

116

115

114

113

112

St. P & H Survey
H-line

FMC 3/28/23

522 woods.

527 P 12

524 P 12

522 P 12

F 37

F 37

Pasture

Woods

122

121

120

119

118

117

116

St. P. & H. Survey
A-Line

FMC 3/28/23

Cultivated

Boundary

TP 13

+63 TC 35

x--x--

+63 P 13

Pasture

Cultivated

+34 TP 13

+98 TP 13

+52 woods.

128

127

126

125

124

123

122

S.P. & H. Survey
#-line

FMC 3/28/23

x-x-x
x Orchard 49 TP 42 m x 314
x-x-x 433 FC 38

164 FE

FE U

cultivated

Cultivated

417 TP 14

492 TP 14

463 TP 13

FE JL Bush

430-13

134

133

132

131

130

129

128

St. P. 97 - Survey
A-Line

FMC 7/28/23

+92 TP 17-21

••

+06 TP 16

end -

•

to of Power line 28 W

+15 TP 13

+49 TP 17-21

••

Cultivated

Cultivated

+04 TP 22

•

•

+39 TP 13

•

+16 TP 13

+56 TP 17-21

••

X - X

FC 25

+58 TP 13

•

FE

+09 FE

+07 TP 21

•

•

+07 TP 31

140

139

138

137

136

135

134

St. P. 9A Survey
H-Line

FMC 3/28/23

+88190 TP 15
+75 FE FV

1
2
3
4
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42
43
44
45
46
47
48
49
50

+237 TP 15

F 28 and
+36 TP 17-22

cultivated

Cultivated

+877 TP 15

+877 TP 17-22

+91 TP 14

+48 TP 11-22

+45 TP 14

+78 and F

+06 TP 13

146

145

144

143

142

141

140

S.P. & H Survey
H-Line

FMC 3/28/23

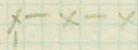
+45 TP 12

+25 signed
FILE

County Edc

+03 TP 20

+47 TP Survey
+40 FC



+59 TP 18

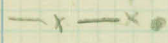
+32 FC 35

500 RR

+96
+81

+63 RR 19

+55 FC
+53 TP 17
+39 TP 15



F 24-34
+31 TP 17

FE

PASTURE

conc road

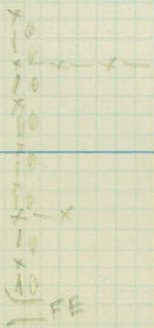
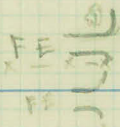
+20 Conc. Strip

+22 M. GC 19

+85 TP 15

+95 TP 17

+19 FE
+8 bend F 21
+90 FE



+49

+79 TP 17
+67 F 24

F 22
+37 TP 16

FE

+11 FE
+94 TP 17

+90 TP 15

Orchard

F 21 TP 16
+45 Orchard

For Orchard

152

151

150

149

148

147

146

St. P. & H. Survey
H-Line

FMC. 3/28/23

+36 TP
+64 TP 17

0000
3000 hand
0000
1

+31 TP 17

+90 TP 22

CULTIVATED

CULTIVATED

+57 TP 22

+96 TP 17

+32 TP 22

+64 TP 17

+03.22 TP

+45

+x-+-H

158

157

156

155

154

153

152

St. P. & F. Survey
F-Line

FMC 3/28/23

CULTIVATED

+87 TP 18

+98 TP 19
+80 F 2/14

+62 TP 19

+53 TP 18

L. Capaul's
Dairy Farm

+01 M. 64 15

+94 FC 18

FE
FE

Cultivated

+34 TP 18

+24 TP 19

cultivated

+68 TP 19

+95 TP 17

+44 Cont'd red C

guy pole

"C" ROAD →

+72 TP 24
F 19

+22 TP 19 guy pole

guy pole

+22 TP 23
+17 27
+P 201

TP 19
F 19

Bridge

FE

FE

+03 TP 22

164

163

162

161

160

159

158

170

169

168

167

166

165

164

St. Paul Survey
#-Line

FMK 3/28/23

+97 5x10" 22

+69 TP 13

+49 TP 15

+05 TP 18
F28

Pasture

Cultivated

+56 TP 16

+61 FC 28

+47 TP 13

- x - x -

+11 TP 16

Cultivated

+11 TP 16

+82 TP 18

+71 TP 16

176

175

174

173

172

171.

170

S.P. & F. Survey
A-Line

FMC 3/28/23

+53 TP 18

+90 TP 18

+24 FC 34

+28 TP 19
+14 tree 21
+02 tree 21

+87 tree 21
+11 tree 21

+45 FC 34

+44 tree 12' 22

+20 tree 12' 22

+12 tree 12' 22

Cultivated
Row 2" trees 35' apart out 3' ft. to Sta 188

FE

Cultivated
Row 2" trees 35' apart out 3' ft. to Sta 188

Cultivated

Cultivated

+47 TP 16

+53

+98 TP 16

+52 TP 16

+24 FC 16
+17 FE

+89 TP 16
+71 tree 14

182

181

180

179

178

177

176

St. P & H Survey
A-Line

FMC 3/28/23

+76 TP 19

+10 TP 19

+83 TP 19

+20 TP 18

+30 TP 15

+90 TP 15

+48 TP 15

+91 TP 16

Cultivated

7 FE
Cultivated

188

187

186

185

184

183

182

St. P. & A. Survey
A-Line

FMC 3/28/23

ARDEIN FARMS
DAIRY YARDS.

+89 FE

FE

LAKE RD. +98 RD.

+61 TP 12
+45 MBL 80
+42 MBL 80
+40 TP 12

FE

Cultivated

+89 TP 13
+62 FE

+75 TP 13
+57 TP 13

← West

+11-2 TP 15

Swamp

+50 FC 3/4

+70 TP 15

+45 TP 12

194

193

+79° PI

192

191

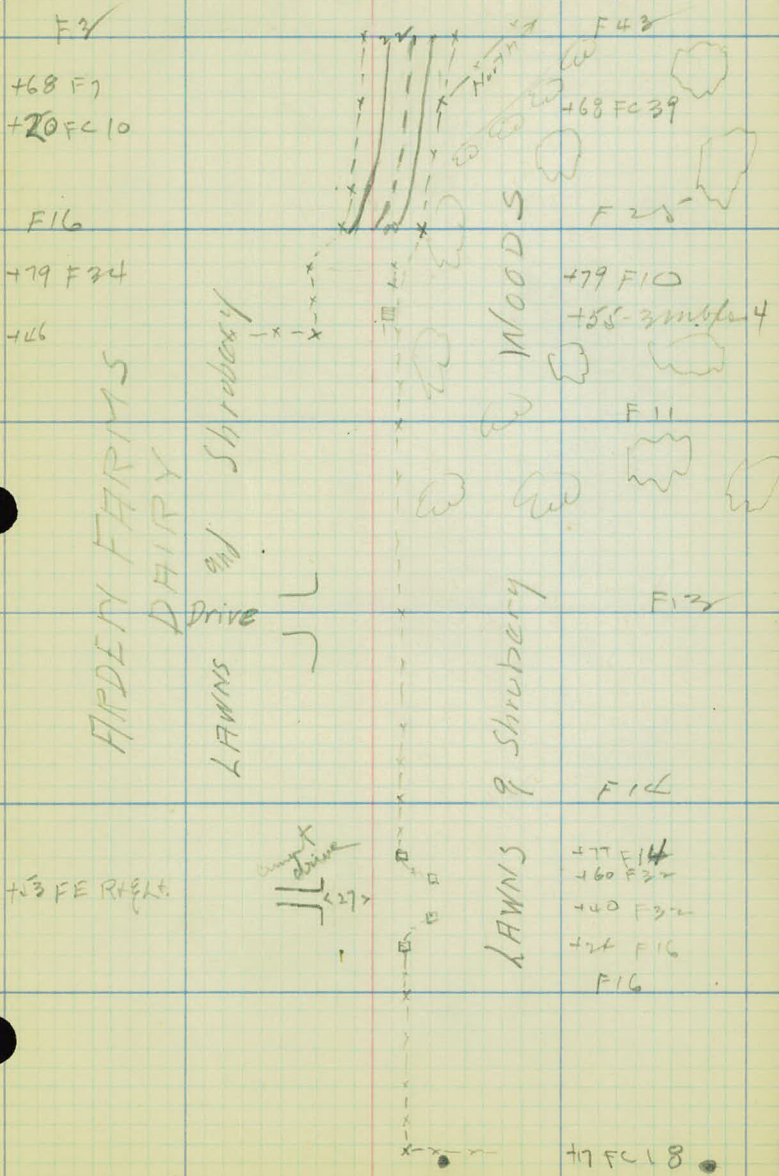
190

189

188

St. P. & A Survey
H-Line

FMC 3/25/23



200

199

198

197

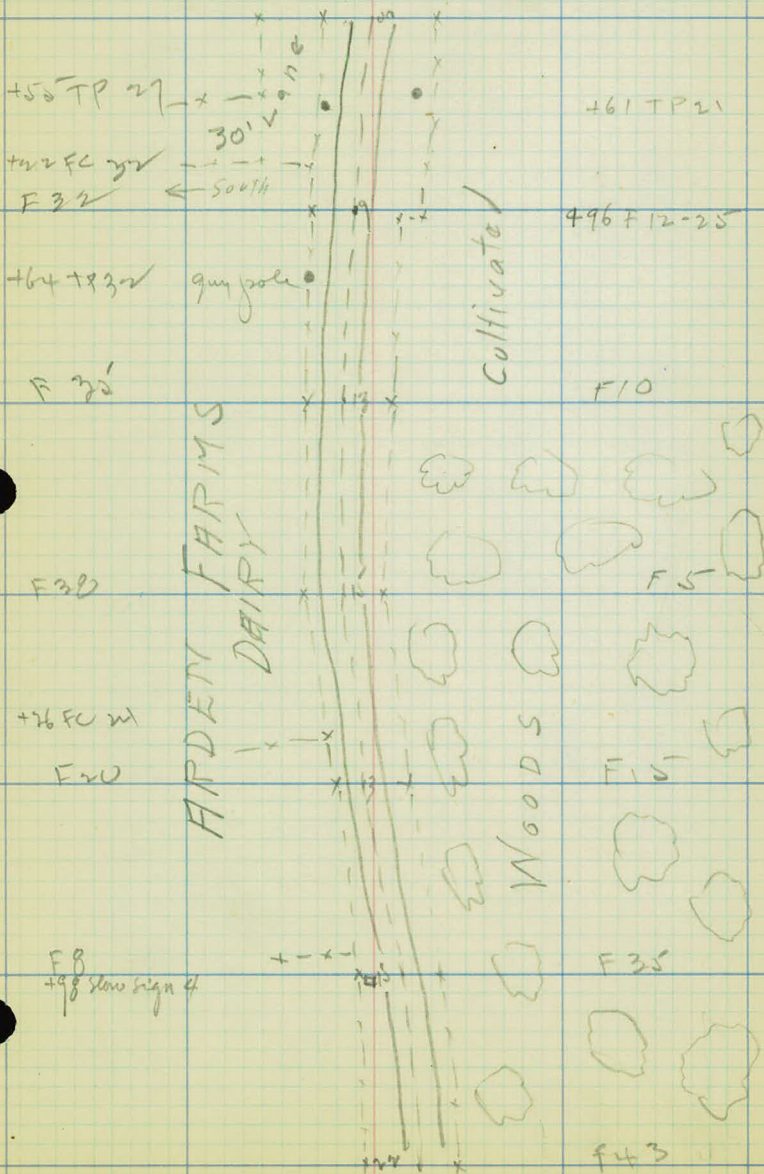
196

195

194

St P9 H Survey
A-Line

FMC 3/28/23



206

205

204

203

202

201

200

St. P & F Survey
A-line

FMC }
DOW } 3/27/23
EHR }

F18

F10 R37

+25 F16

+75 TP 43

+21 TP 5

+25 mile 29

+21-F38

F40 R9

PASTURE

Zone

OX FE

+64 TP 28

F32

F 24 R 20

+82 FE

+56 TP 18

FE

+32 TP 20

+17

OX end

+17 F 29 R 3

PASTURE

+27 F 13

F27 F 53

F18

+07 TP 56 R 4

+95 TP 5

F26

F34 R4

+56 TP 16

+87 TP 24

+12 TP 27

+53 FE 33

F 27

F 31

Road

FE

FE

212

211

210

209

208

2526-121

207

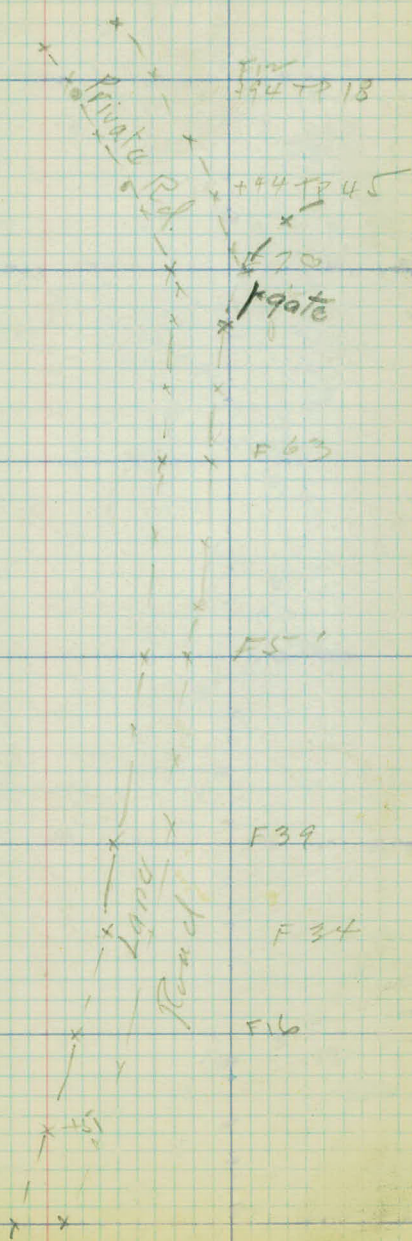
206

St. P. & A. Survey
A-Line

FMC 3/27/23

Pasture

Pasture



Sta. Pt. Lth Δ Rth Calc. Bear.

218

217

216

215

214

213

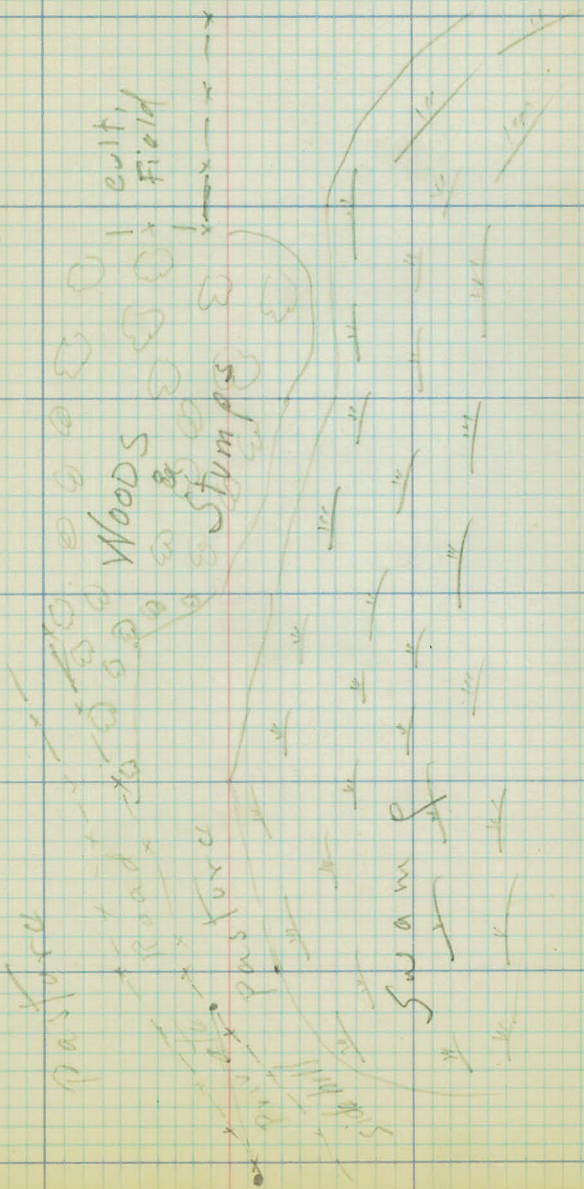
212

St. P 9A Survey
A-line

FMC 3/27/23

+89 FC 10

F01
+82 P



224

223

222

221

220

219

218

St. P⁹ H Surrey
F7-Line

FMG 3/27/23

F8

Cultivated Field

Pasture

F10



230

229

228

227

226

225

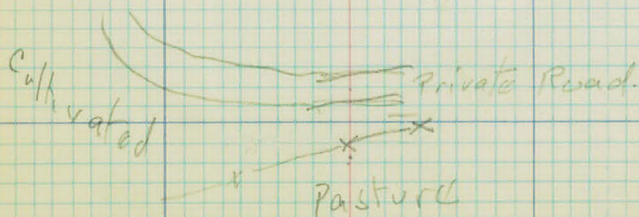
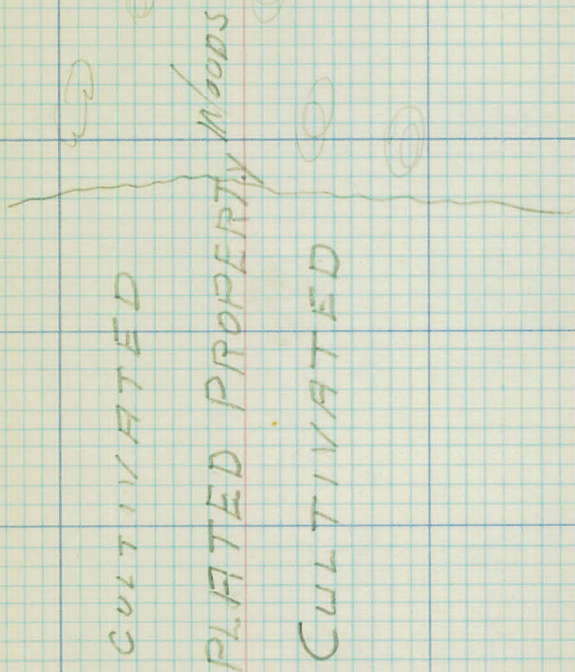
182

PI

224

STP & A Survey
A-Line

FMC 3/27/23



236

235

234

233

232

231

230

St. P & A Survey
A-Line

FMC 3/27/23

L75

L71

L71

LAKE JOHANNH

PROPERTY

PLA

WOODS

+70 Spring 12

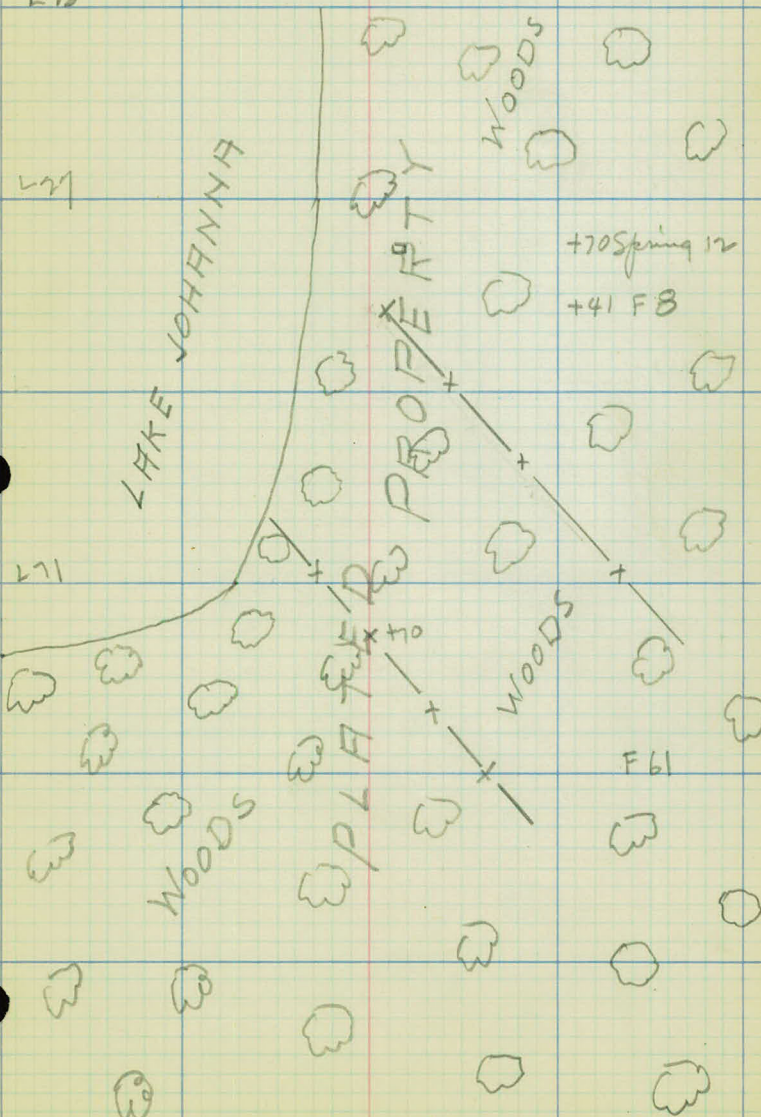
+41 FB

WOODS

F61

WOODS

to



242

241

240

239

238

237

236

St. P & A Survey
A-Line

FINC 3/27/23

L60

L60

L50

L56

L35

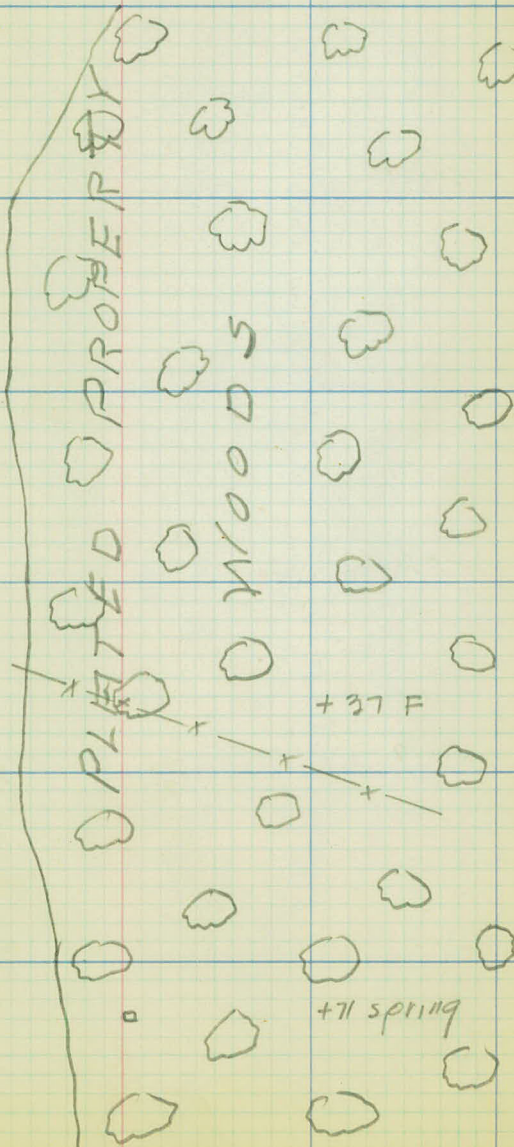
LAKE JOHANNHA

PLANTED PROPERLY

WOODS

+37 F

+71 spring



248

247

246

245

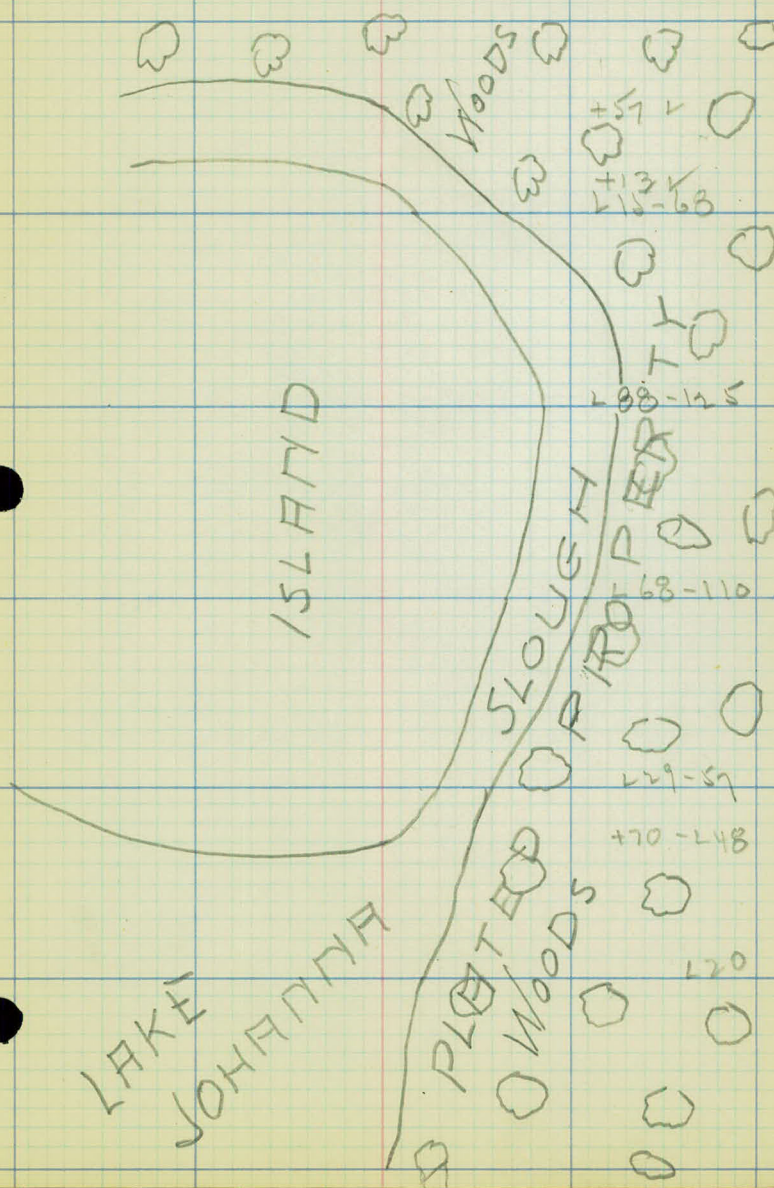
244

243

242

St. P. & F. Survey
A-Line

FMC 3/27/23



254

253

252

+46 PI at 4 to tang ahead

251

250

249

248

St. P. & A. Survey
A-line

FMC 3/27/23

L45

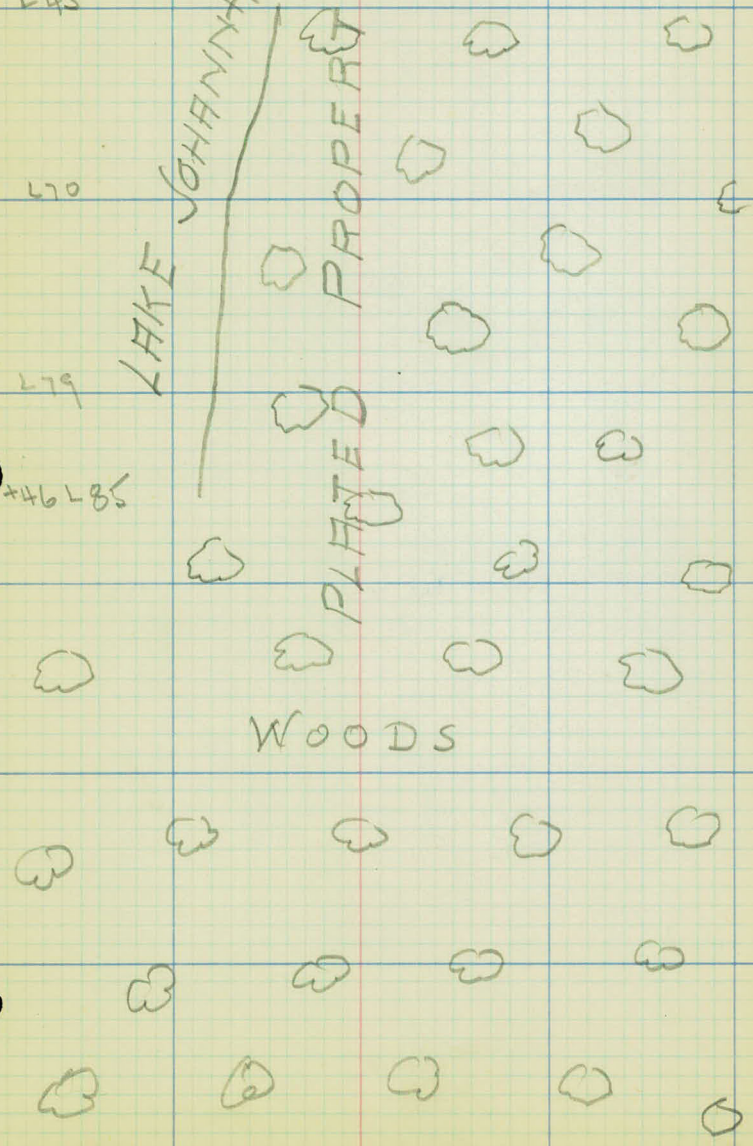
L70

L79

+46 L85

LAKE JOHANNY
PLANTED PROPERTY

WOODS



260

259

258

257

256 PI

255[^]

254

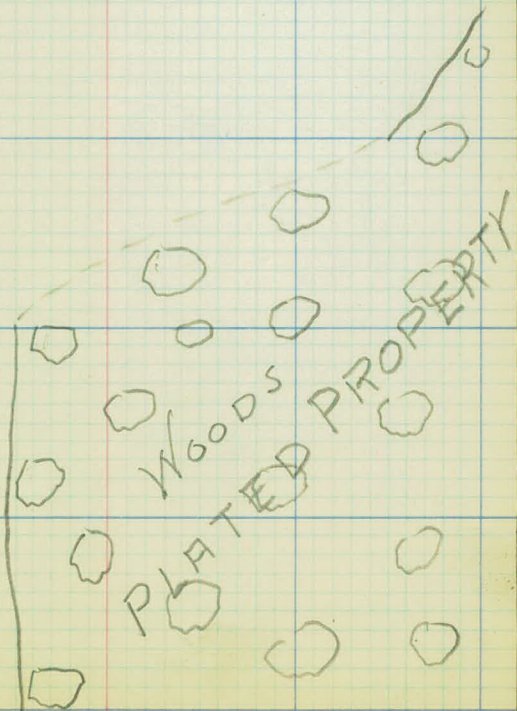
STP & A Survey
A-Line

FMC 3/27/23

LAKE JOHANNITZ
ISLAND

LSO

LSB



266

265

264

263

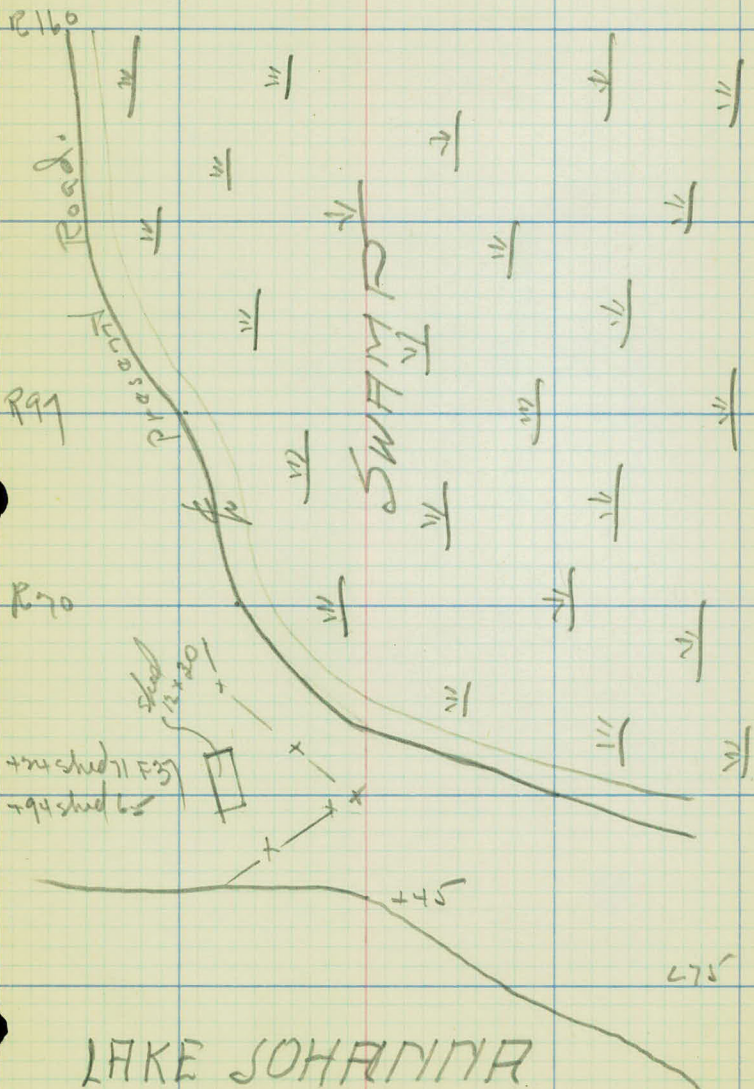
262

261

260

St. P. & A. Survey
A-Line

FMC 3/27/23



272

271

270

269

268

267

266

St. P. & A. Survey
A-Line

FMC 3/27/23

WOODS

+65 Woods

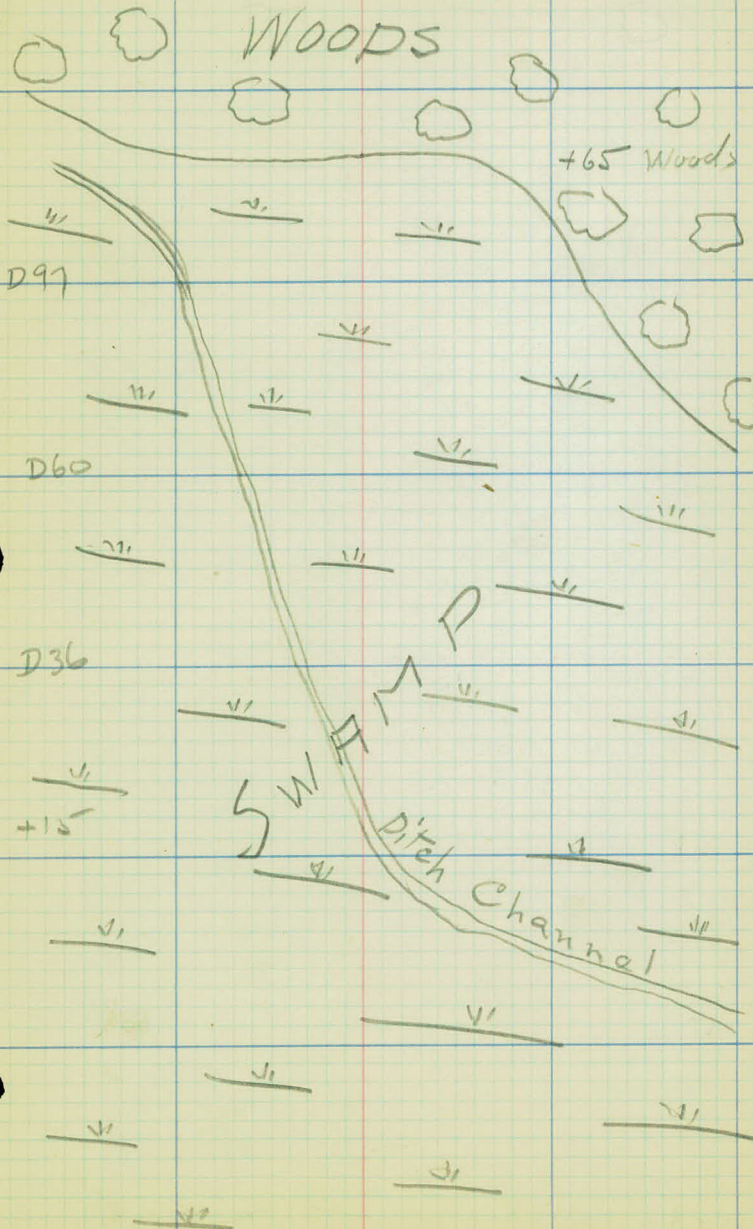
D97

D60

D36

+15

Ditch Channel



278

277

276

275

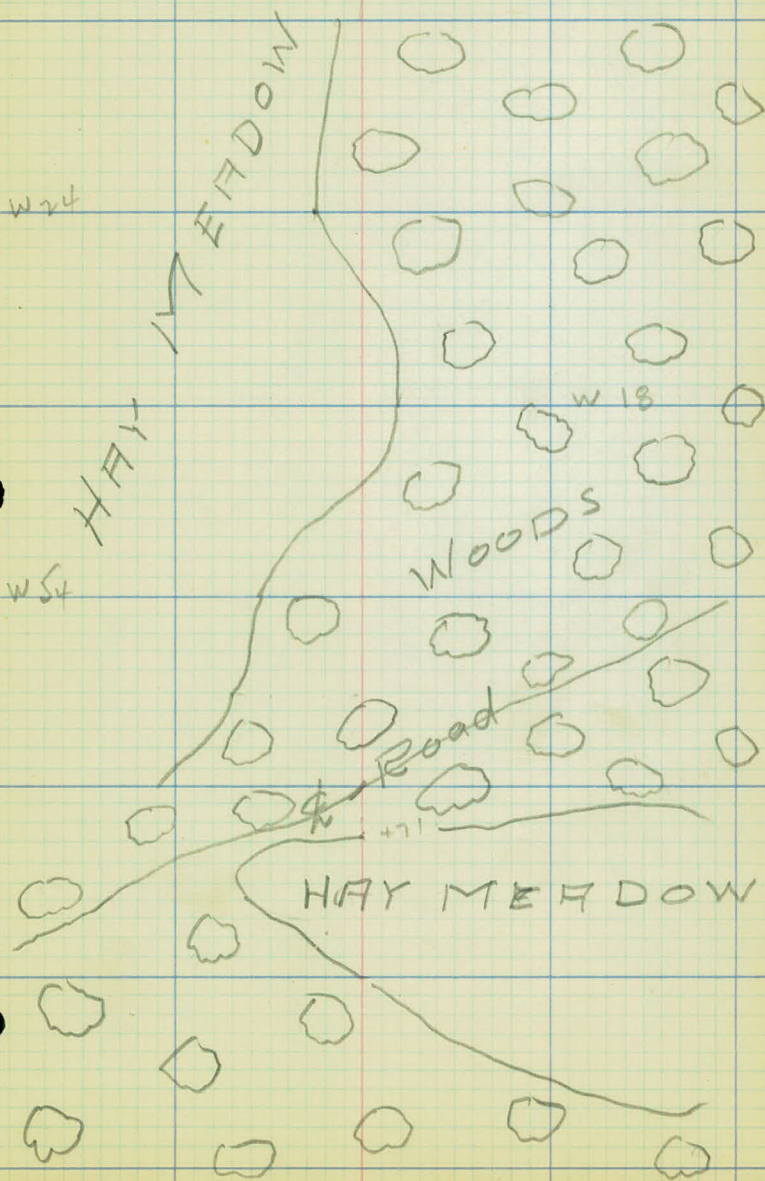
274

273

272

St. P. & F. Survey
H-Line

FMC 3/27/23



283

282

281

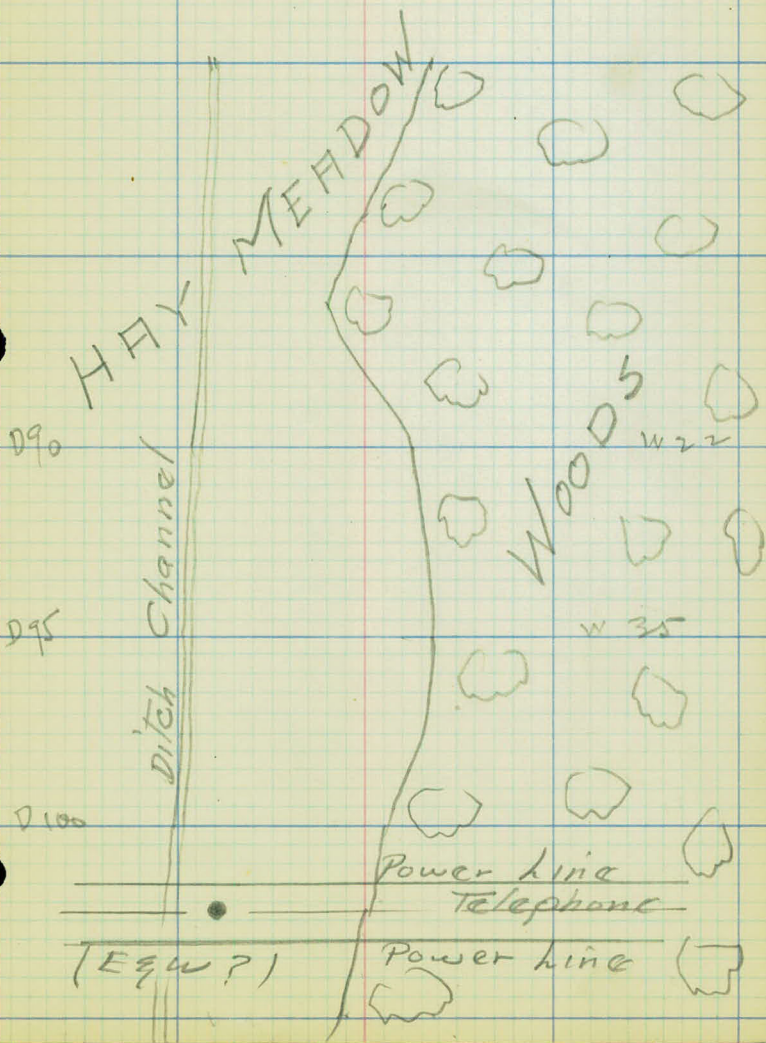
280

279.

278

St. P. & A. Survey
H-Line

FMC 3/27/23



289

288

287

286

285

284

283

S.F.P. & F. SURVEY
H-Line

FMC } 3/26/23
DOW }
E.H.R. }

289

288

287

+56

286

285

284

283

Hay
Meadow

cultivated
foot of hills

Swamp

Swamp

Hay
Meadow

WOODS

147 F 4 B
500 LINE TRESTLE
Bents 14'0" c.c.

End of Trestle

Top of Rd. bed.
+14 TF

Toe of Slope

+47 F 10

w 83

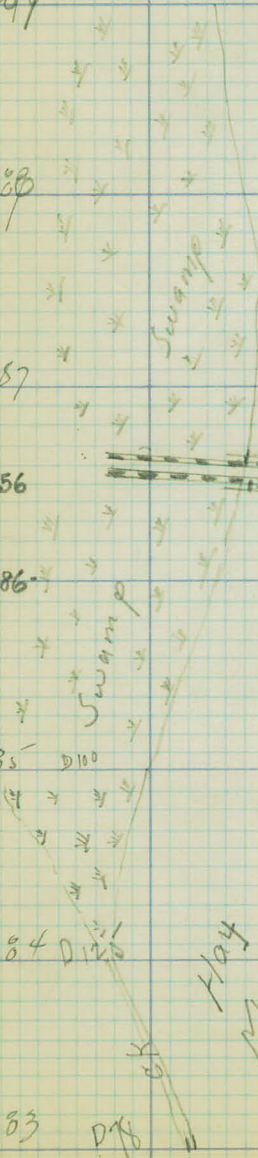
w 55

w 36

D 110

D 120

D 78



295

294

293

292

291

290

289

S.P. & H. Survey
H-Line

FMC 3/26/23



301

300

299

298

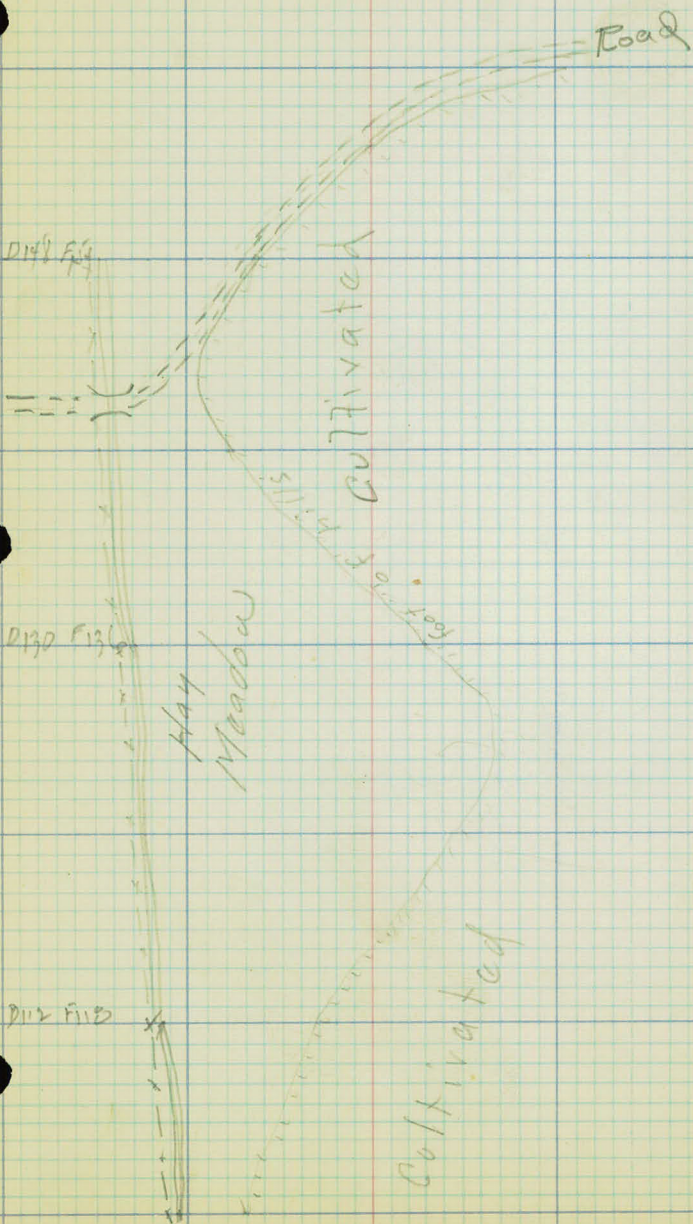
297

296

295

S.P. & A Survey
H-line

FMC 3/26/23



307

306

305

304

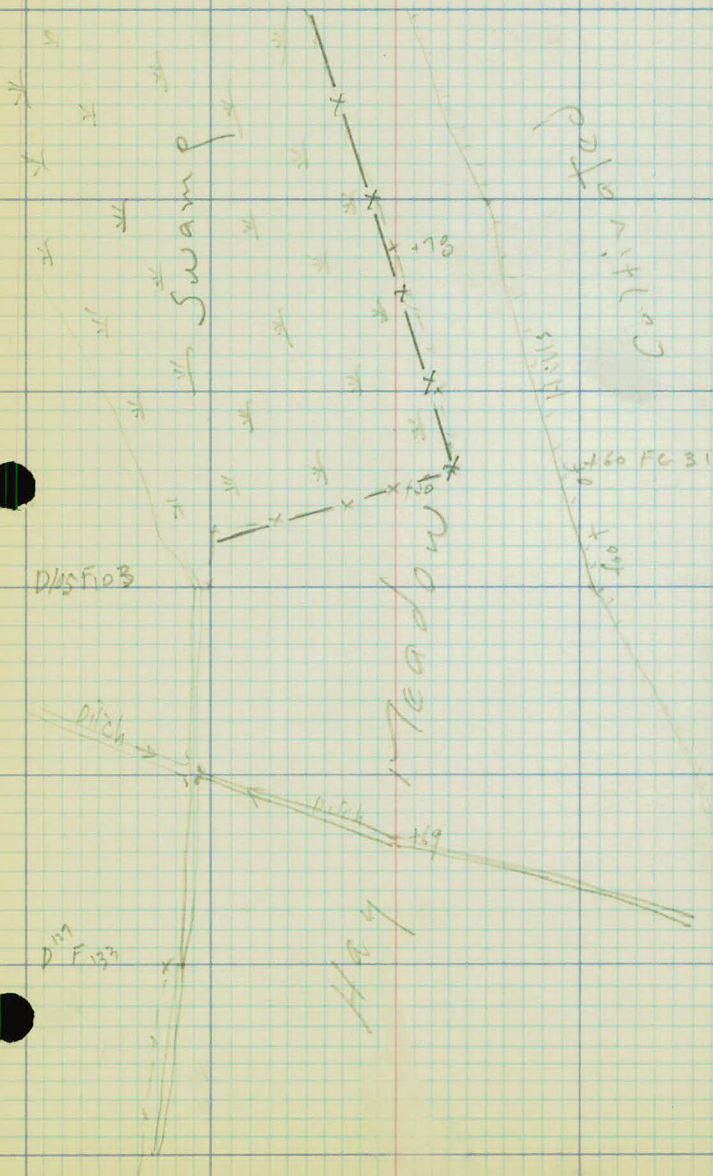
303

302

301

STPA Survey
H-Line

FMC 3/26/23



313

312

311

310

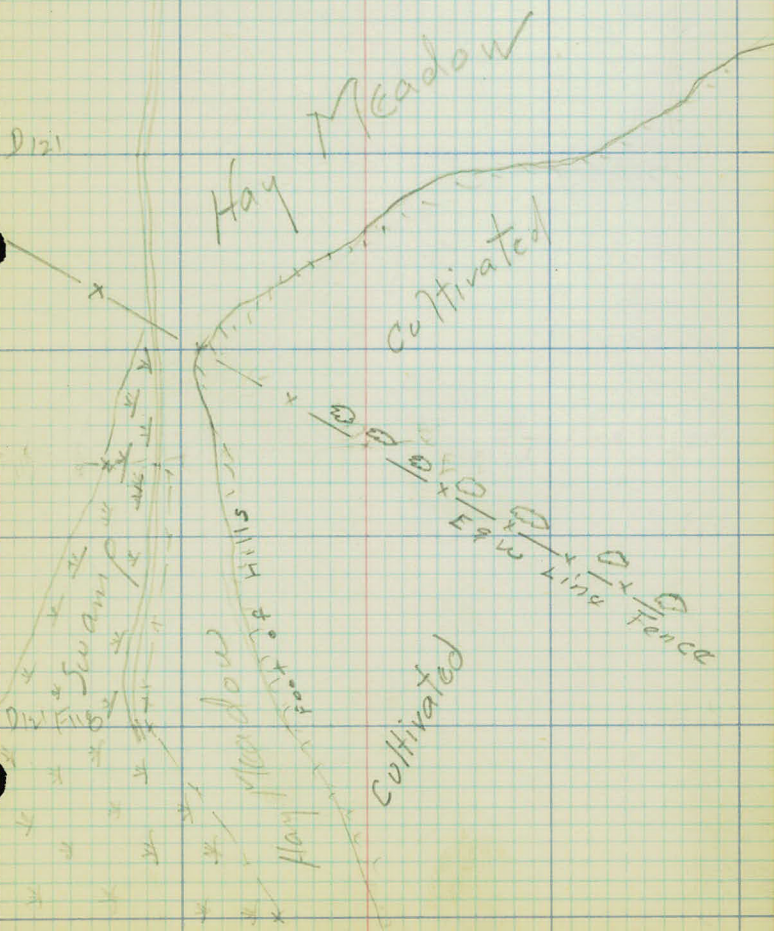
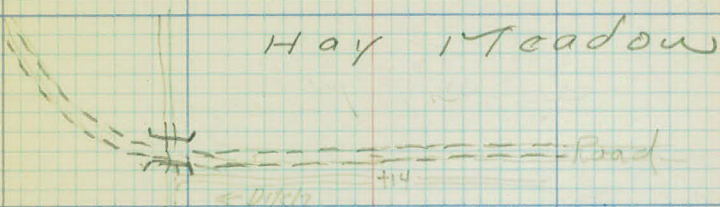
309

308

307

S.F.P. & A Survey
A-Line

FIMC 3/26/30



319

318

317

316

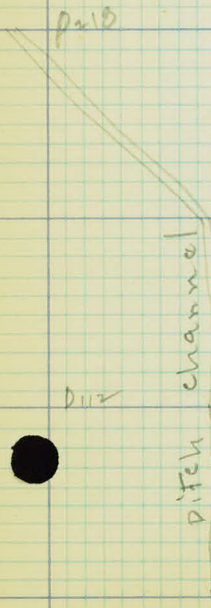
315

314

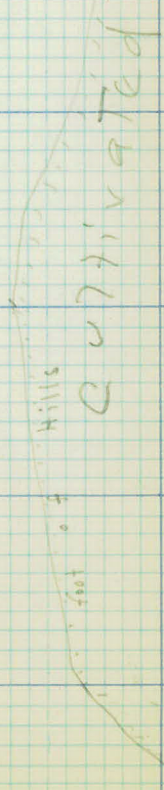
313

STP & H Survey -
Hills

FMC 3/26/23



Hay Meadow



325

324

323

322

321

320

319

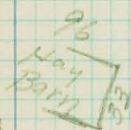
St P&T Survey
H-line

FMC 3/26/23

Hay Meadow

Hay barn 47

Hay barn 50



Cultivated

Hay Meadow

331

330

329

328

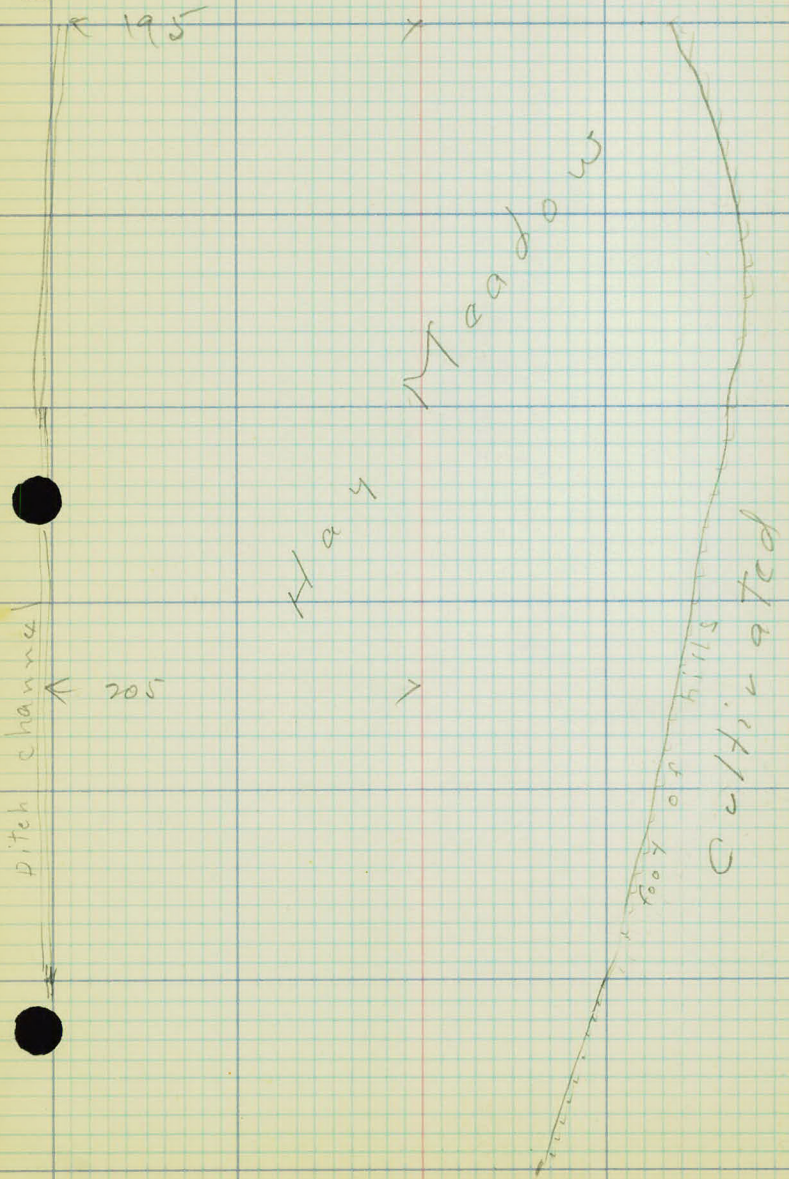
327

326

325

St P & H Survey
H-line

FMC 3/26/23



337

336

335

334

333

332

331

STP #7 Survey
H-Line

FMC 3/26/24

Worked
Horn
G-Line

136

170 > 136
Hay Meadow

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Ditch Channel

185

70

SHIT
30
100

343

342

341

340

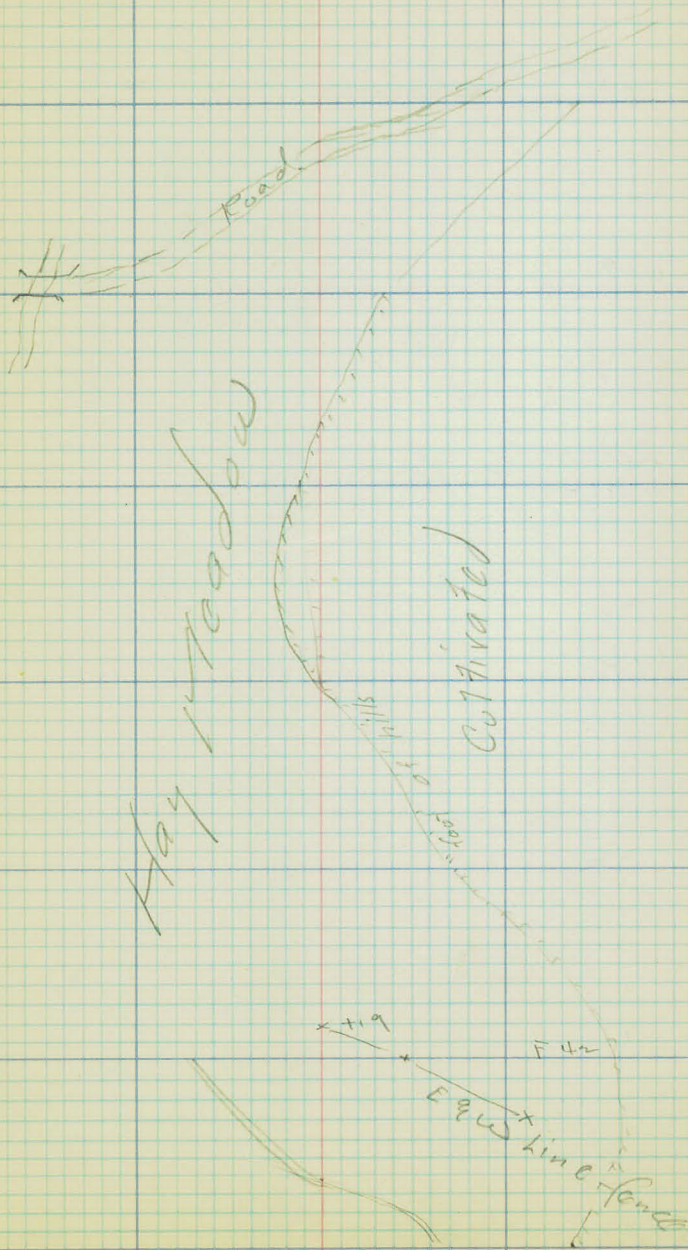
339

338

337

St P & H Survey
H-line

FMC 7/26/23



349

348

347

346

345

344

343

SP&H Survey
H-line

FMC 3/26/23

Cultivated

Foot of hills

16" Oak

16" oak

5000

Hay Meadow
D.C. (No. 1)

P.C.

Ditch Channel Meadow

Hay
Ditch Channel

Hay Meadow

Road

Cultivated

353

352

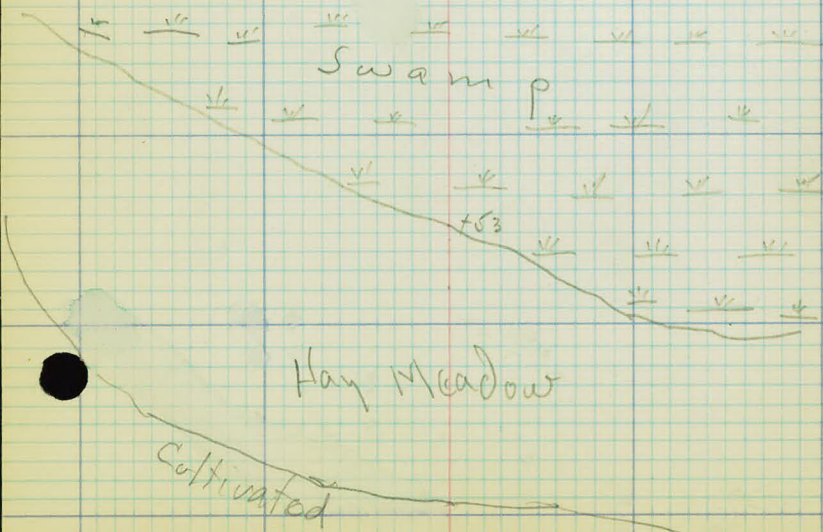
351

350

349

St. P & A Survey
A-line

FMIC 3/26/23



359

358

357

356

355

354

353

L.
St PPA Survey
A-line

Q

R.
PRB } 3/20/20
DW }

359

CULTIVATED

358

PASTURE

357

356

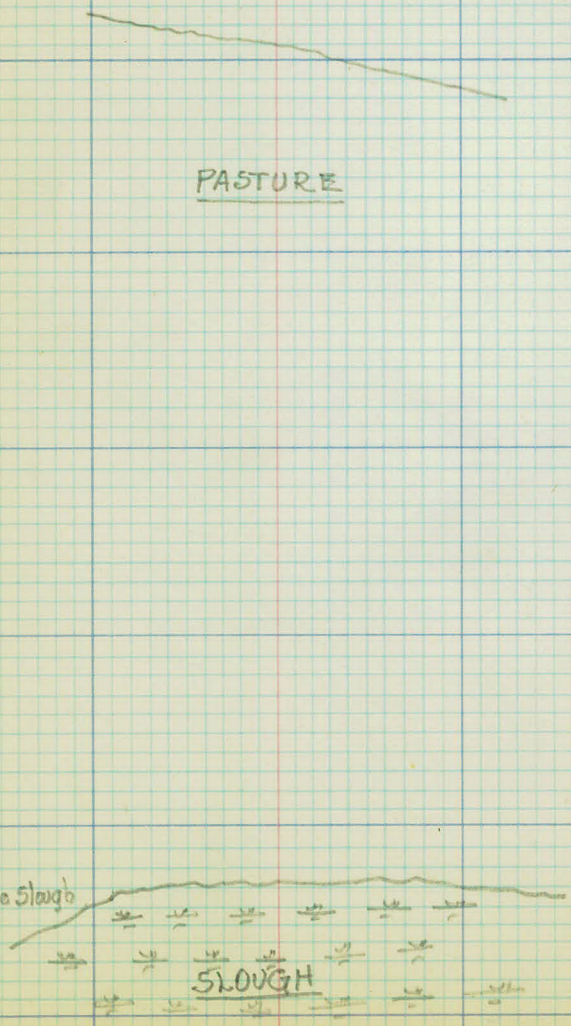
355

354

+10 Edge Slough

SLOUGH

353



365

364

363

362

361

360

359

St. P & H Survey
 A-Line
 +52 End Fce-185'L.

R PRB
 { 3/20/23
 DN

365
 +90' & Road.

20' Crown.

+56 End Fce-34'R
 +50' & Road 4'R

12' Travelled Road (Private)

364 +13 Elec. Pole 10'L.

+93 { & Road 46'R
 End Fce-33'R

OLD GRADED ROAD
 (Not Used)

CLEARED

363

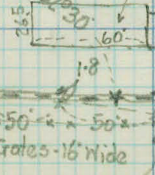
+82 Elec. Pole-55'R

FERTILIZER PLANT

+14 End Fce 34'R.
 BONE STORAGE SHED.
 COAL BIN
 +93 Cor. Shed-385'R

362

+64' 2' Pat. & 500' of Base Line
 +56' Fce Cor + Gate P-16' 50'
 +48' Fce Cor-1-1



+93 Cor. Shed-385'R
 +56' Fce + Gate P-16'R

NOTE-RW-Fce. South on both sides of &. (Follows Spur)

361

+100' Fce on &

+46' P1

+46' Fce-15'R.

PASTURE

COAL FIELD

360 +100' Fce-27'L

359

368

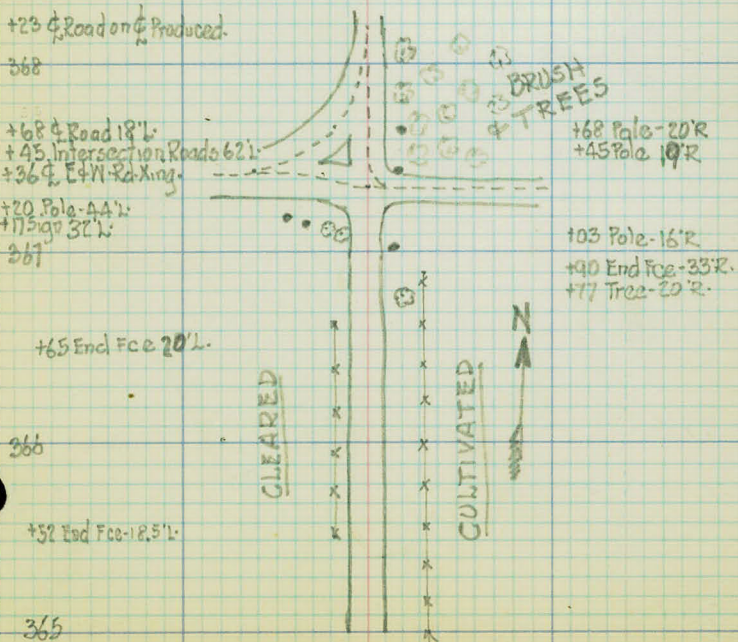
367

366

365

St. P & A Survey
A-Line

PRB } 3/20/23
DW }



343

342

341

340

339

338

337

StPEA Survey
B-Line

Final 3/31/23

247

246

245

+ 50 PI RT 4 1/6 head tang

244

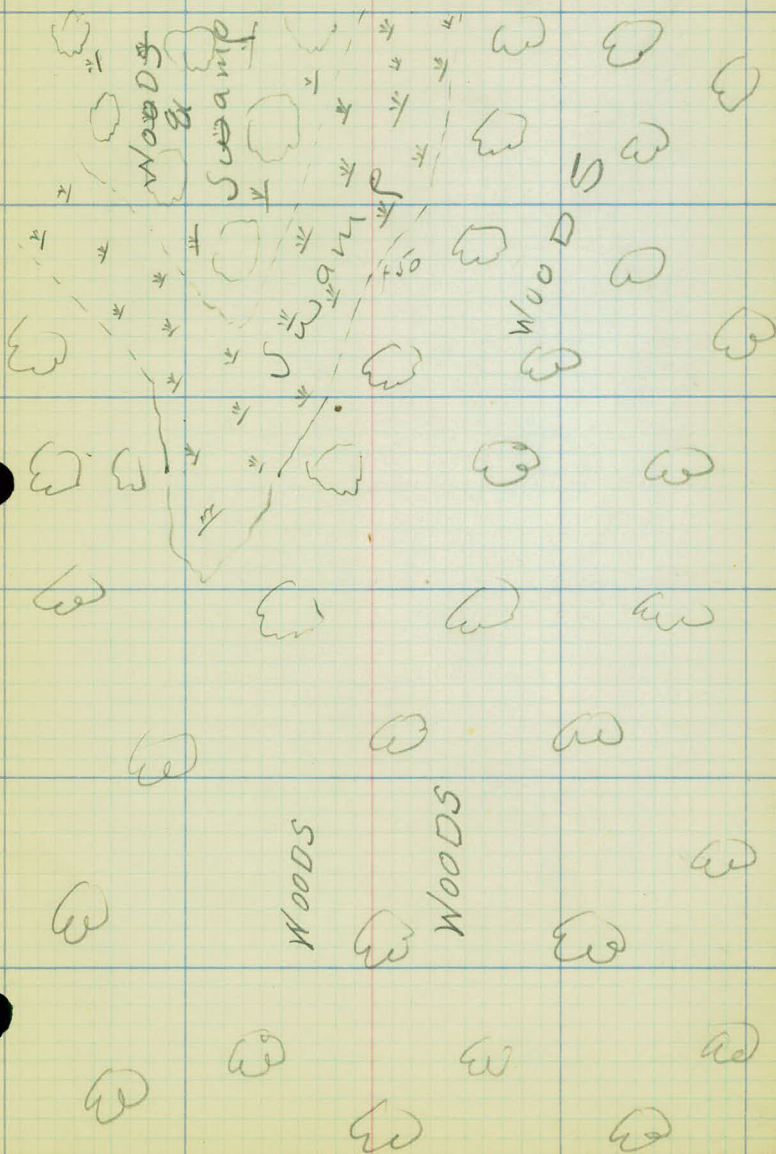
243

242

B 241 + 09 $\frac{7}{2}$
A 241 + 09 $\frac{7}{2}$

ST P. & A. Survey
TB-Line

FMC }
DOW } 3/31/23
EHR }



~~253~~

~~252~~

251

250

~~250~~

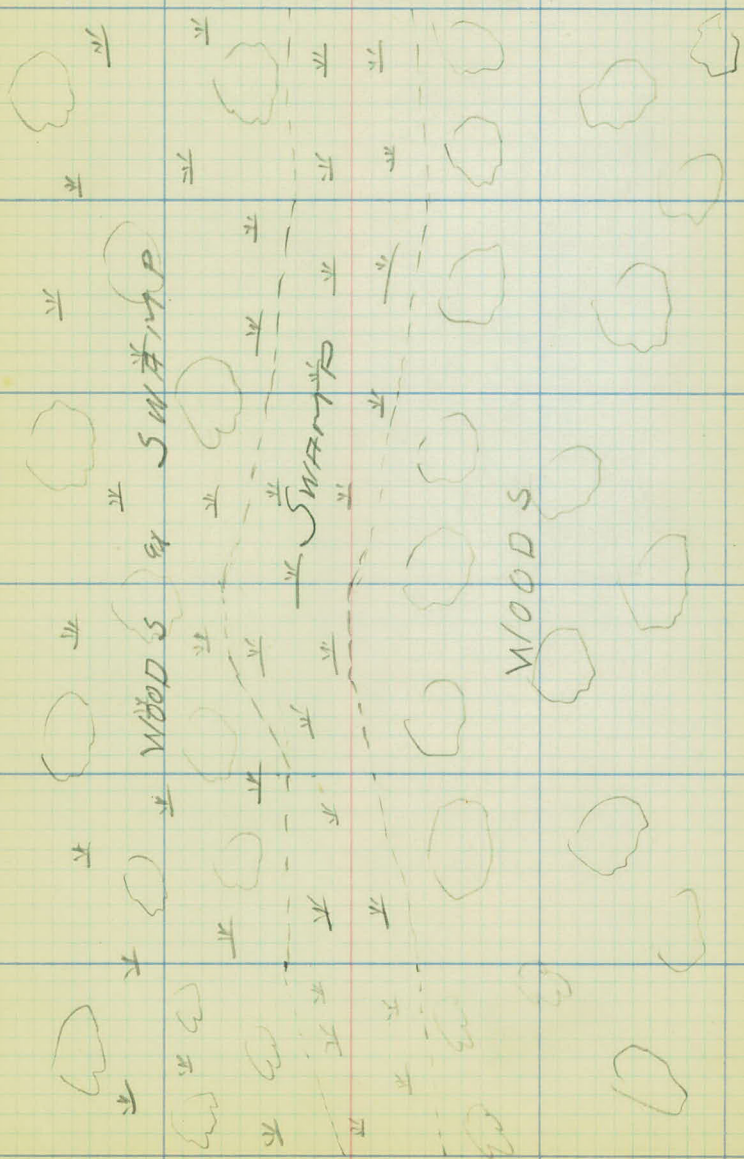
249

248

247

St. P. & A. Survey
B-Line

FMC 3/31/23



259

259

257

256

255

254

253

St. P & A Survey
B-Line

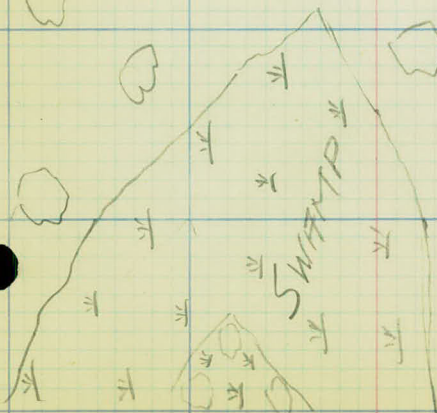
FMC 3/31/23

WOODS

+60 Rd.

WOODS

SWAMP



265

264

263

262

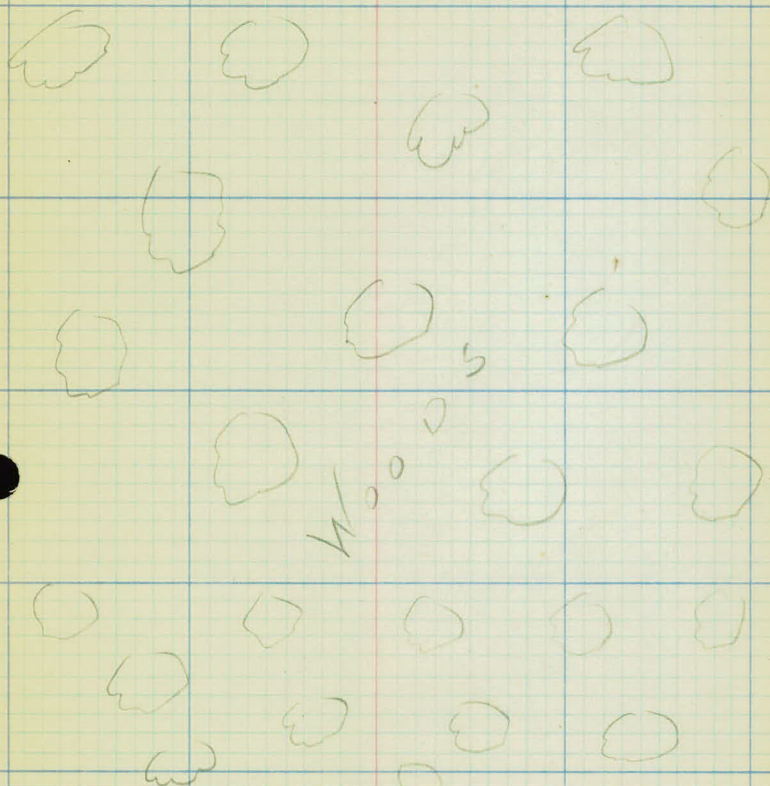
261

260

259

St. P & H Survey
B-Line

FMC 3/31/23



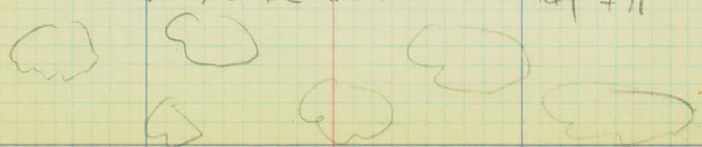
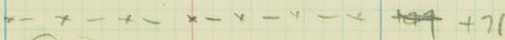
W/O



Cultivated



COUNTY ROAD E



271

270

269

268

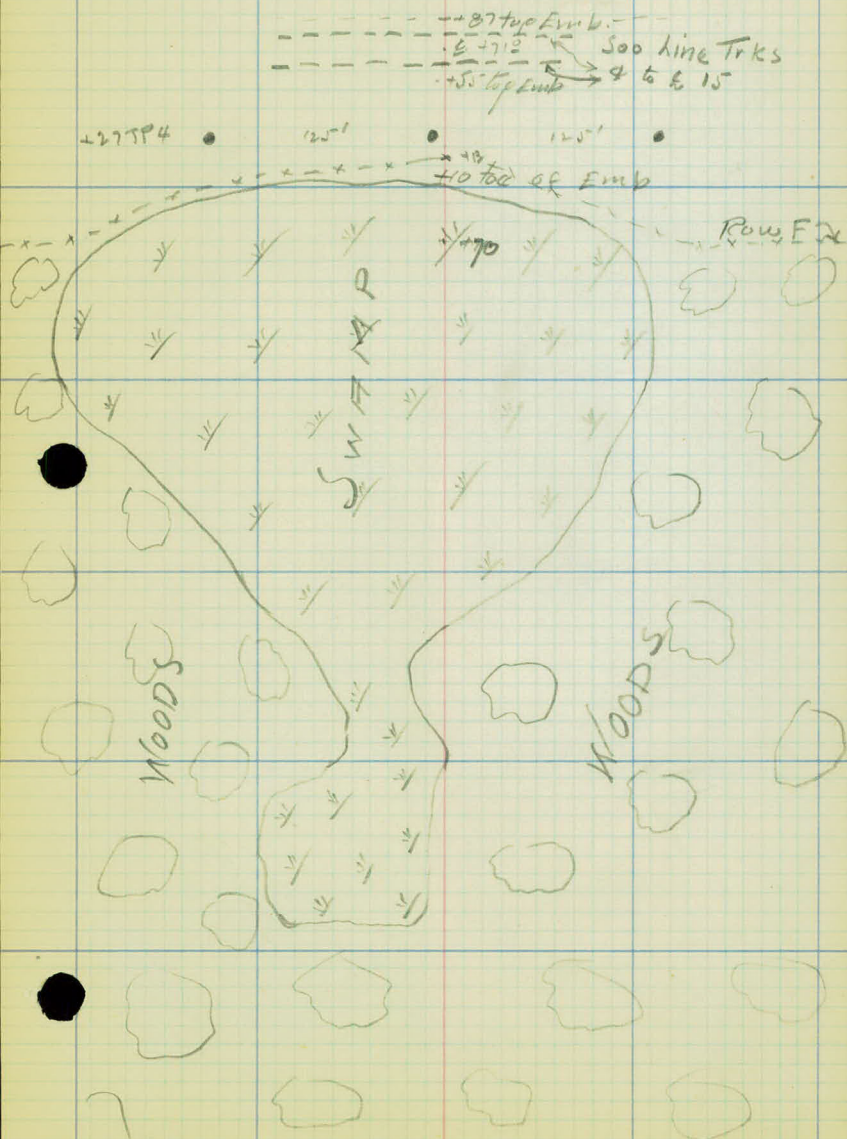
267

266

265

St. P. & F. Survey
B-Line

FMC 3/31/23



277

276

275

274

273

272

271

St. P. & A. Survey
B-Line

FMC 3/31/23

CULTIVATED
WAY MEADOW

— x — x — x — x + 60 x — x — x ROW F.

— x 30 — top of Emb

283

282

281

+25⁰ P5

280

279

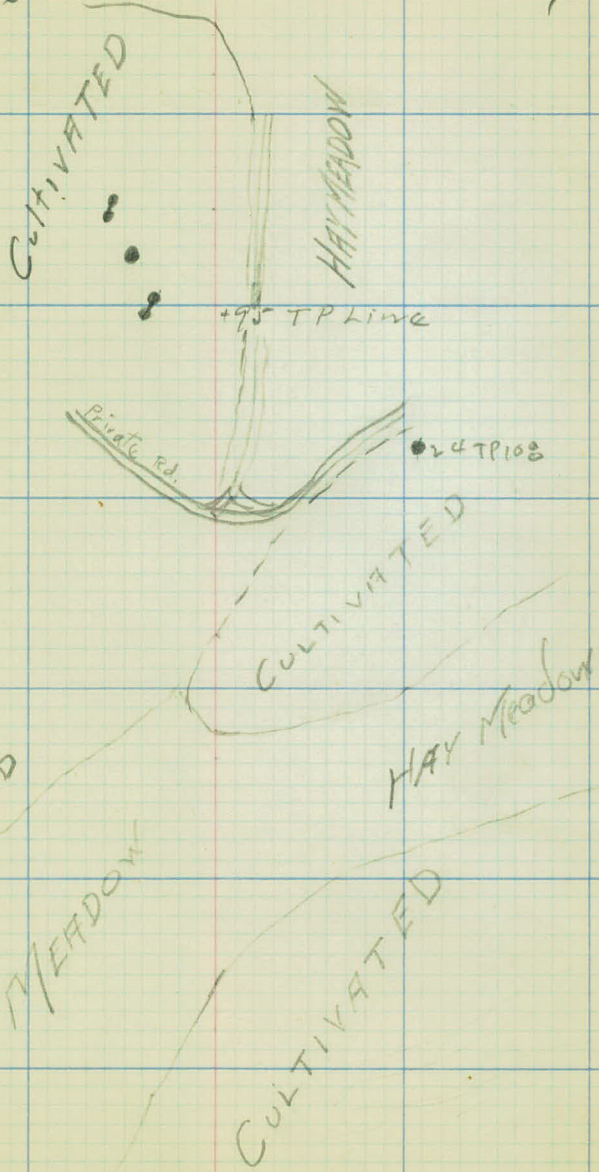
278

277

St. P, & A. Survey
B-Line

PMC 2/21/23

- +50 PL 57
- +278 48
- +10 PL 24
- +97 PL 37



289

288

287

286

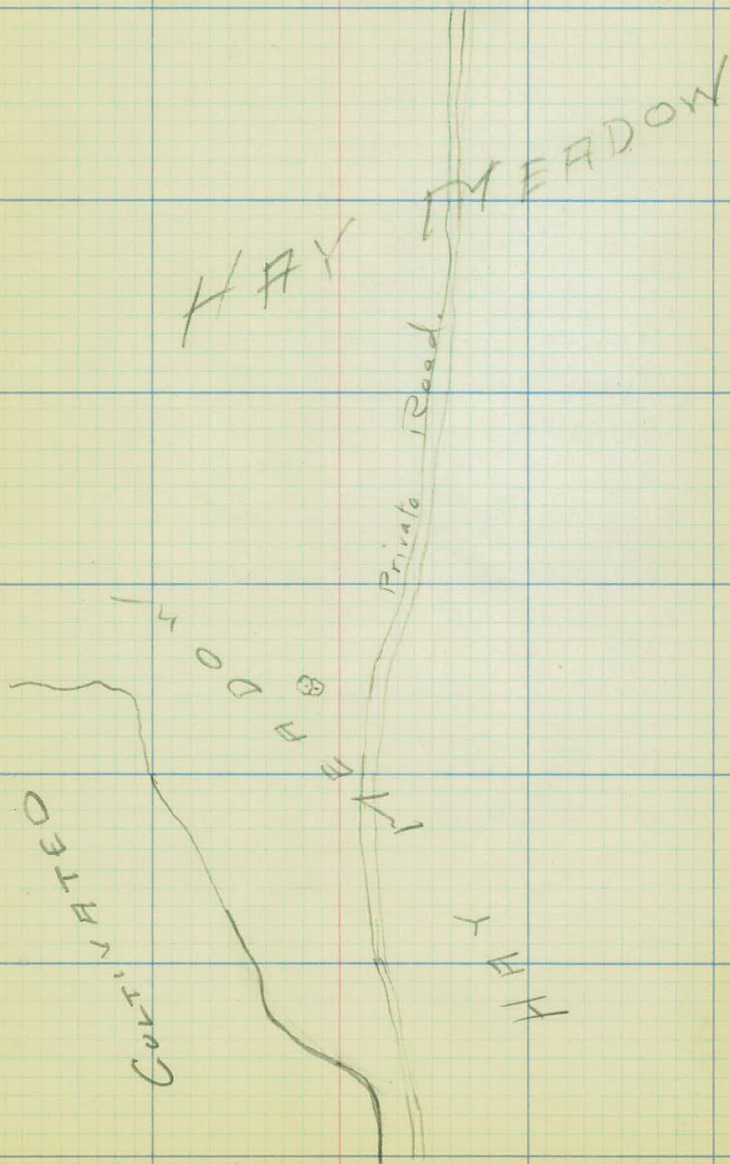
285

284

283

St. P. & A. Survey
B-Line

FMC 9/31/23



295

294

293

292

291

290

289

STP&A Survey
B-Line

FMC 3/31/23

SIDE HILL
WASTE LAND



M E A D O W

H A Y

PRIVATE ROAD

301

300

299

298

297

296

295

St. P. & A. Survey
B-Line

FHC 3/31/23



207

306

305

204

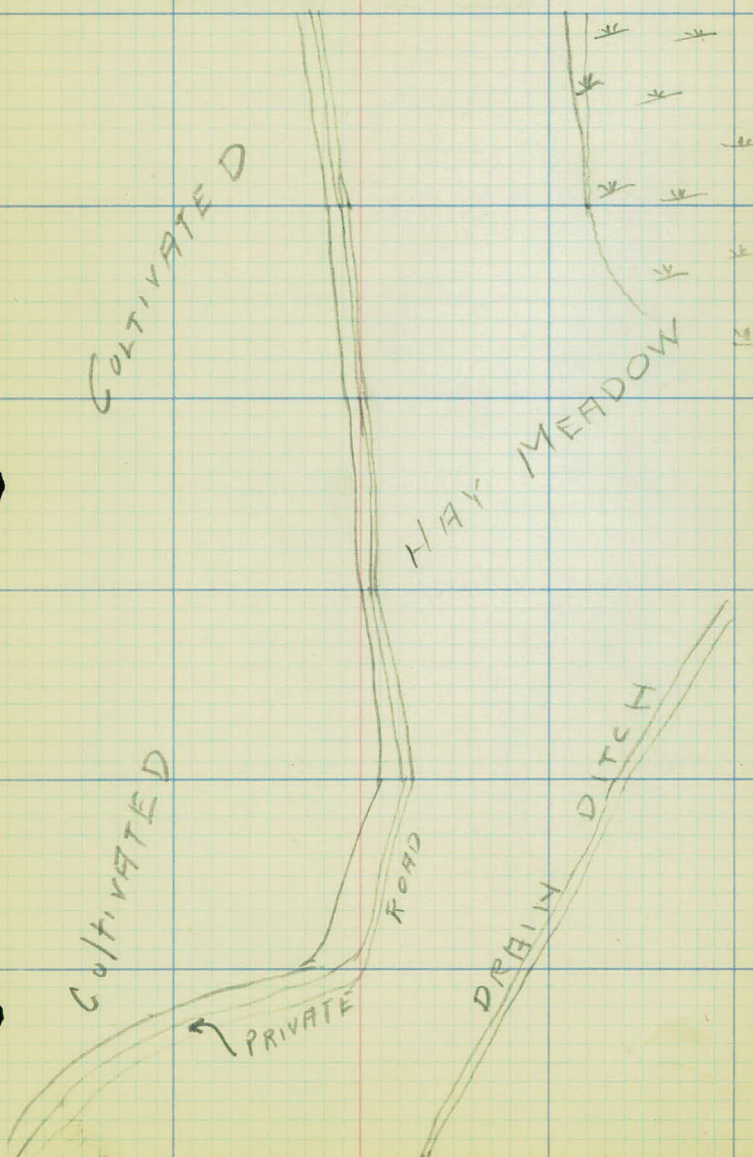
203

302

301

St. P. & H. Survey
B-Line

FMC 3/31/23



313

312

311

310

+1000 #

309

308

307

St. P. & A. Survey
B-Line

FMC 3/31/23



319

318

317

316

315

314

313

STP&A Survey
B-Line

FMC 3/31/23

HAY
MEADOW

Cultivated

Pasture

DITCH

WOODS

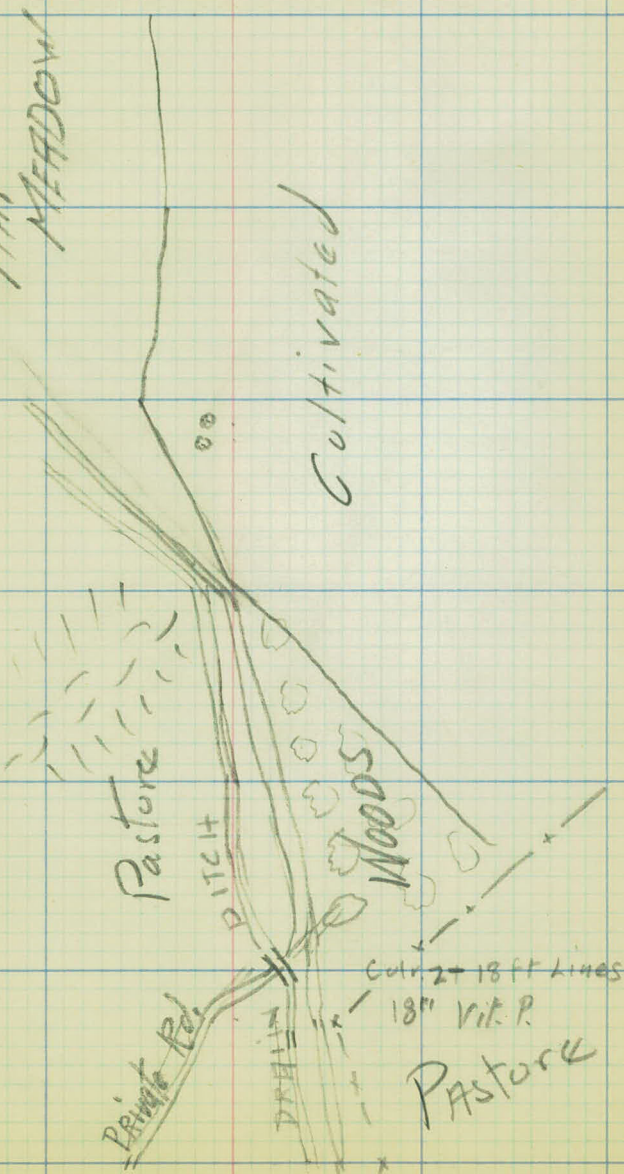
Private Rd.

DRAIN

Cult. 2+18ft Lines

18" V.I.P.

Pasture



324

+29⁸ End.

323

322

321

320

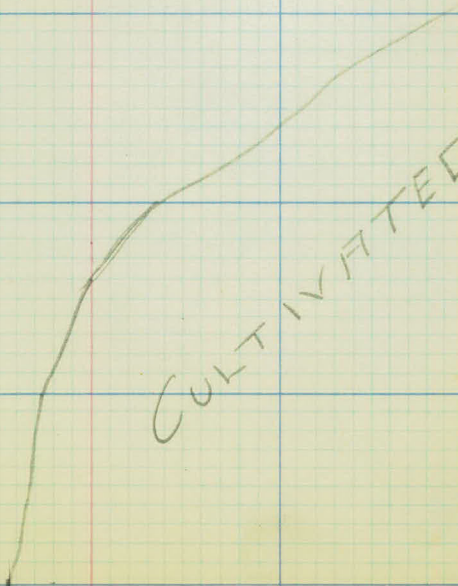
319

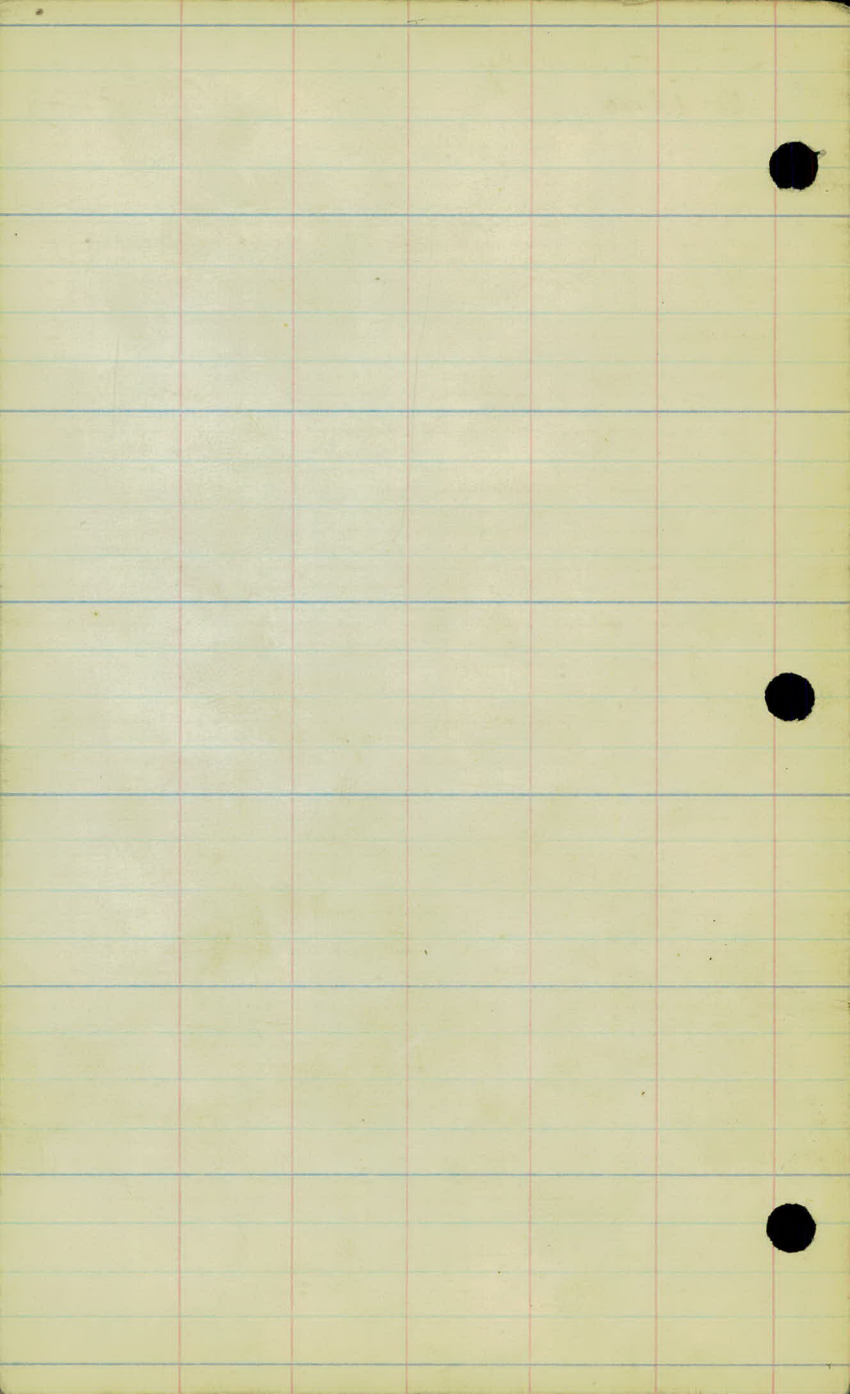
St. P. & A. Survey
B-Line

F.M.C. 3/31/23

HAY MEADOW

CULTIVATED





St. P. & H. Survey
C-line

FM 9/26/73

343

Cultivated

342

Hay Meadow

341

D.C.

340

Hay Meadow

Equal Line Fence

36

Marked
on F.M. 11/15

337

Ditch



349

348

347

346

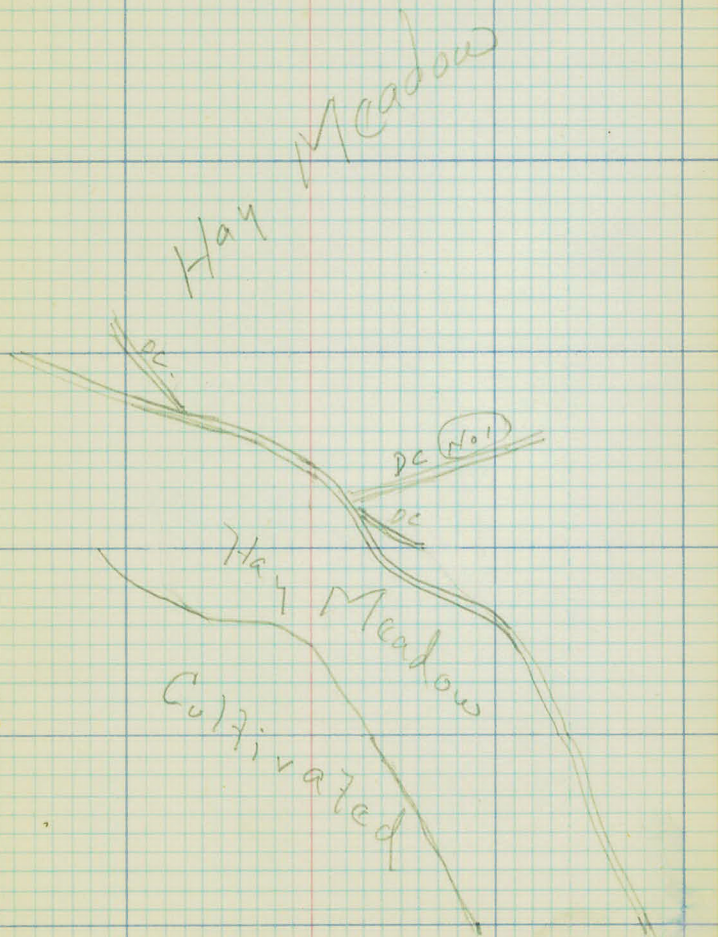
345

344

343

SP9A Survey
C-Line

FMC 3/26/23



355

354

353

352

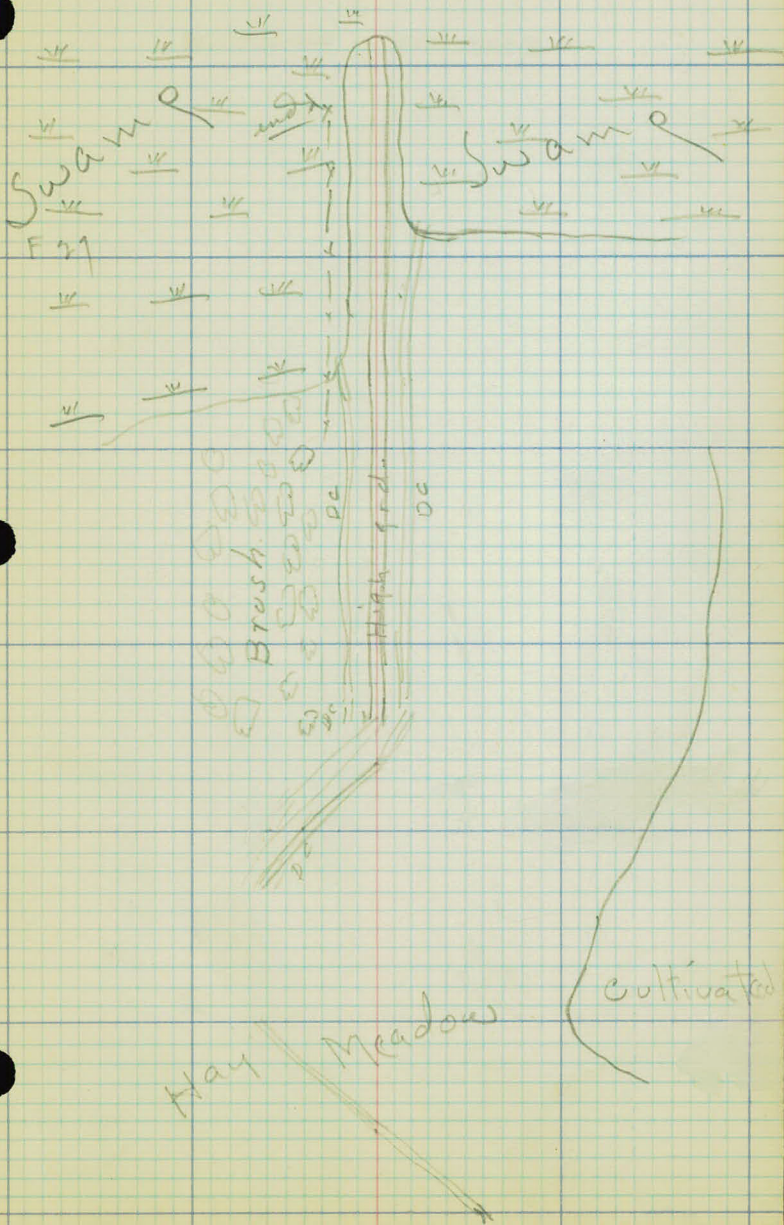
351

350

349

S.P. & H. Sney
C-hine

FMO 2/26/44



361

360

359

358

357

356

355-

SP&H Survey
C-Line

FMC 3/26/23

Pasture

F 6

Cultivated
Hay Meadow

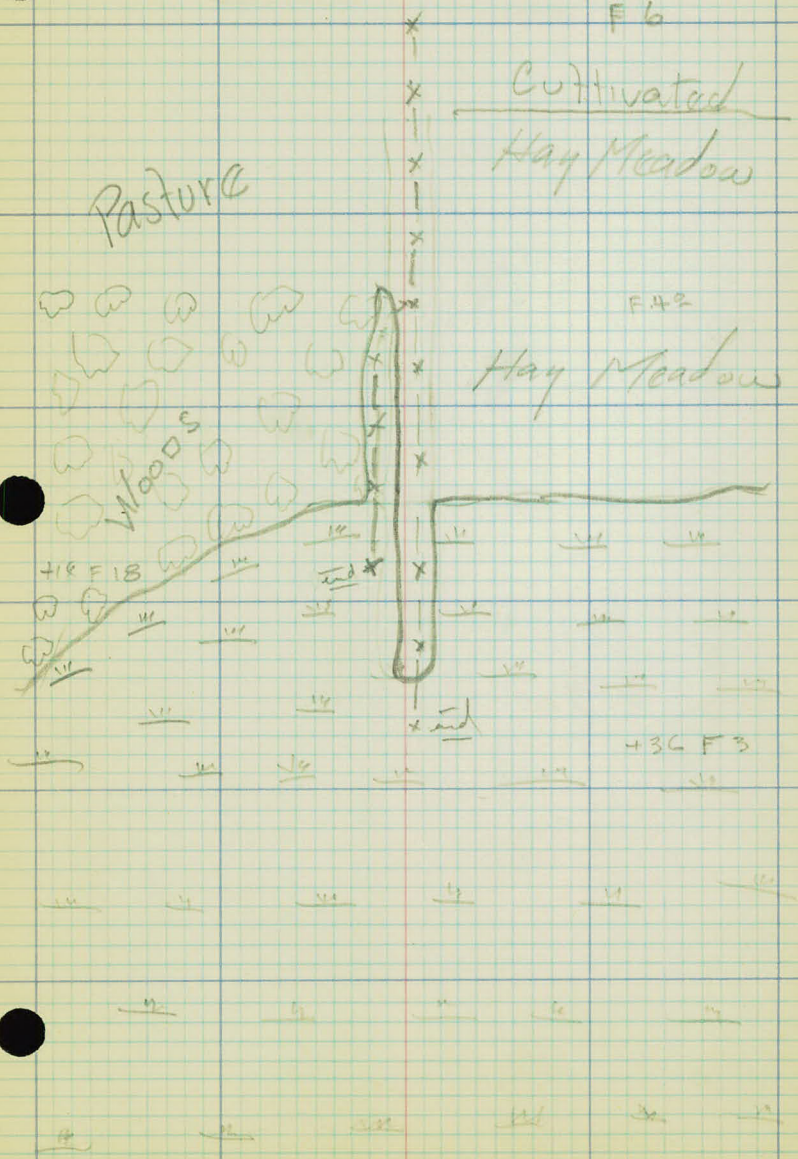
F 42

Hay Meadow

Woods

+ 18 F 18

+ 36 F 3



362 ✓

361

STP & A Survey
C-line

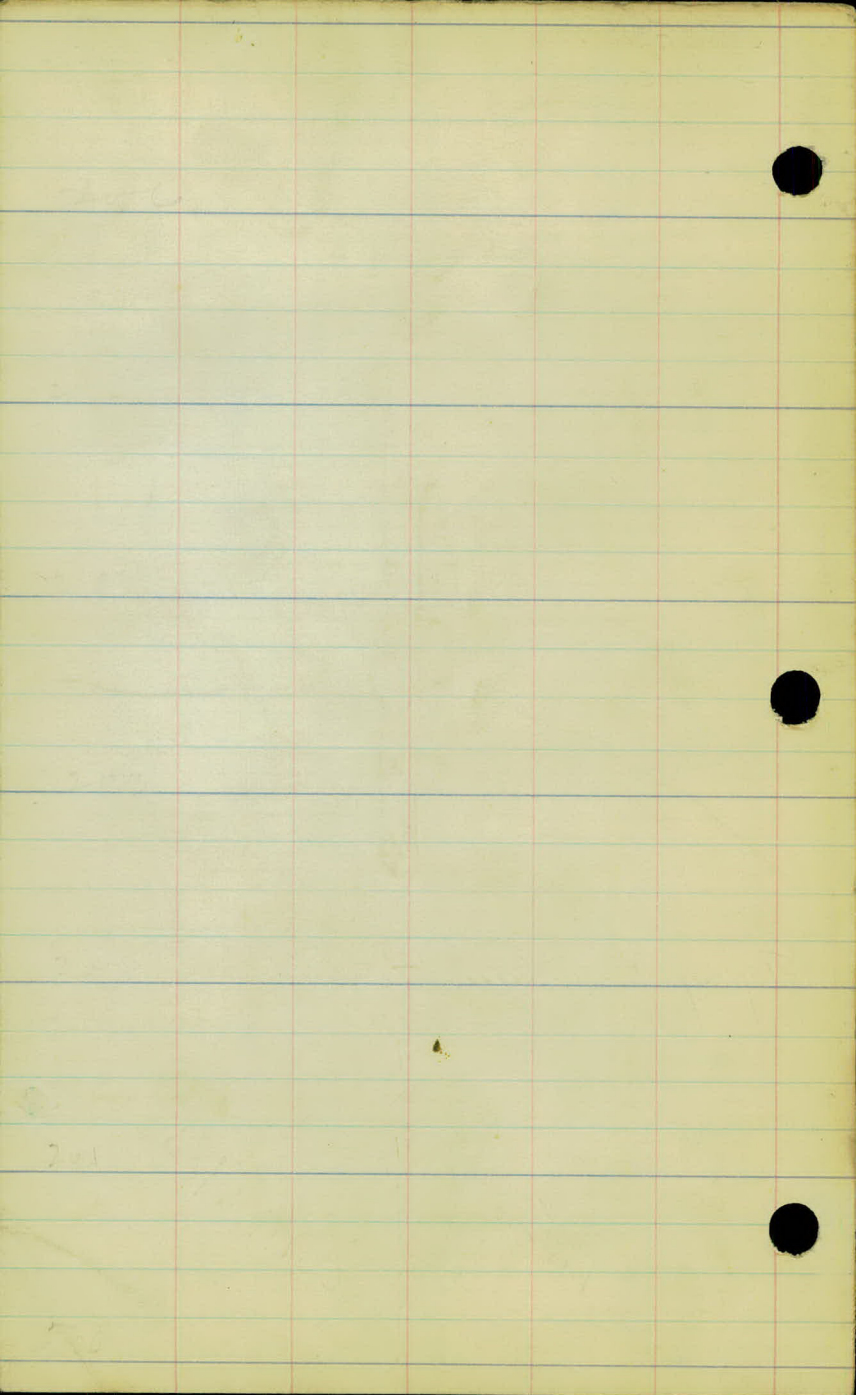
FMC 2/26/23

Topog Cont. on A-line

Pasture

Cultivated

x
|
x
|
x
|
x
|
x
|
x



300 "D" LINE 48 ± 23 46

299

WOODS

72

298

70'

46

145 End Ice - 26 1/2

297

122

28

LAKE VALENTINE

296

140

Edge Rushes + Swamp

295

Edge Rushes →

24'

SWAMP

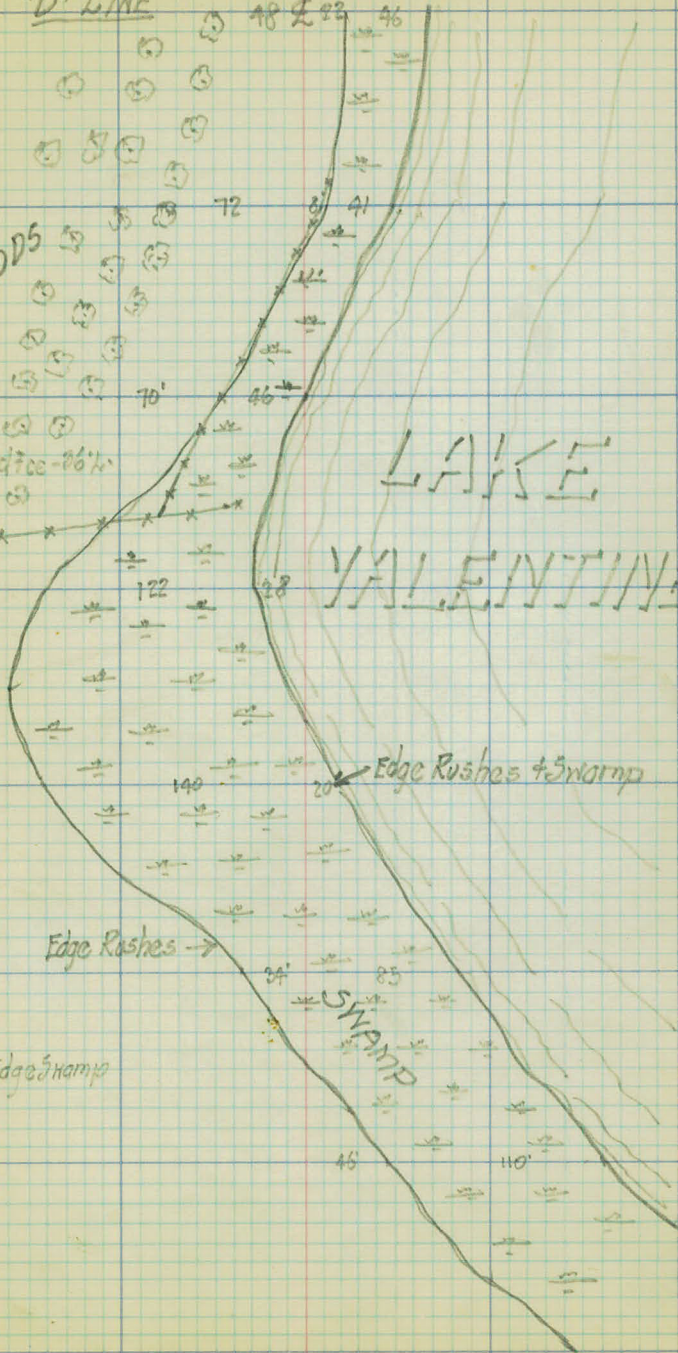
155 Edge Swamp

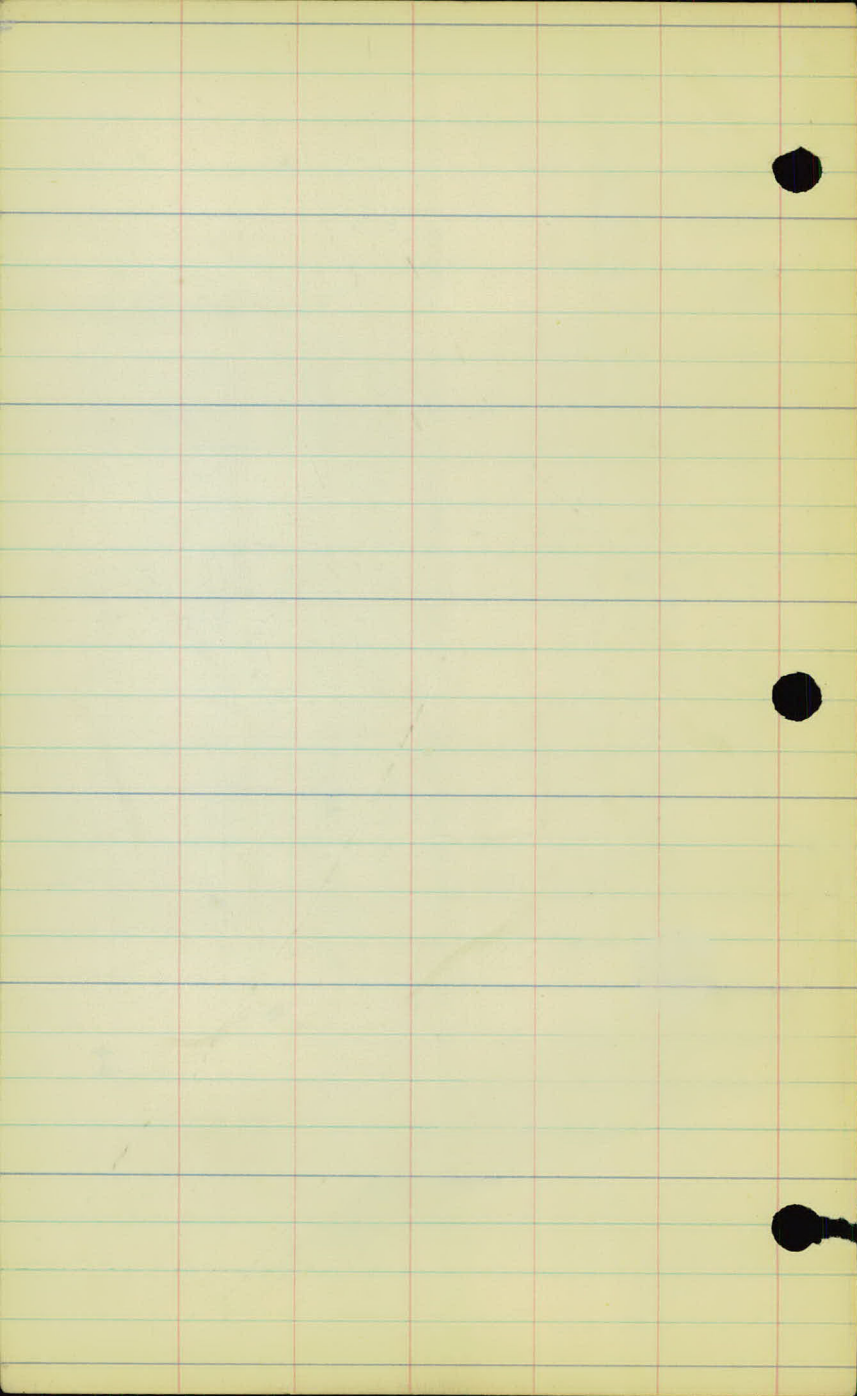
294

45

110'

293





307

"D" LINE

#3 67

306

WOODS

24 36

305

71'

304

+15 Edge - 18 R

SWAMP

61

303

72

+60 Swamp

302

96

36

70

ENVIRONMENTAL IMPACT

301

Edge Rushes & Fence

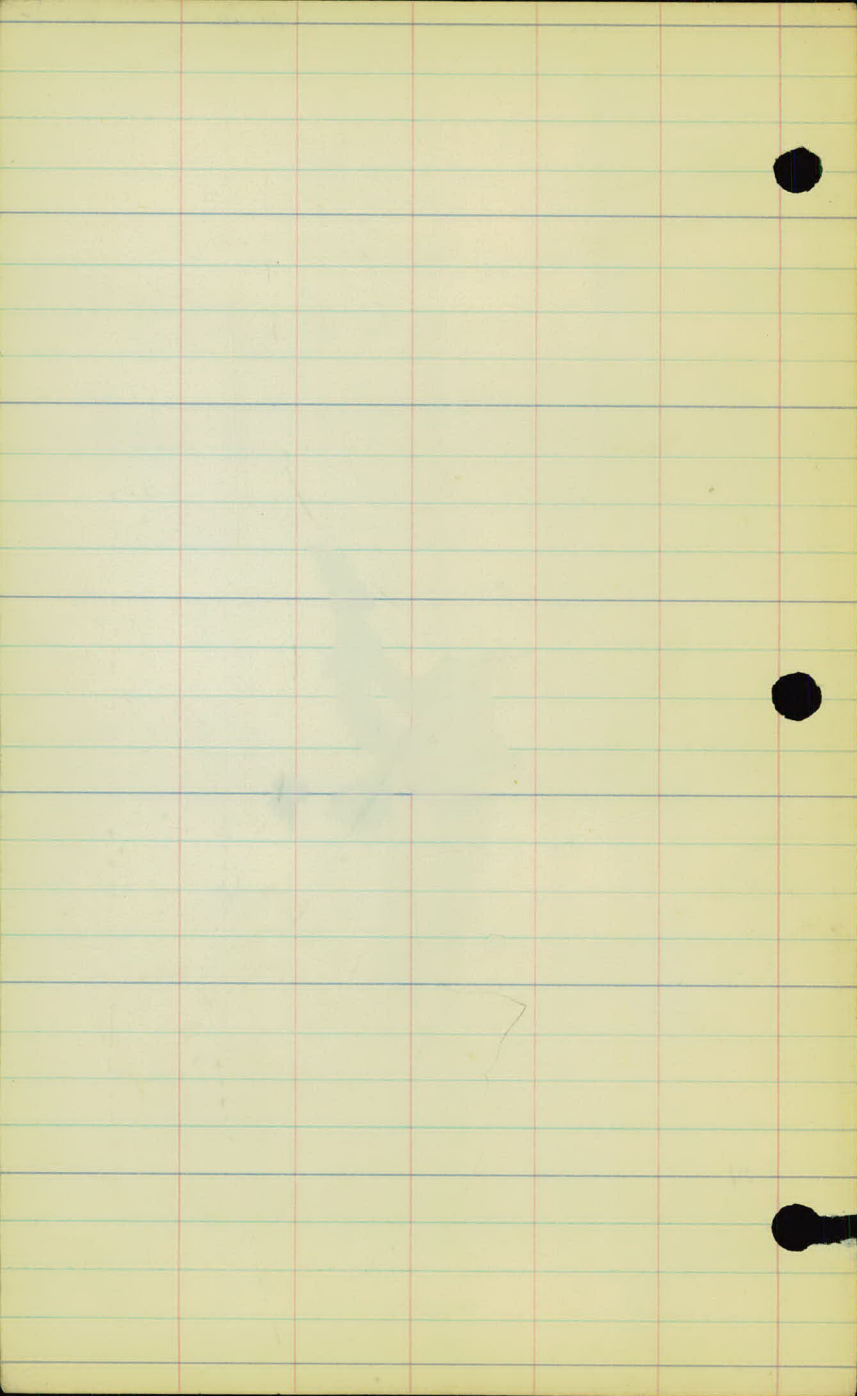
56

49

47

WOODS

300



D LINE

~~1~~

313
312+79 Pl.

WOODS

120

* 45

312

58

102

311

104

Shore Line

310

69

309

53

WOODS

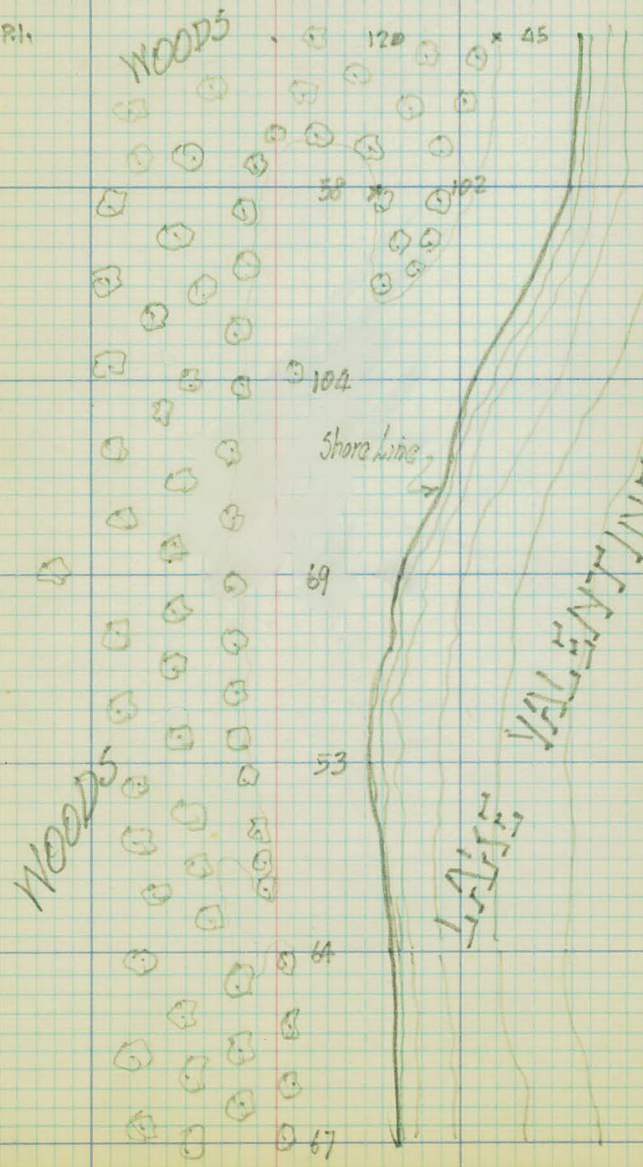
WILKINSON VALLEY

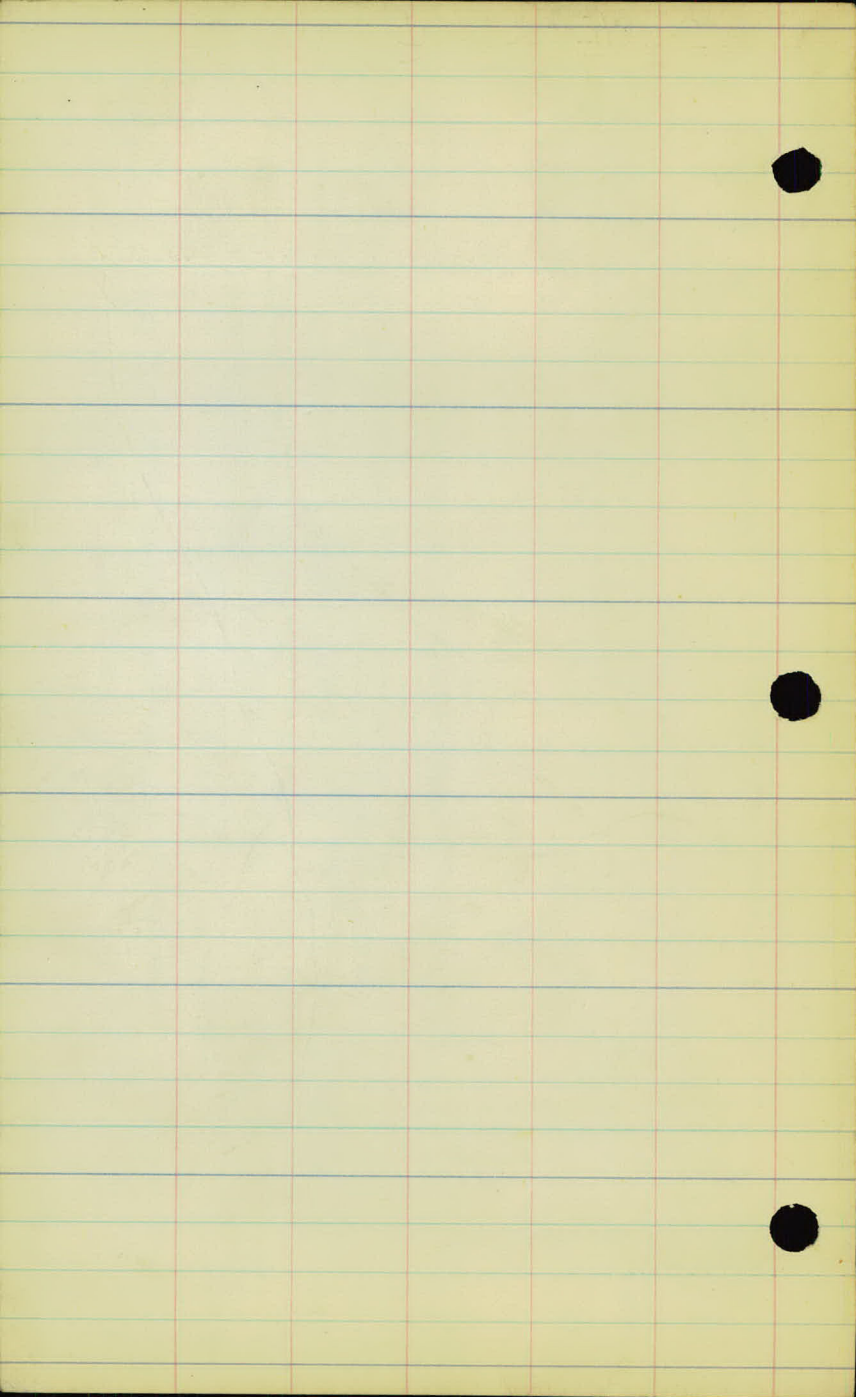
308

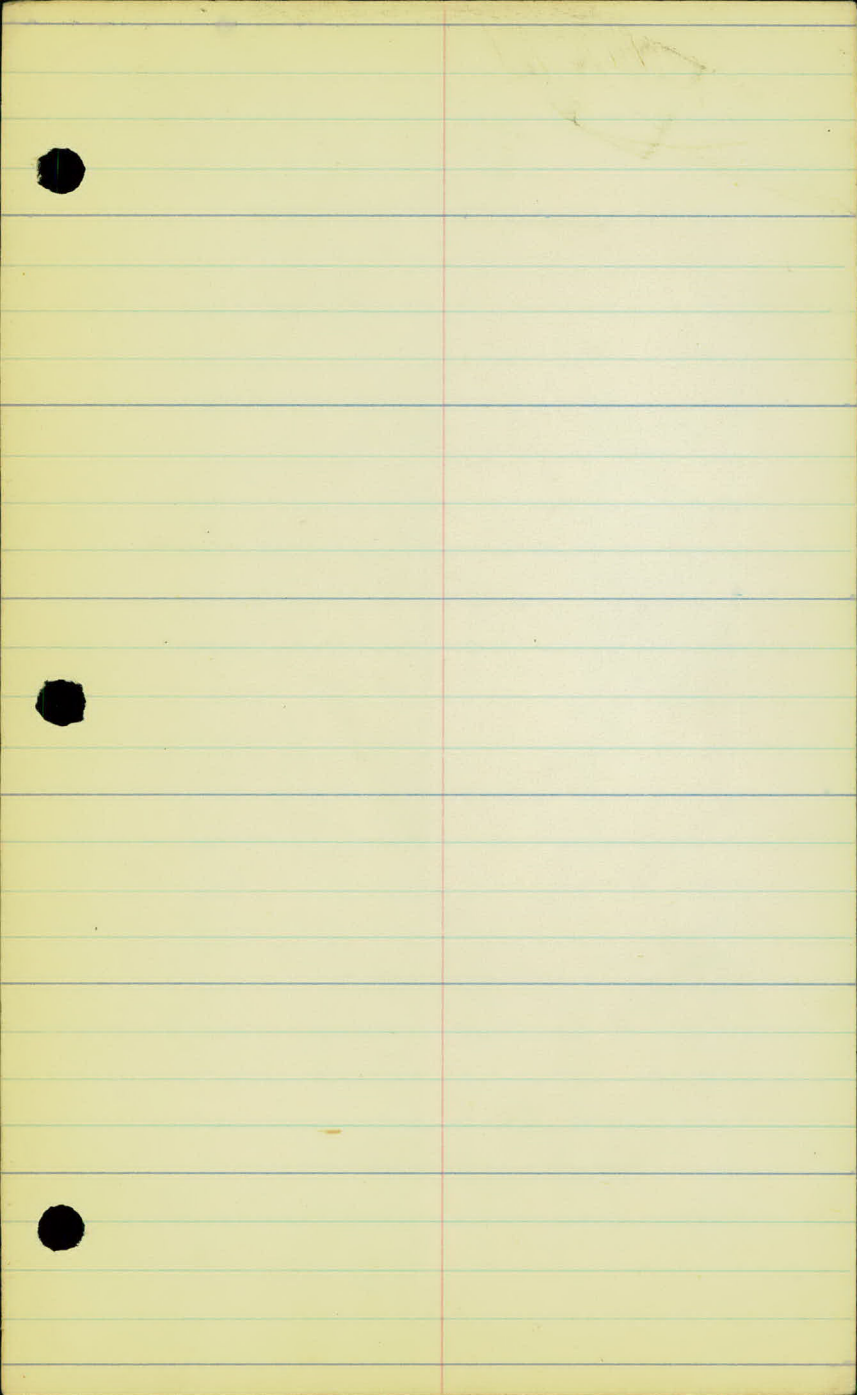
64

307

67







329

328

327

326

325

324

323

ST.P-111. Survey
D-line

FMC 3/24/23

farm Rd.

523

322

321

320

319

318

317

STP 911 Survey
D Thine

FMC 3/24/23

Cultivated

Cultivated

x - x - x - x - +18

Lake 300 ft

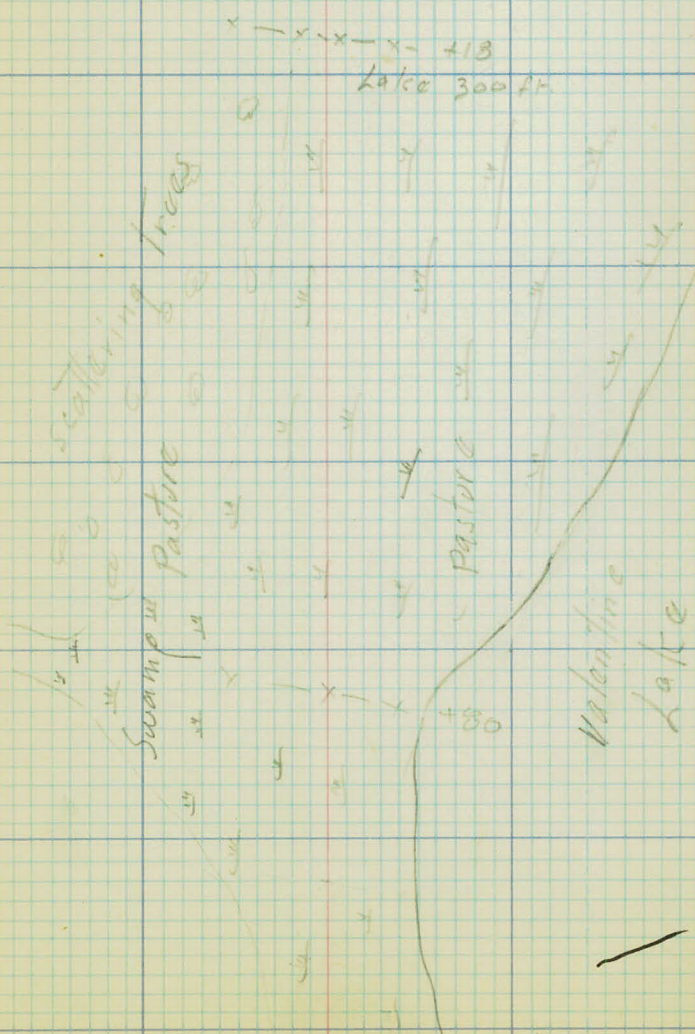
scattering trees

Swamp & Pasture

Pasture

Valentine Lake

+80



317

316

315

314

313

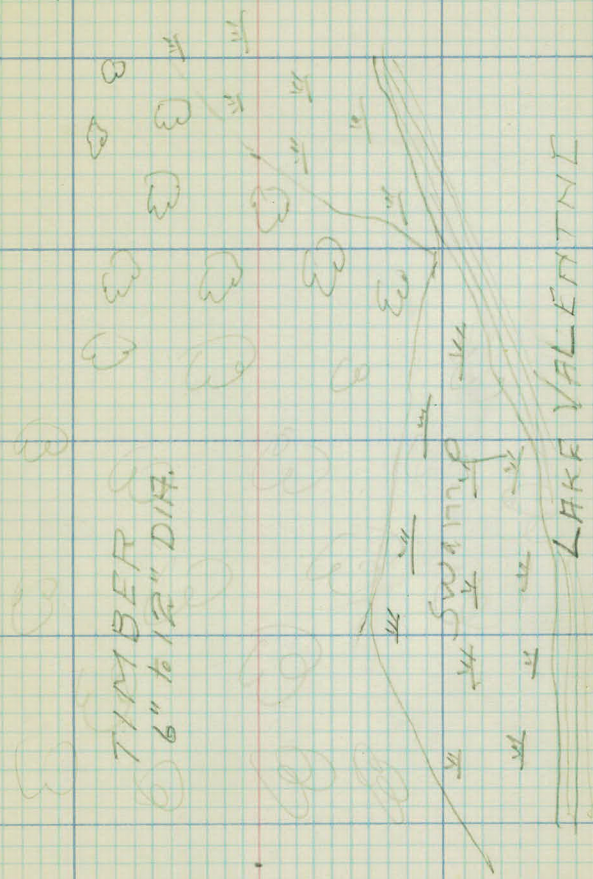
+79 split angle

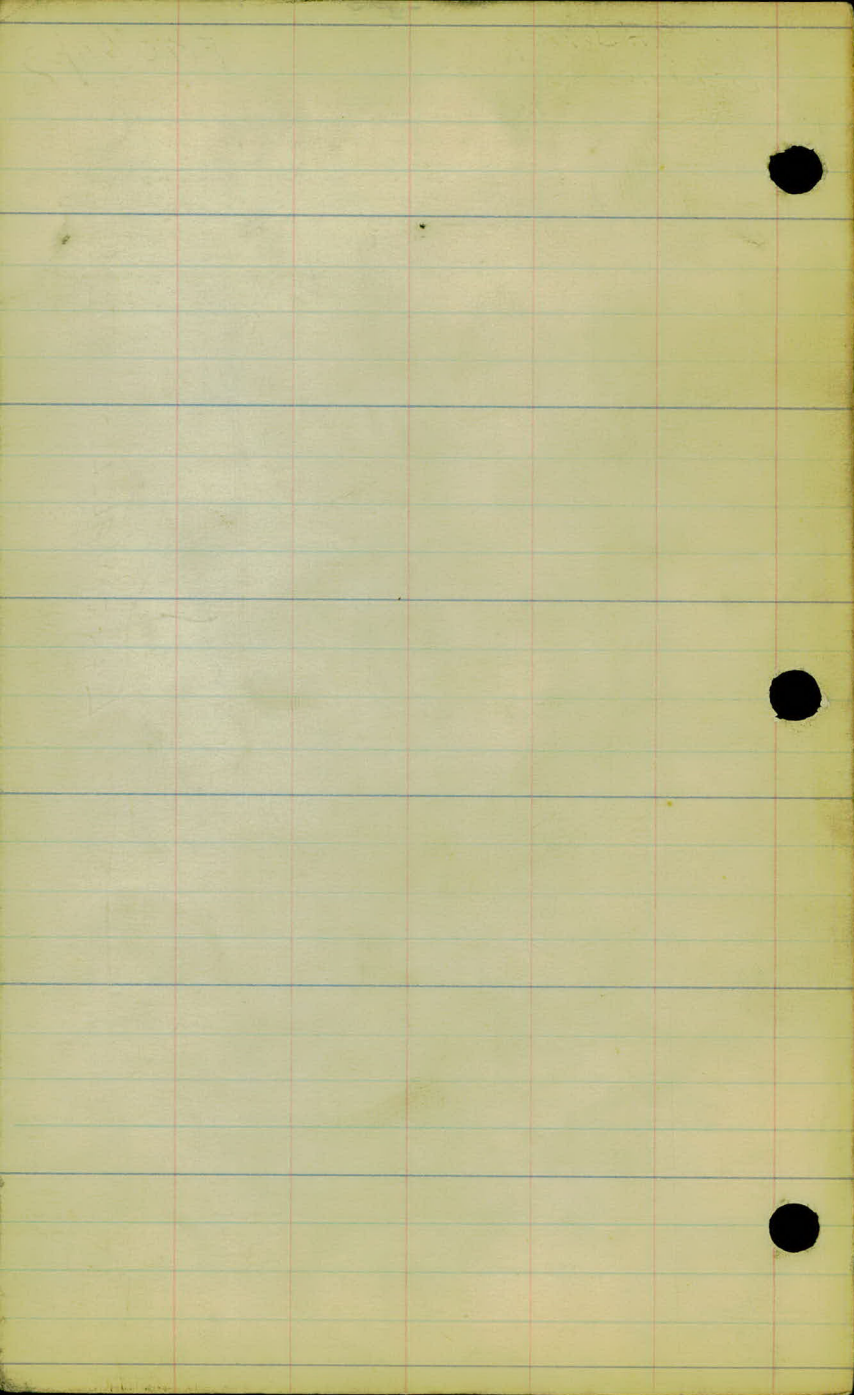
312

311

ST. PETER Survey
D-line

FMC 3/24/23



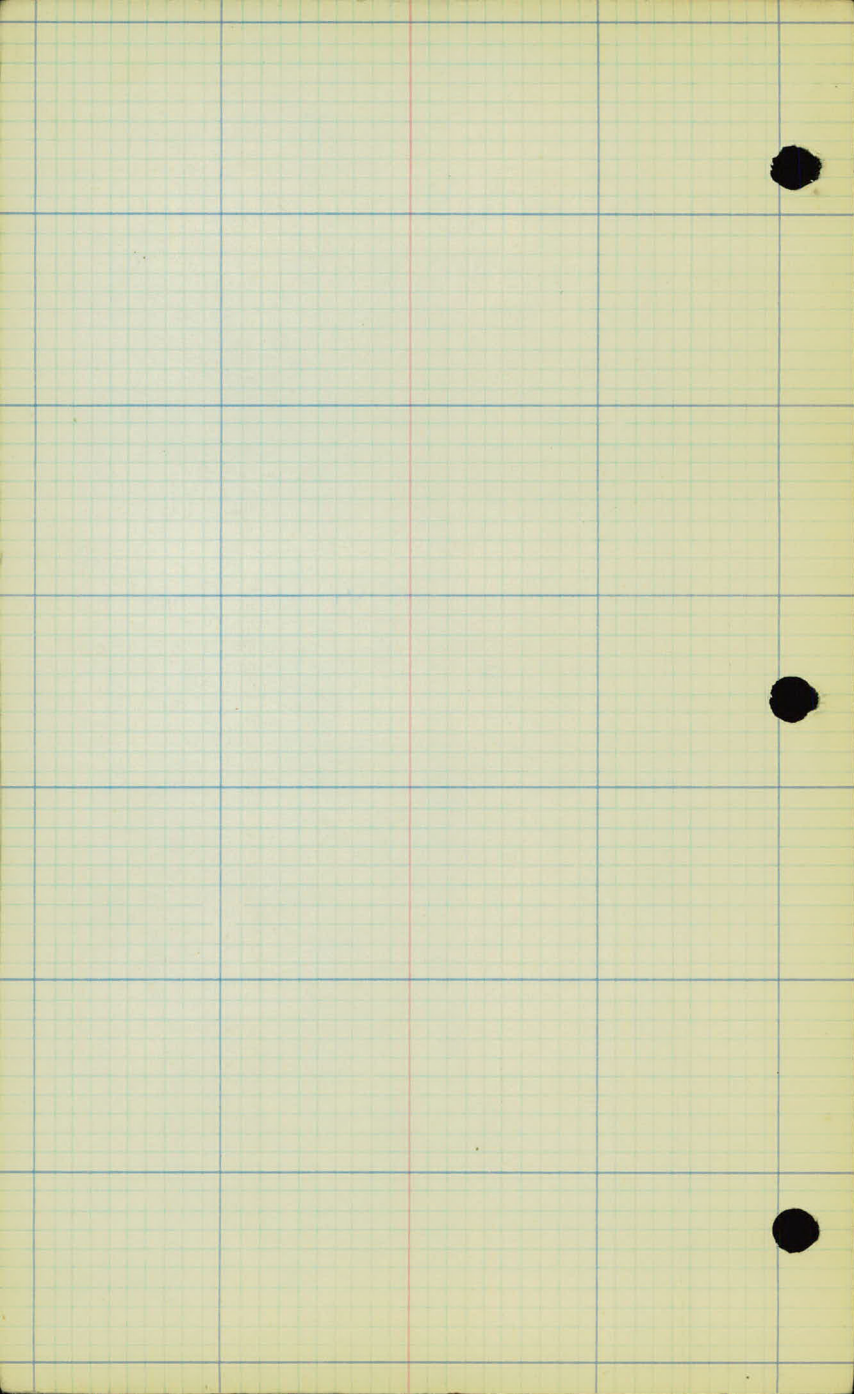


ST. PAUL - ANOKA SURVEY

CONTOUR TOPOG. NOTES

A & B Lines

P.R. Banister
Eng. in charge
Carby Topog.



A Line Contours

Carley - Recording
sterk - Hand-level
Franke - Tape
Mcmanus - Rod.

From Sta. 207 + 52.6
To Sta. 278 + 63.0

March 26, 27, 28, 1923

3/26/23

Sheet # 1 of 14 sheets

Sta

Elev.

278+00 184.9

+63 188.7

+80 189.3

277+00 186.4

+45 181.2

276+00 180.1

+40 181.7

275+00 185.6

+70 189.0

+50 189.3

274+00 189.3

+80 189.3

+65 189.0

273+00 185.1

X

X

Trees

Blac K soil

Trees

L R

A. Line contours

Level	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>	<u>100</u>	<u>105</u>		
	49	13	5	22	31	109		
	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>	<u>100</u>	<u>105</u>	<u>110</u>	<u>115</u>
	56	13	1	17	33	50	71	95
	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>	<u>100</u>	<u>105</u>	<u>110</u>	
	41	9	12	25	40	58	88	

<u>78</u>	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>	<u>100</u>
100	1	39	57	77	104

<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>	<u>100</u>
50	1	19	40	81

80	<u>85</u>	<u>90</u>	<u>95</u>	<u>100</u>	100
70	28	5	38		190
<u>80</u>	<u>85</u>	<u>85</u>	<u>89</u>		
122	41	33	83		

<u>85</u>	<u>87</u>	<u>85</u>
63	30	10

3/26/23

Sheet # 2 of 19 sheets

Sta.	Elev.
+60	191.2
+40	192.2
272+00	188.3
+80	185.4
+60	183.9
271+00	182.1

Swamp

Swamp

270+00 181.7

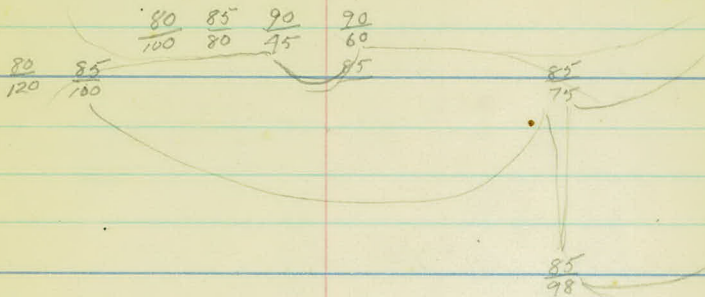
Swamp

269+00 180.8

268+00 180.8

L & R

A Line contours



Sta

Elev.

267+00 180.4

266+00 181.5

Swamp

265+00 182.2

Swamp

264+00 182.5

Swamp

263+00 183.5

+28 184.7

262+00 187.2

X

X

A. Line Contours

Level ground

Level ground

3/27/23

Sheet # 4 of 14 sheets

Sta

Elev.

256

825

255

85.1

+95

86.6

254

187.9

253

196.7

+80

198.9

252

198.2

+46

199.5

+25

98.0

251

97.7

No the Johana on left

Trees on right

X

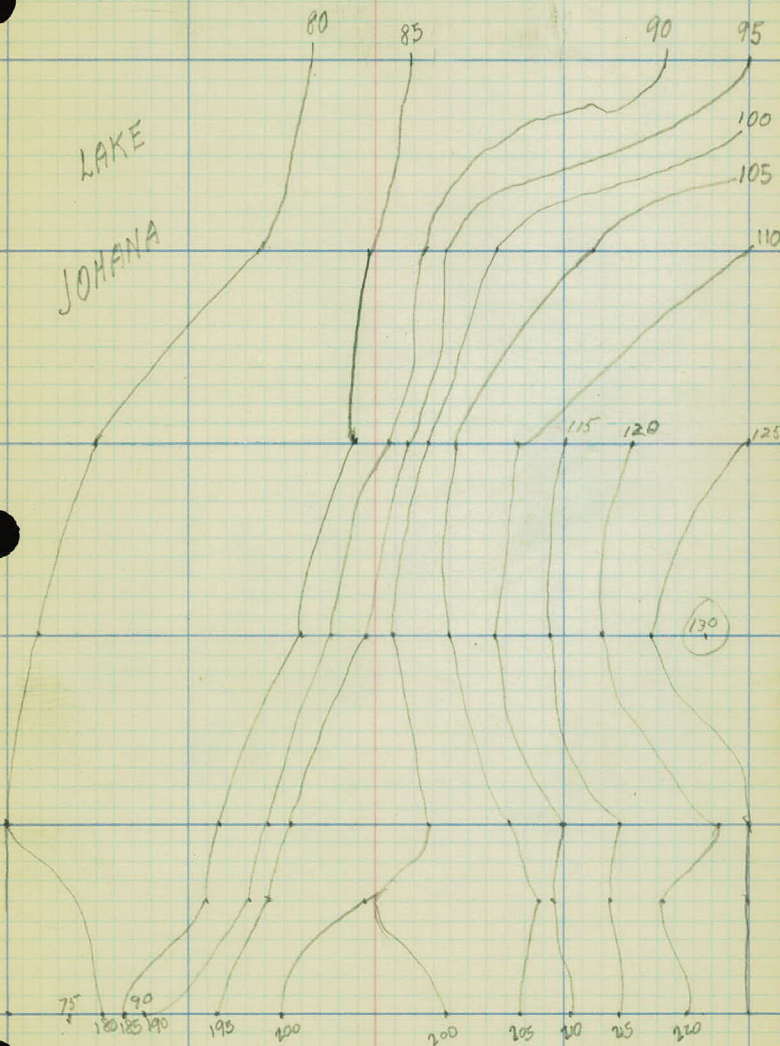
X

Trees

Oak + Maple

A Line Contours

L
LAKE
JOHANA
R



3/27/23

Sheet # 5 of 14 sheets

Sta Elev.

257

+75 200.0

250 211.2

+45 212.9

249 207.9

+36 200.0

248 194.3

+70 187.2

+65 186.1

247 187.8

+80 190.5

+95 185.3

+92 184.2

246 183.9

245 185.4

Trees

Oak + Maple

X

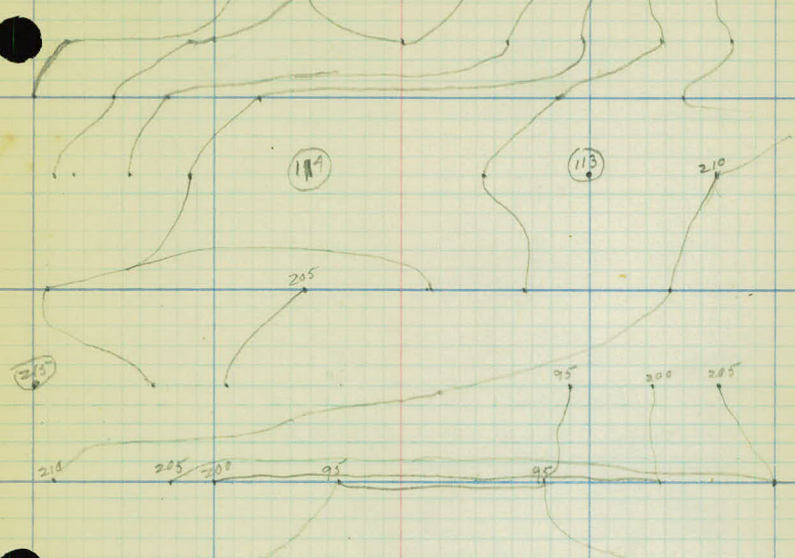
X

Water

L Q R

A Line Contours

75 80 85 90 95 200 200 205 210 215 220 225



Lake Johana
Sections Level

3/27/23

Sheet # 6 of 14 sheets

Sta Elev

245

244

243

242

241

186.5

240

188.3

Water end of Lake Sebana

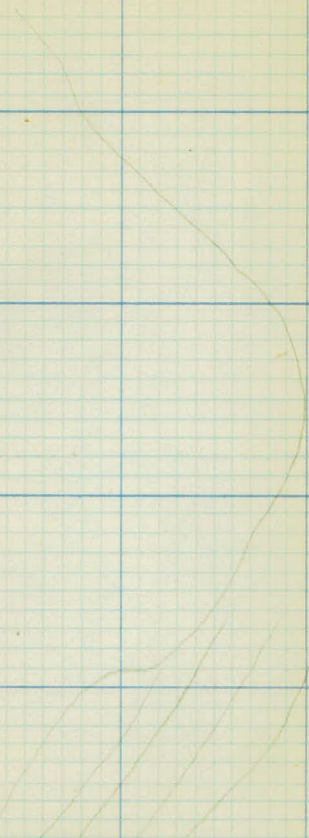
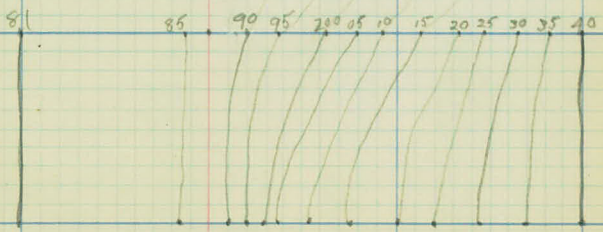
Small Island

X

X

A Line Contours L & R

Lake Johana



3/27/23

Sheet #7 of 14 sheets

Sta. Elev.

240 188.3

239 187.7

238 190.1

237 188.2

+75 187.8

+70 185.0

236 185.0

235 187.0

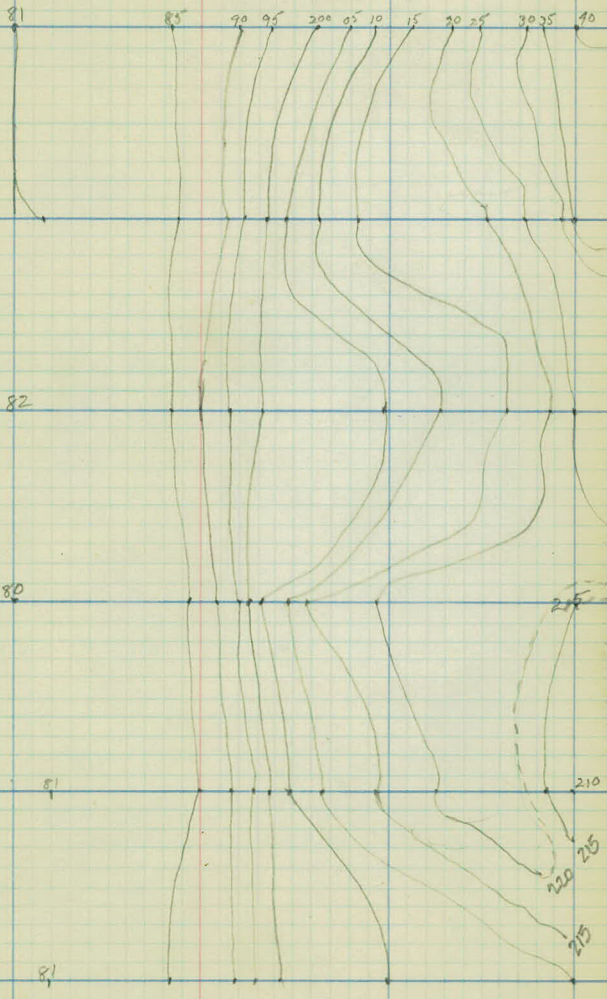
Lake Johana on left

Trees on Right

L & R

LAKE JOHANA

LAKE JOHANA



3/27/23

Sheet #8 of 14 sheets

Sta Elev

235 187.0

234 189.1

233 189.8

+86 188.6

+60 188.9

232 193.8

+85 195.0

+20 200.0

231 201.8

+45 208.3

230 211.7

Lake on Right.

Trees on right

X

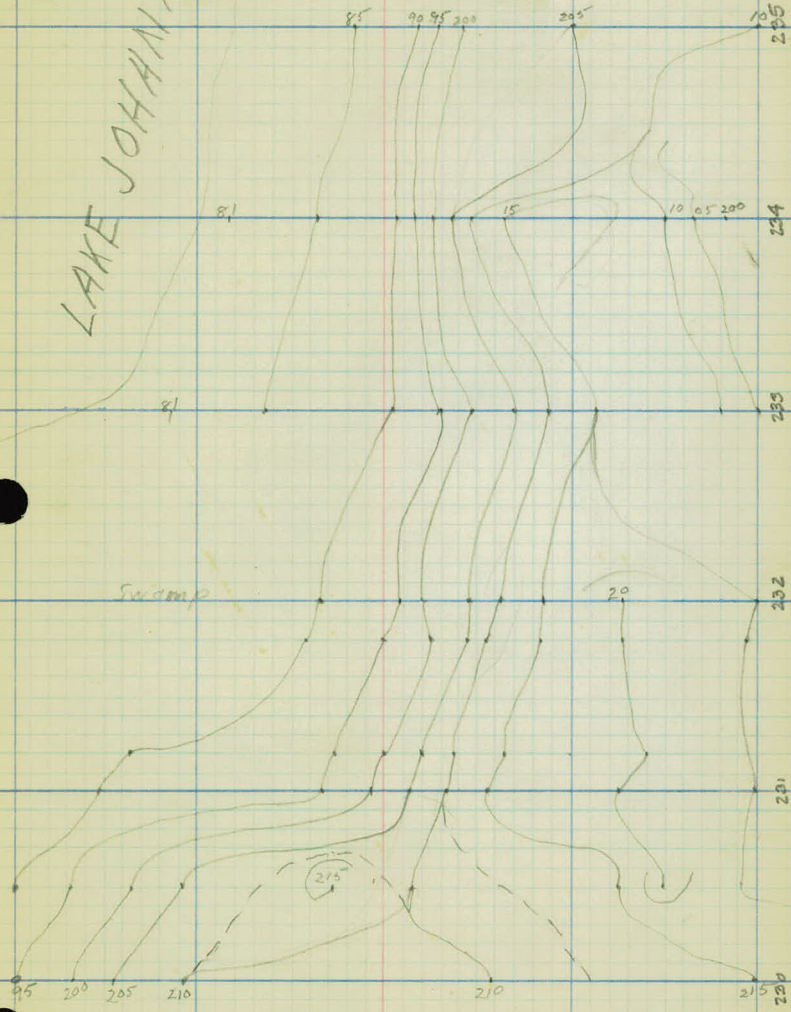
X

A Line Contours

L E R

LAKE JOHANNA

Swamp



3/28/23

Sheet #9 of 14 sheets

Sta Elev

230 211.7

229 220.7

+40 224.2

+35 223.5

228 225.3

+80 223.4

227 223.7

+45 227.7

+20 227.7

226 225.7

+30 219.7

225 218.6

Oak-Maple

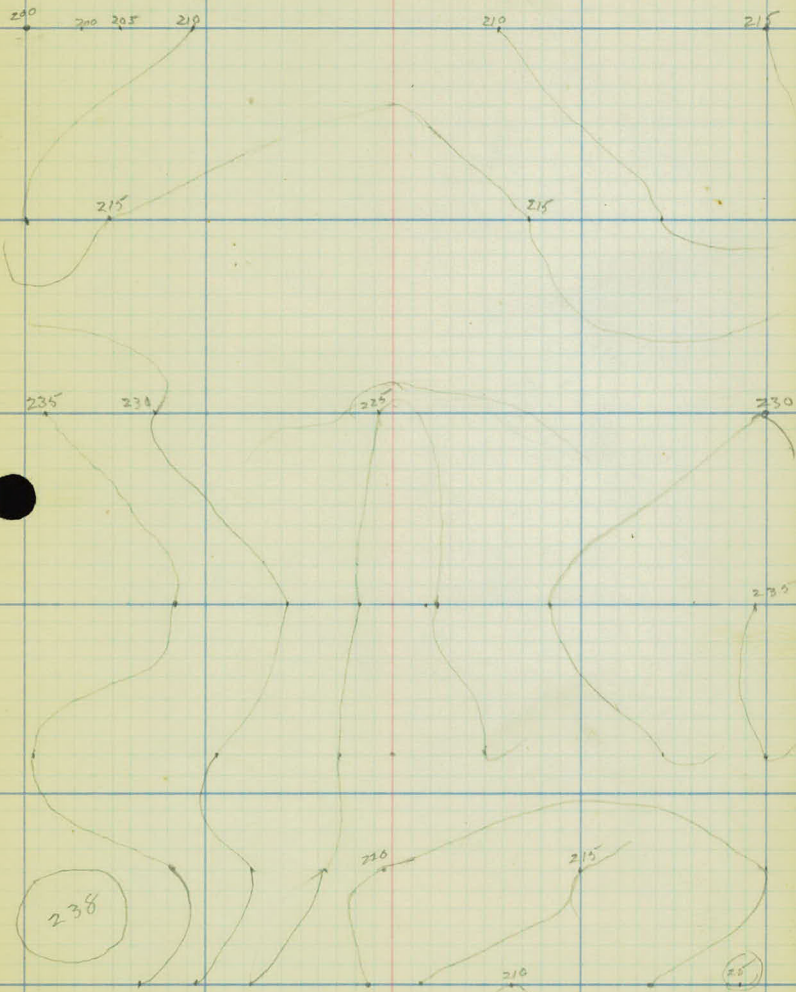
Black-soil.

Trees

X

X

L E R



3/28/23

sheet #10 of 14 sheets

Sta Elev

225 218.6

+81.7 214.6

+50 219.4

224 211.6

+

+4 210.0

223 209.3

+55 200.0

222 199.4

221 199.2

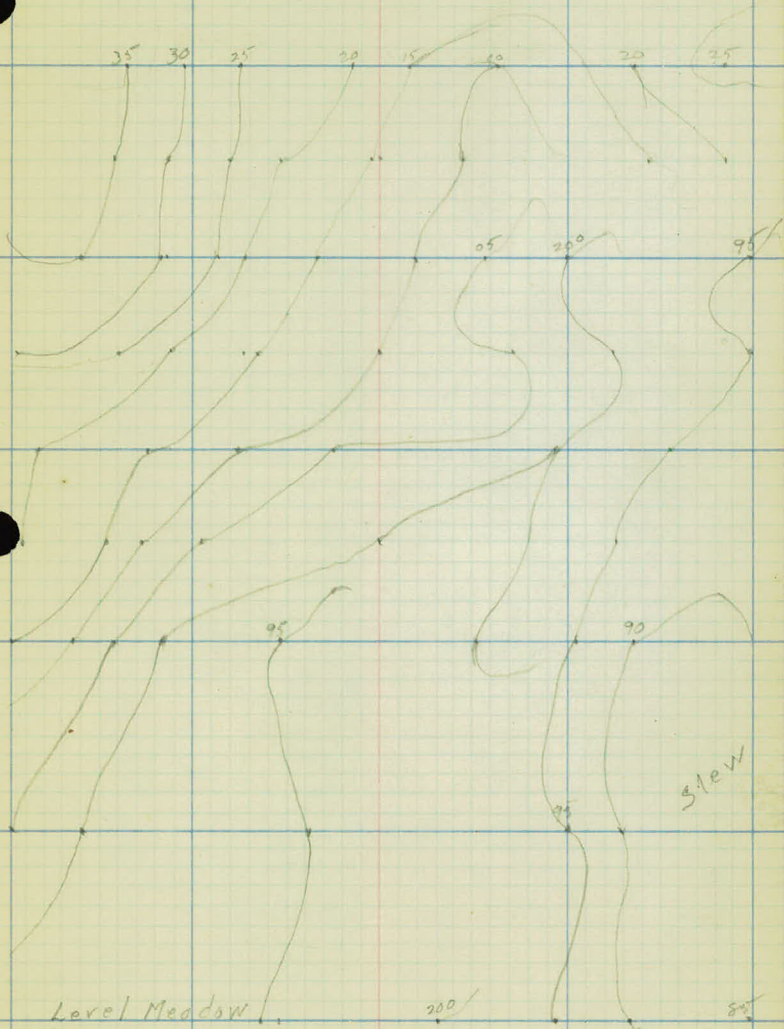
220 198.5

grain stubble

Clay

Open fields

A. Line Contours L & R



Level Meadow

200

slew

85

3/28/23

Sheet #11 of 14 sheets

Sta Elev

220 198.5

+60 201.6

219 194.5

+60 188.4

218 186.9

+80 187.4

+75 186.5

+50 187.4

217 191.2

+80 195.4

140 201.9

216 202.8

+65 201.8

+30 197.6

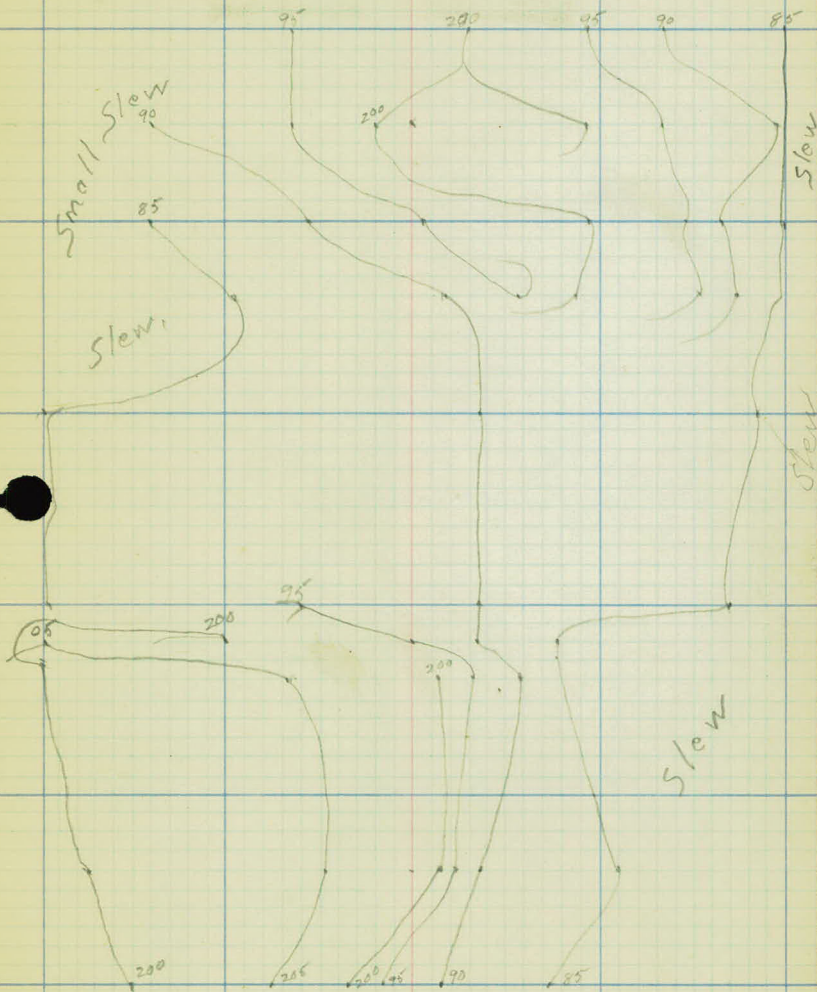
215 191.5

Clay - Gravel

Pasture

Open fields

Ahine Contours L & R



3/28/23

Sheet #12 of 19 sheets

Sta Elev

215 191.5

+70 188.5

Pasture

214 187.5

+50 190.5

213 192.2

+50 200.2

+22 200.6

212 203.9

Clay-gravel

+15 205.7

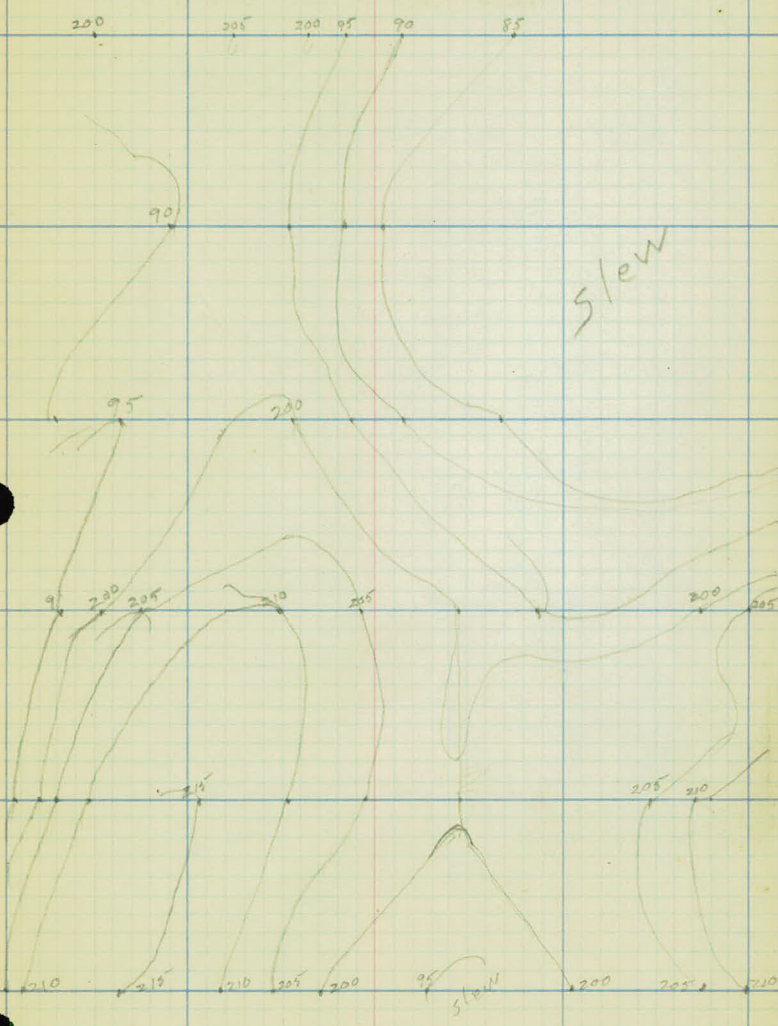
211 204.1

Pasture

+15 198.1

210 196.1

L E R
A Line Contours



3/28/23

Sheet #13 of 19 sheets

Sta Elev

210 196.1

Clay-gravel

209 195.1

+50 197.1

Pasture

208 200.1

+52.6 209.1

/

x

x

+35 210.8

207 210.6

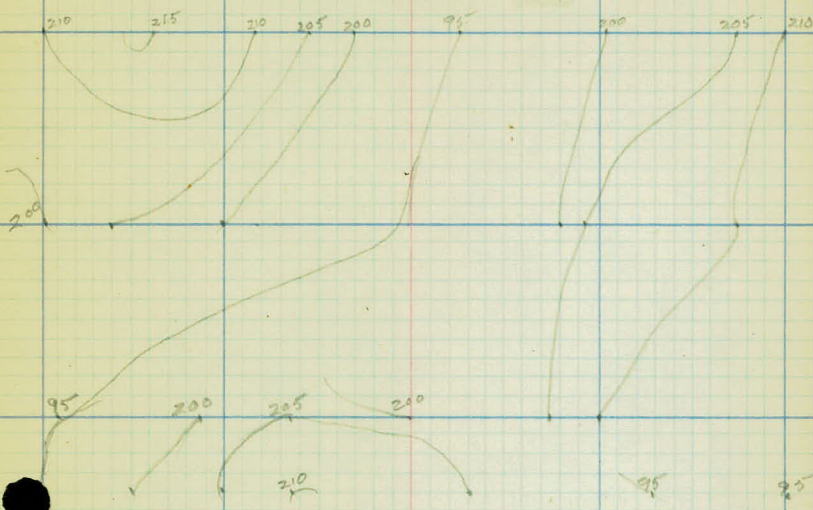
206 210.2

+50 215.4

205

L & R

A Line Contours



A Line Contours.

Carley-Recording
 Sterk-Hand-Level
 Franke-Tape
 Mcmanus Rod.

Sheet #19 of 19 sheets

St. P & A Survey
B-line

FMC 4/2/23

CONTOURS.

247

1966

246

1965

+50

1968

245

2034

+50 P5

030

rt & back tang.

244

2028

243

956

242

1902

+30

1882

241+097

1962

St. P & F Survey
B-Line

FMC 4/2/23

247

246

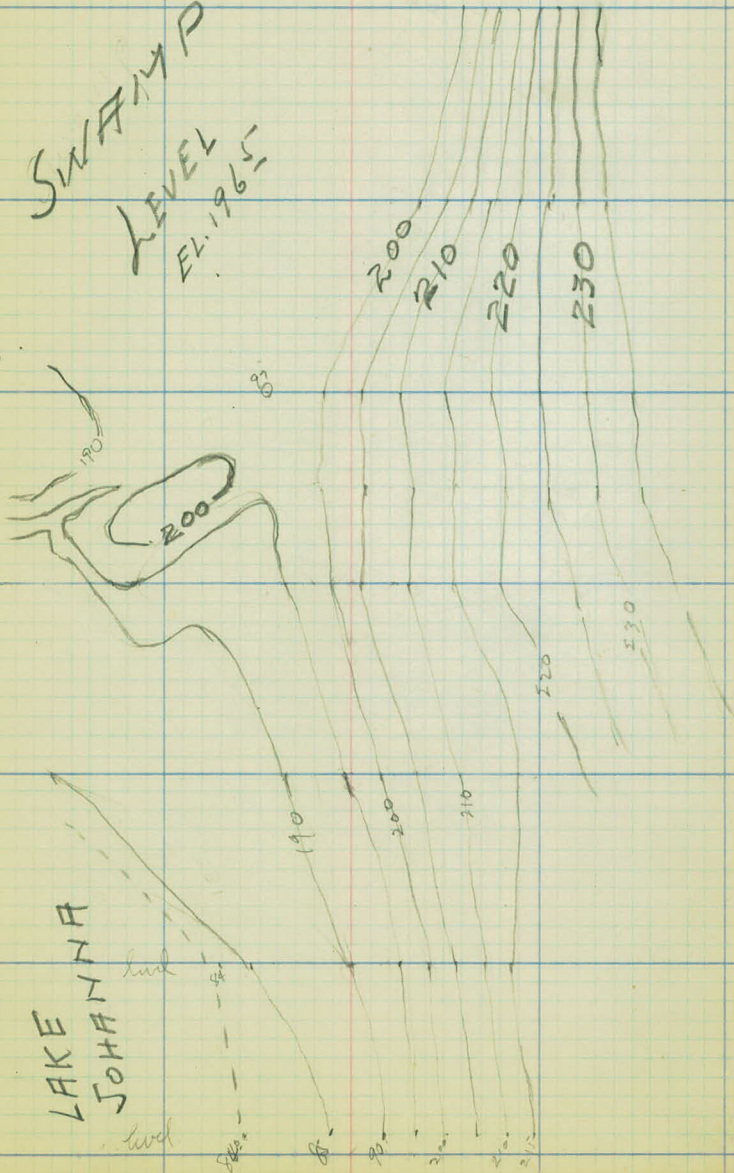
245

244

243

242

SWAMP
LEVEL
EL. 1965



253

1965

252

1966

251

1966

250

1977

249

1965

248

1963

247

1966

St. P. & A. Survey
B-Line

FMC #12/23

253

252

251

250

249

248

S W F M P
level
E 7.1965

S W F M P
level
E 7.1965

R00

R10

R20

R30

TOP

TOP

R00

R10

R20

R30

R00

R10

R20

R30

259

2259

+30

2271

258

2313

+65

2318

+50

2323

257

2236

+90

2209

256

125

255

004

+50

1974

254

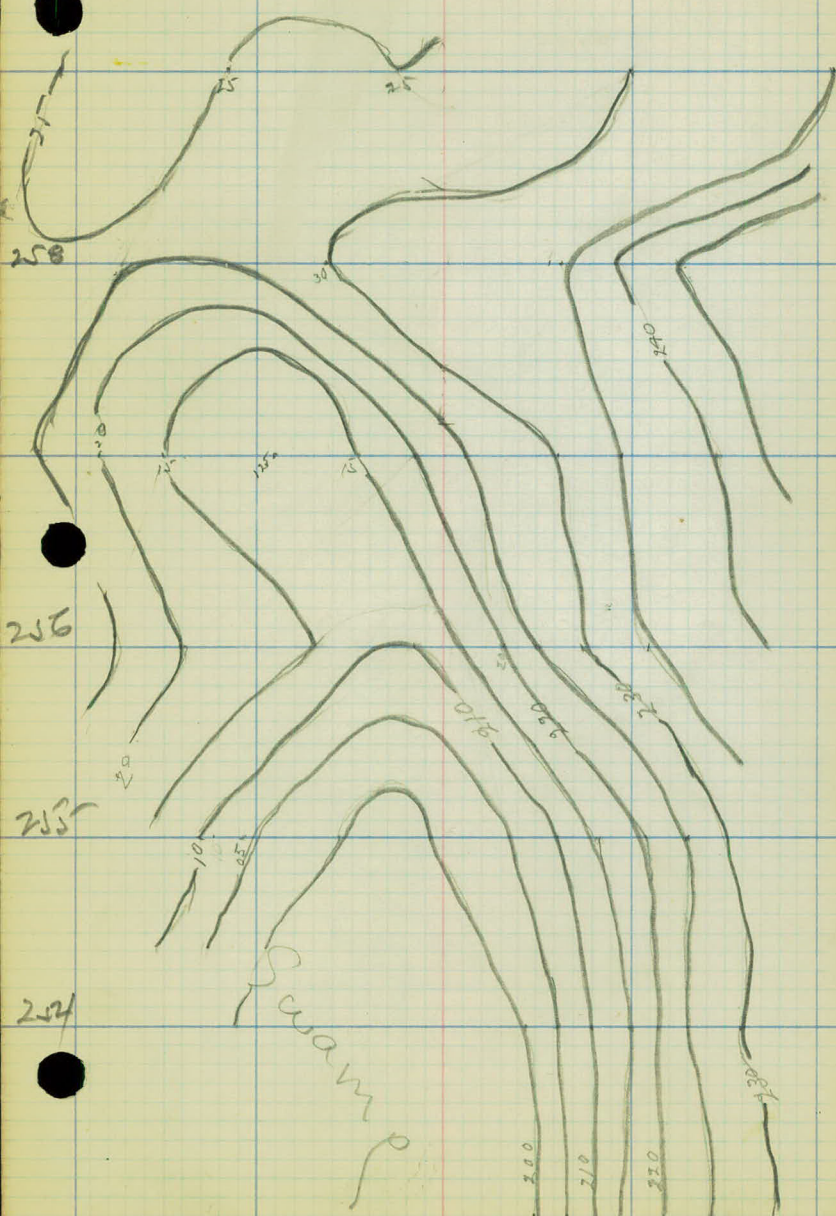
1962

253

1965

STP&A Survey
B-line

FMC 4/2/27



258

256

255

254

Swamp

265 201⁰

+60 204⁷

264 206¹

+30 210²

263 215⁵

+22 224²

+20 234⁰

+15 234⁰

+10 224⁴

262 224²

+90 222⁴

+75 223⁵

261 221¹

+80 220¹

+30 219⁶

+25 218²

+15 222¹

260 222⁴

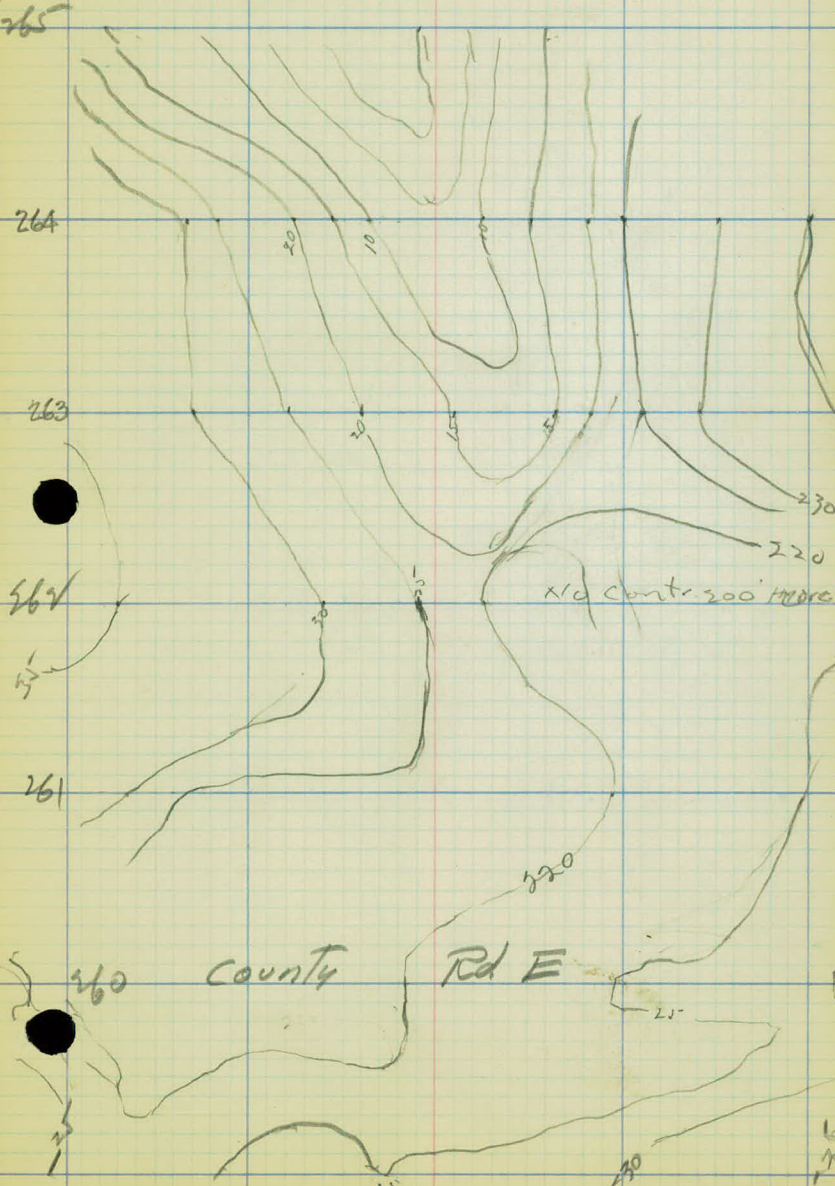
+75 220⁷

+50 220⁵

259 225⁹

STP&A Survey
B-Line

FMC 4/2/23



271

+15 1938

270 1923

269 1917

268 1917

+75 1921

+50 1934

267 1925

266 1946

+30 1919

265

St. Paul Survey
B-Line

FMC 4/2/23

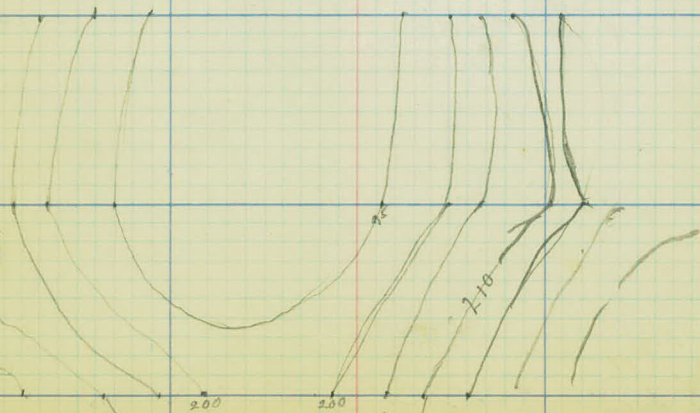
271

270

269
con tours for
Sta. 267
see Art 272
and Align Topog
Profile
Contr. on Emb.
parallel I.P.P.
Lake Parallel

268

267



277 969

+70 993

+20 991

276 2003

+70 024

275 985

+35 922

274 942

+70 979

+45 999

273 1980

+60 1960

+06 1920

272 1912

+60 1905

+45 1896

+30 1914

271

SKP&A Survey
B-Line

FMC 4/2/23
200

277

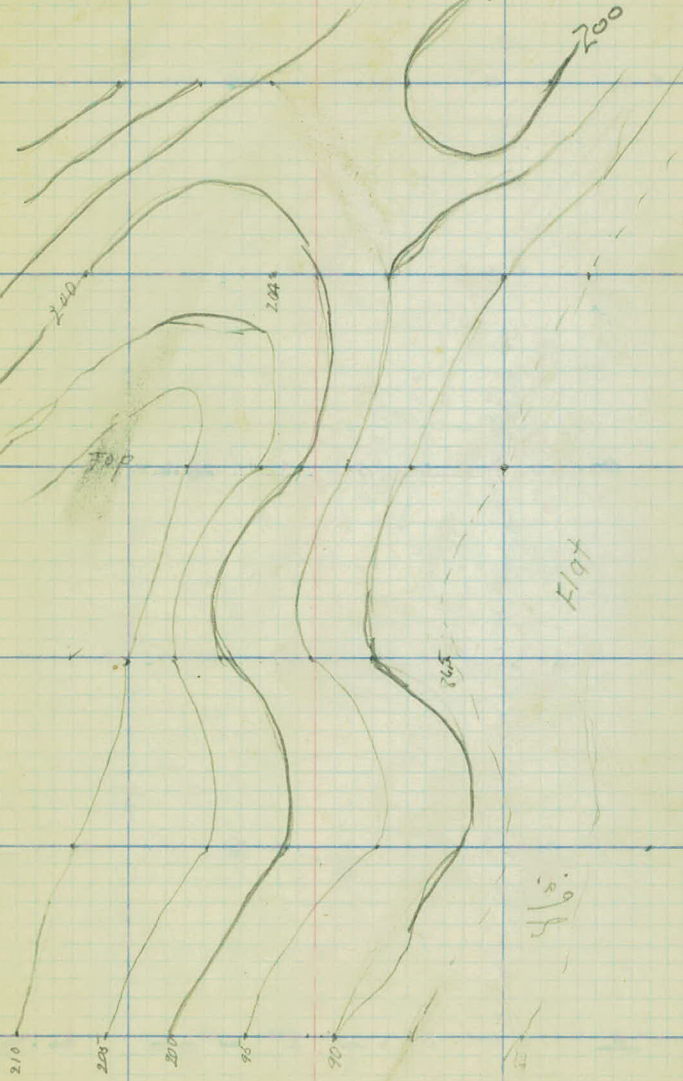
276

275

274

273

272



279 1833

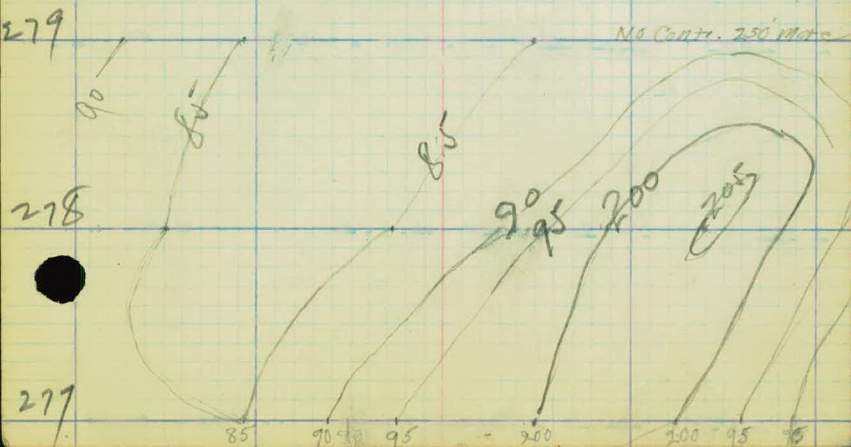
+30 859

278 871

277

St P & A Survey
B-Line

FMC 4/2/23



Sta.

Elev.

284

183.5

283

188.7

282

185.9

281

184.7

+30

186.0

+25 P.I

280

186.8

+80

185.9

+45

183.4

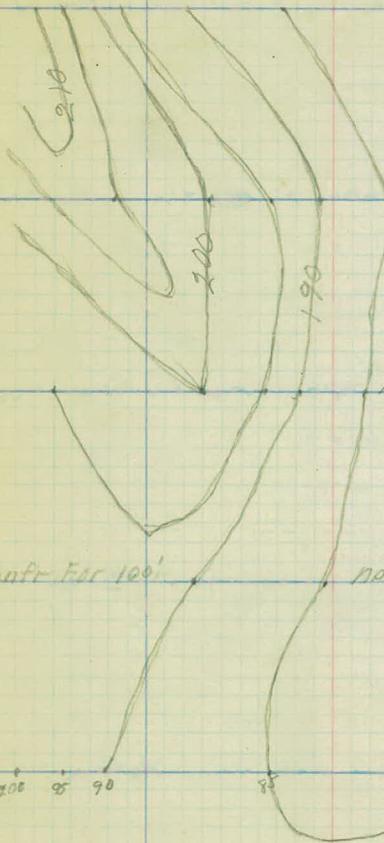
279

183.3

St. P. - Ft. Survey
B-Line

P.J.C. 4/2/23
FMC

284



283

No more Contr For 200'

282

No More Contr. For 200'

281

No Contr For 100'

no more Contr For 200'

280

70 85 90

85

No Contr For 100'

279

Sta

Elev

289

185.8

+60

196.6

+20

191.6

288

192.7

+75

193.1

287

191.2

286

187.4

285

183.6

284

183.5

St. P. - A Survey
B-Line

P.J.C 4/2/23
F.M.C

289

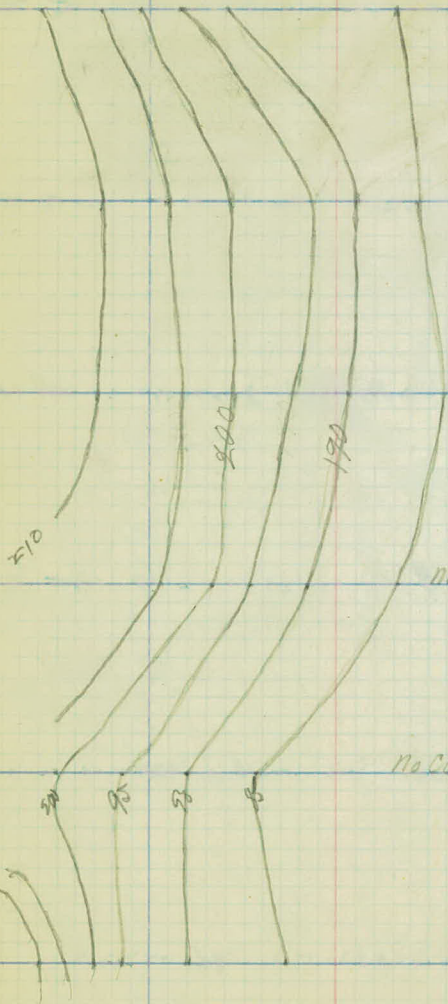
288

287

286

285

284



No Contr for 200'

No Contr for 200'

sta

Elev

295

183.0

294

180.8

293

180.7

292

182.7

291

185.9

290

189.7

+45

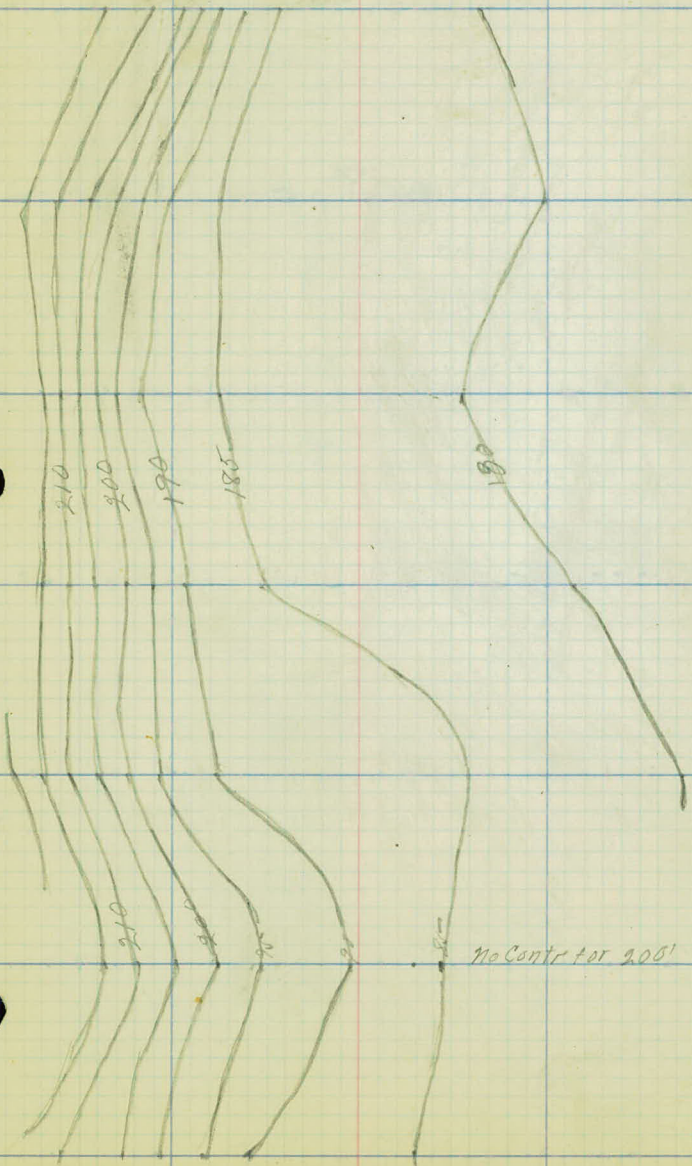
195.9

+
289

186.5

St. P. - A Survey
B-Line

P.J.C. 4/2/23
F.M.C.



No Contour for 205'

Sto

Elev

301

179.4

300

179.6

299

179.9

298

183.3

297

186.3

+25

188.1

+21

186.9

296

185.2

+60

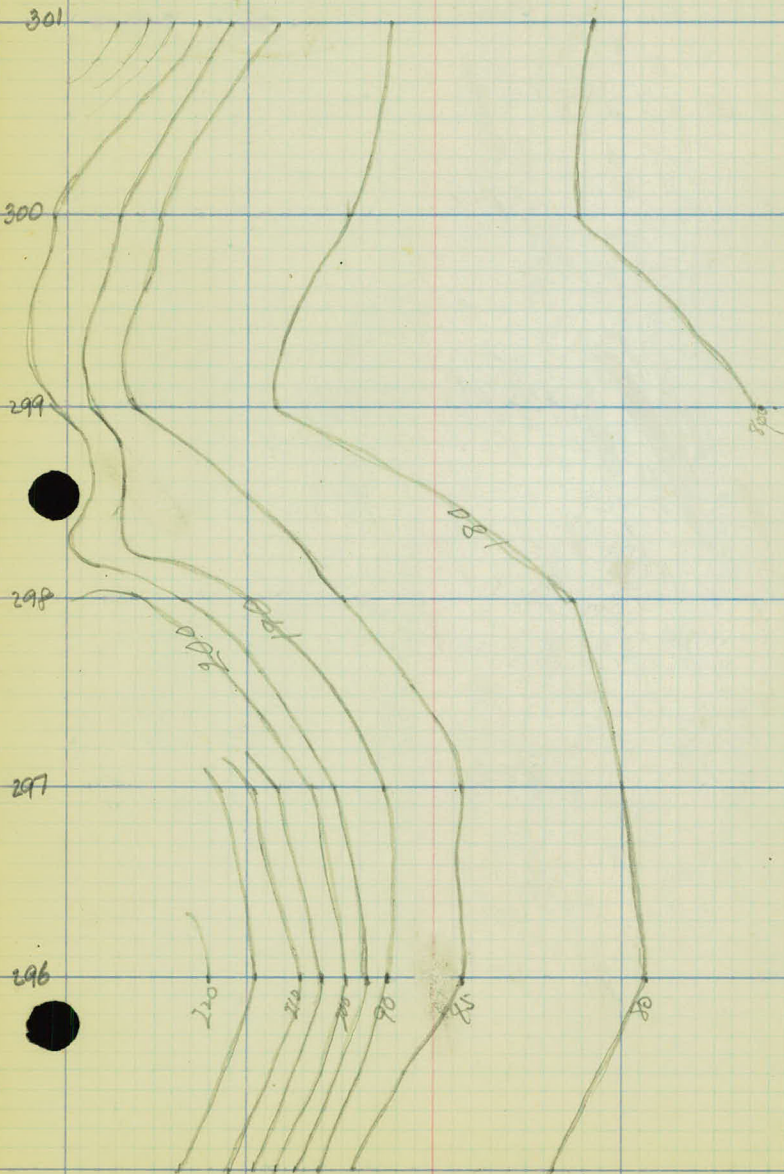
186.5

295

183.0

St. P. - A. Survey
B-Line

PJC 4/2/23
F.M.C.



Sta

Elev

307

180.6

306

180.7

305

181.3

304

181.9

303

182.6

+20

182.1

302

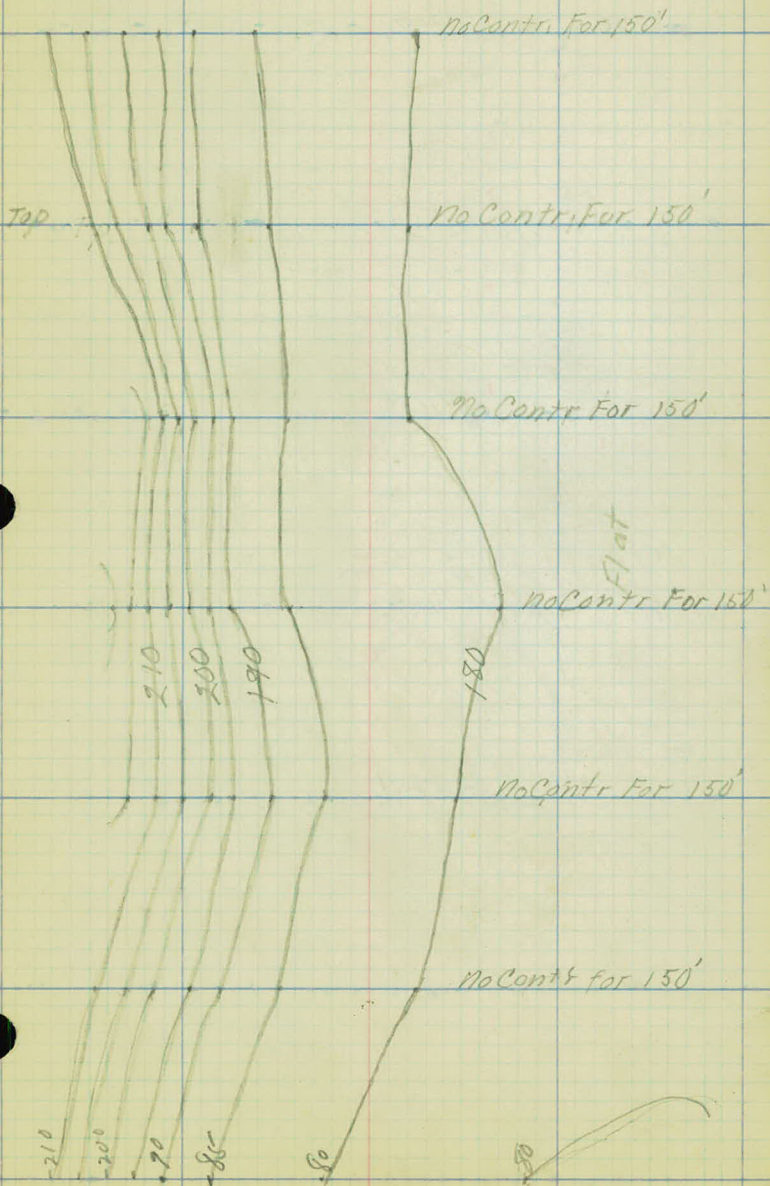
181.3

301

179.4

St. P. - H. Survey
B-Line

P.J.C. 4/2/23



Sta

E/10V

313

178.2

312

178.5

311

178.4

310

178.5

710 P.I

309

179.4

308

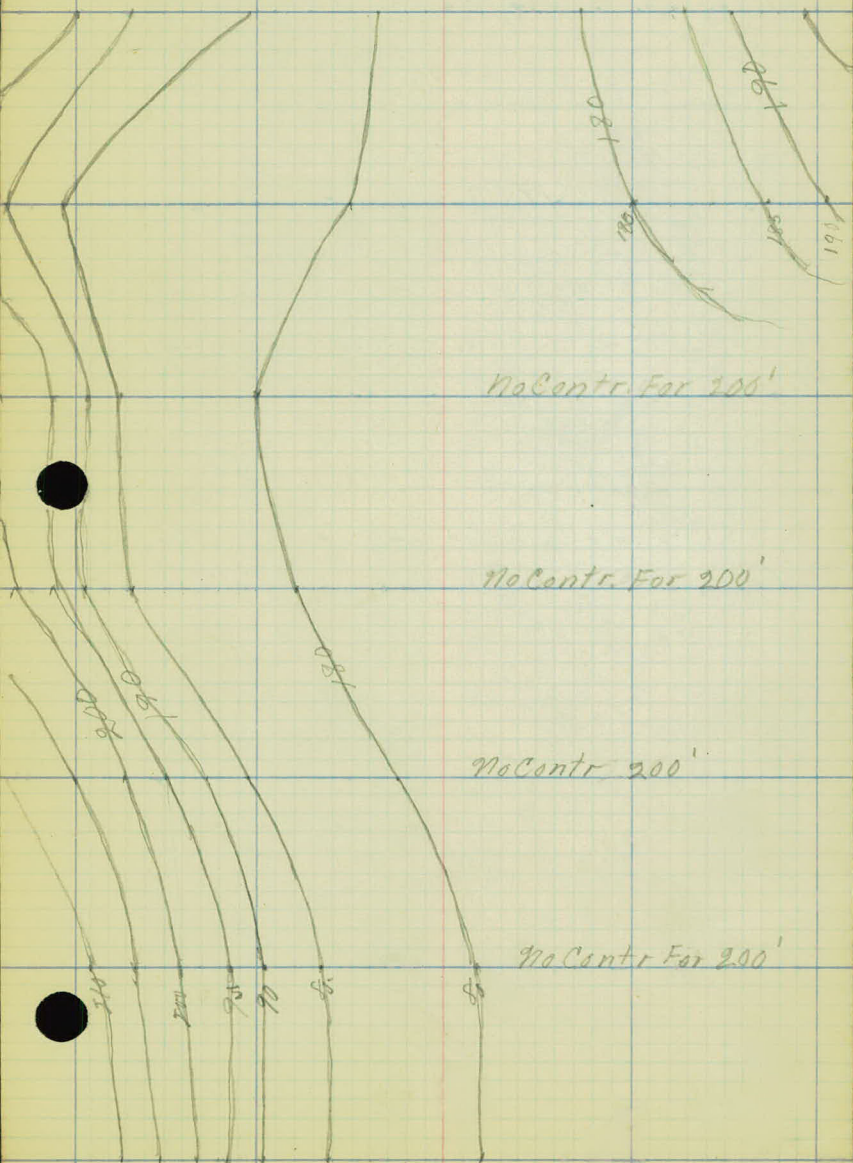
180.3

307

180.6

St. Paul A Survey
B-Line

P.J.C. 4/3/23



Sta.

Elev.

319

184.9

318

182.2

317

184.5

316

179.5

315

177.0

314

181.3

313

178.2

St. Paul - A Survey
B-Line

P.J.C. 4/3/23

Level

175

No Contr For 150'

No Contr For 200'

Level For 100'

Top
207.5

Top
207.5

200

Level

180

190

200

200

190

35

95

195 190 185 180 175 170 165

Sta.

Elev.

323

173.5

322

173.3

321

176.2

320

182.9

319

184.9

St. Paul - H. Survey
B-Line

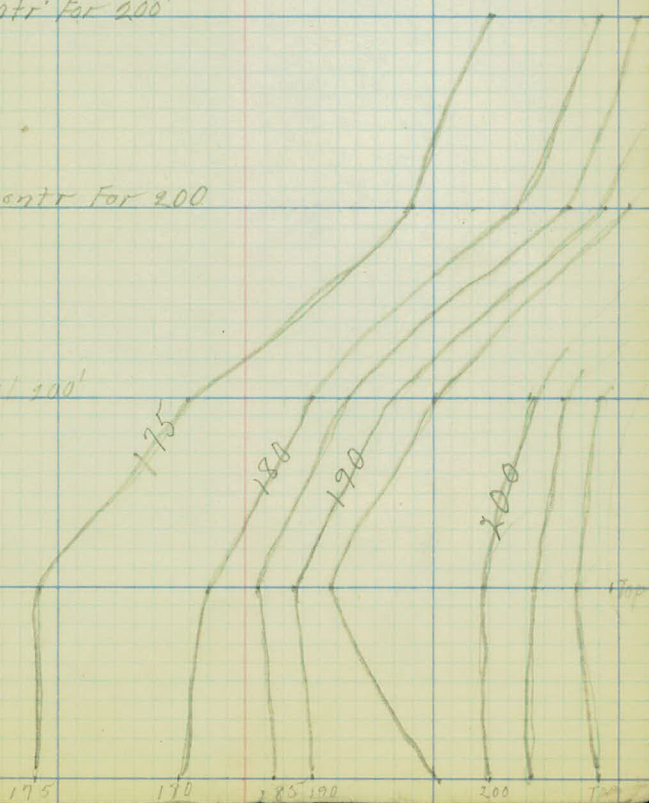
PJC, 4/3/23

No Contr' for 200'

No Contr' for 200'

Level 100'

Level



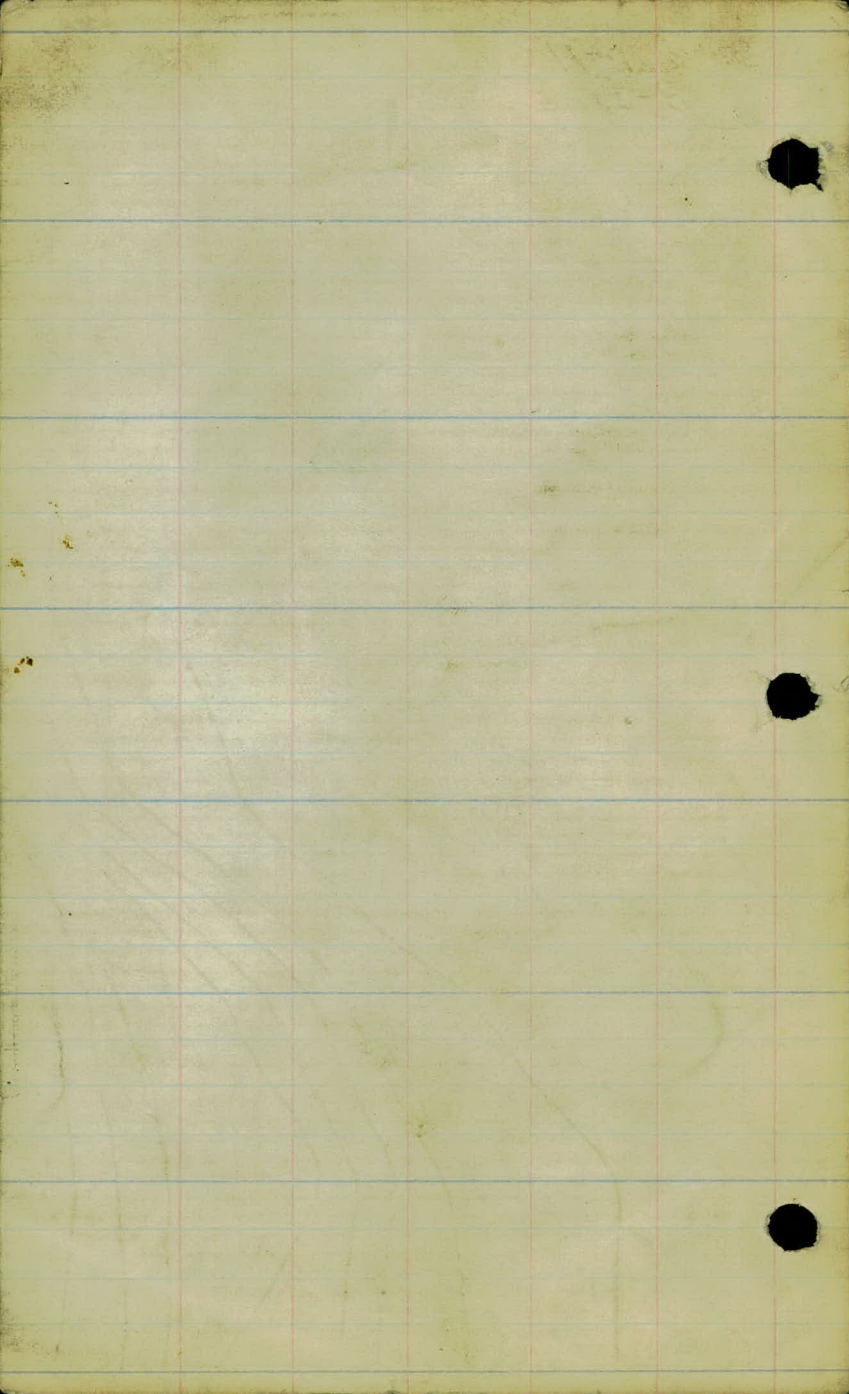
175

170

185 190

200

205



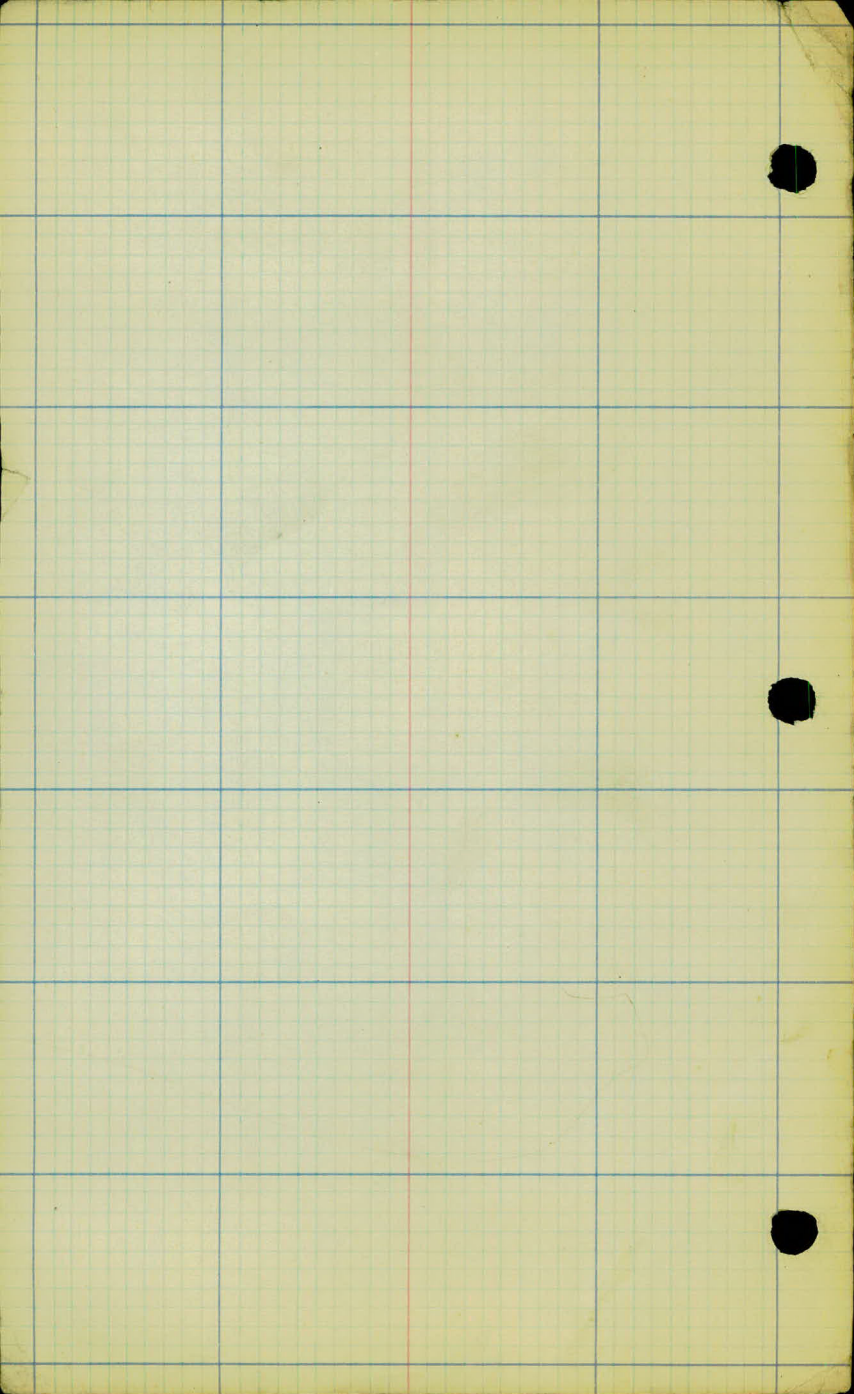
ST. PAUL - ANOKA SURVEY

LEVEL NOTES

"A", "B", "C" & "D" LINES

File 4

CR. Berwick
Lyn. in charge
Carly - Lockman.



A Line Levels

Carley-Level
Stork-Rod

32 sheets

3/11/21 Shoot 4/6 of 32. 100 ft

Sta	+ H.I.	- Rod. Elev.
B.M. 711	231.12	229.04
0+00		1.4 226.7
0+30		5.4 225.7
1+00		4.2 226.9
2+00		4.0 227.1
3+00		4.2 226.9
4+00		5.3 225.8
T.P.	1.51 227.96	9.67 226.45
5+00	<u>8.62</u>	3.8 224.2
6+00		5.4 222.6
+20		6.4 221.6
205		6.7 221.3
7+ B.M.		8.0 220.0
B.M.		7.00 220.96
8+00		7.1 220.9
+36		5.8 222.2
9+00		6.3 221.7
T.P.	7.20 229.17	5.67 222.29
10+00		<u>10.34</u> 7.6 221.9
11+00		9.1 220.4
11+20		9.5 220.0
12+00		7.8 221.7
12+10		8.1 221.4
	10.34	229.01
	<u>8.62</u>	<u>222.29</u>
	1.72	172

A. Line Levels Corley-Level Stark-Road
Top of man on car. of Osage & Comp. Photos

Nail in 24" tree 50' R of sta 7+00

3/11/23 Sheet #20 of 32 sheets

5+0	+	H.I.	-	Pod Elev	
	7.20	229.99			
13+00				3.6	225.9
+70				1.9	227.6
+72				3.3	226.2
14+00				2.9	226.6
+70				7.8	221.7
15+00				1.8	217.7
T.P.	10.71	228.87	11.33		218.16
B.M.				7.69	221.18
16				11.7	217.2
17+00				10.2	218.7
18+00				7.8	221.1
19+00				2.4	224.5
T.P.	11.74	238.86	1.75		227.12
20+00	29.65			7.6	231.3
21+00				4.8	234.1
22+00				3.5	235.4
T.P.	11.40	247.60	2.66		236.20
23+00			15.74	6.5	241.1
23+50				4.9	242.7
24+00				4.7	242.9
25+00				3.7	243.9
26+00				2.6	245.0
	29.65		236.20		
	15.74		222.29		
	13.91		13.91		

Alpine Levels.

Carboy-level Stark Rod.

Nail in tele. pole 50' R of Sta 15+00

3/11/22 sheet 43 of 32 sheets

Sta	+ H.T.	-	Red Elev.
	11.40	247.60	
27+00			2.9 244.7
TP	3.25	248.57	2.28 245.32
28+00			4.4 244.2
29+00			4.9 243.7
30+00			5.5 243.1
31+00			4.4 244.2
32+00			4.5 244.2
BM.	5.67	249.98	4.26 244.31
32+90	20.32		5.8 244.2
33+00			5.0 245.98
33+20			4.5 245.5
33+40			5.1 244.9
33+95			6.7 243.3
34+00			7.5 242.5
35+00			7.1 242.9
36+00			6.0 244.0
37+00			3.6 246.4
38+00			5.8 244.2
39+00			12.0 238.0
TP	4.22	243.10	11.10 238.88
39+45			17.64 6.1 237.0
39+50			3.3 239.8
	20.32		238.88
	17.64		236.20
	2.68		2.68

A line Levels

Carley-Level / Sterk-Red.

Nail in tele. pole 30' Ref sta 32+65

at intersection on Larpenteur Ave.

3/12/23

Sheet # 9 of 32 sheets

Sta	+ H.I.	- Rod	Elev.
	4.22		293.10
39+82.4		2.4	290.7
40+00		3.3	289.8
40+05		7.2	285.9
B.M.		6.08	337.02
40+45		7.1	286.0
41+00		7.0	286.1
42+06		6.6	286.5
43+00		5.7	287.4

Alpine Levels

Carley-Level Sterk-Rod.

R.R. spike in oak tree Raf sta 90+10

3/14/23

sheet #5 of 32 sheets

Sta		H.I		Rod	Elev
BM	5.73	292.95			237.02
43+50				9.9	238.0
44+00				4.2	238.7
45+00				0.3	242.6
T.P.	11.30	253.76	0.99		242.46
46+00				7.1	246.7
47+00				4.5	249.3
48+00				1.0	252.8
T.P.	9.70	262.80	0.66		253.10
49+00	26.93			6.7	256.1
50+00				5.2	257.6
51+00				5.3	257.5
52+00				10.2	252.6
T.P.	0.94	251.28	12.46		250.34
53+00			13.61	8.1	243.2
54+00				12.7	238.6
55+00				14.0	237.3
56+00				15.0	336.3
57+00				13.6	237.7
58+00				6.8	244.5
59+00				1.9	249.4
60+00				0.0	251.3
	26.93		250.34		
	13.61		237.02		
	13.32		13.32		

4, line Levels Carley-Level Stark-Rod
Nail in oak tree R of sta 40+40

3/19/23

Sheet # 6 of 32 sheets

Sta.	+	H.I.	-	Rod	Elev.
	0.94	251.28			
T.P.	6.07	257.25	0.10		251.18
	<u>7.01</u>		5.7	5.7	251.6
61+00				5.8	251.5
62+00				5.3	252.0
63+00				5.2	252.0
+50				5.4	251.9
65+00				5.0	249.3
66+00				12.3	245.0
T.P.	10.07	255.89	<u>11.93</u>		245.82
			11.53		
67+00				10.6	245.3
B.M.				8.23	247.66
68+00				10.4	245.5
68+05				8.0	247.9
68+10				7.8	248.1
68+15				8.1	247.8
68+20				9.3	246.6
69+00				5.4	250.5
+35				3.0	252.9
70+00				1.6	254.3
71+00				2.1	253.8
+50				2.5	253.4
72+00				0.7	255.2
	11.53		250.34		
	<u>7.01</u>		<u>245.82</u>		
	4.52		4.52		

A line levels

Carley-level Sterk Rod,

R.R. spike in tele. pole 75' R of sta 67+60

☒ of Reservoir str.

3/14/23

Sheet #7 of 32 sheets

570	1	H.I.	-	Pod	F/101
	10.07	255.89			
T.P.	9.83	265.11	0.161		255.28
72+70				6.9	258.2
73+00				7.0	258.1
+90				5.8	259.3
74+00				6.6	259.5
+30				8.3	256.8
75+00				7.9	257.2
76+00				9.9	260.7
77+00				11.2	263.9
T.P.	4.00	268.92	0.19		264.92
	23.90				
78+00				4.5	264.4
+84				4.5	264.4
78+90				9.6	259.3
79+02				10.6	258.3
+04				8.7	260.2
+25				8.7	260.2
B.M.	1.68	262.55	$\frac{8.05}{8.85}$		260.87
80+00				1.0	258.6
81+00				4.9	257.7
82+00				4.8	257.8
83+00				5.0	257.6
84+00				5.0	257.6
	23.90		260.87		
	<u>8.85</u>		<u>245.82</u>		
	15.05		15.05		

Arline Levels

Carley-Level Sterk-Rod.

\$ on Hamline Ave. intersection

RR. spike in tele. pole E of sta 79+00

5/15/23

Sheet # 8 of 32 sheets

Sta + H.I - Rod Elev

1.68 262.55

85+00 4.5 258.1

86+00 4.2 258.4

T.P. 2.53 266.30 3.78 258.77

87+00 7.6 258.7

88+00 6.8 259.5

89+00 5.8 260.5

B.M. 5.17 261.13

90+00 4.3 262.0

91+00 3.3 263.0

92+00 2.7 263.6

93+00 2.2 264.1

T.P. 1.83 267.03 1.10 265.23

11.18

94+00 2.1 264.9

95+00 2.5 264.5

96+00 4.1 262.9

97+00 5.5 261.5

B.M. 6.21 260.82

98+00 5.5 261.5

99+00 6.1 260.9

100+00 7.1 259.9

T.P. 0.97 261.70 6.30 260.73

11.04

101+00 2.4 259.3

11.18 260.87

11.04 260.73

.14 .14

A. Line levels

Carley-level / Sterk-Rod.

R.R. spike in tele pole Ref sta 89+63

Top of monument and cor. of Hamlin & Co. B.

3/15/23

Sheet # 9 of 32 sheets

Sta	+ H.I	- Rod Elev
	0.97	261.70
102+00		3.8 357.9
103+00		5.0 356.7
104+00		6.1 355.6
105+00		7.7 354.0
106+00		11.0 350.7
T.P.	2.05	253.63 10.12
	<u>3.02</u>	251.58
107+00		5.3 348.3
B.M.		<u>6.00</u> 16.12
		247.63

A₁ AEquation station 107+53.2 = 103+80 A₁ = A

B.M.	3.88	251.51	247.63
104+00			4.3 347.2
105+00			5.0 346.5
106+00			5.4 346.1

16.12

266.73

3.02

247.63

13.10

13.10

A. Line Levels

Carley-Level, Star-K-Rod

R. R. spike in tele. pole R of sta 109+33

3/13/23

Sheet # 10 of 32 sheets

Sta.	+	H.I.	-	Rod	Elev.
	3.88	251.51			
107+00				5.4	246.1
108+00				5.4	246.1
109+00				5.5	246.0
110+00				6.1	245.4
111+00				6.3	245.2
T.P.	4.50	249.58	6.43		245.08
112+00				4.0	245.6
113+00				5.2	244.4
114+00				5.6	244.0
115+00				6.7	242.9
B.M.				5.85	243.73
116+00				7.6	242.0
117+00				9.2	240.4
T.P.	<u>1.25</u>	241.51	9.32		240.26
	9.63				
118+00				3.8	237.7
119+00				6.8	239.7
120+00				8.2	233.3
121+00				7.7	233.8
122+00				5.7	230.8
T.P.	9.24	246.37	<u>4.38</u>		237.13
123+00			20.13	7.9	238.5
124+00				6.1	240.3
	20.13		247.63		
	<u>9.63</u>		<u>237.13</u>		
	10.50		10.50		

A. line Levels

Carley-Level Star-K-Rod

R.R. spike in tele. pole R of sta 115+66

3/13/23

Sheet #11 of 32 sheets

Sta.	+	H.T.	-	Rod	E/cv.
	9.24	246.37			
B.M.				4.70	241.67
125+00				4.8	241.6
126+00				5.3	241.1
127+00				7.2	239.1
128+00				10.4	236.0
T.P.	0.0	235.72	10.65		235.72
129+00				2.6	233.1
130+00				5.6	230.1
131+00				7.8	227.9
132+00				9.8	225.9
133+00				10.6	225.1
134+00				10.5	225.2
T.P.	4.67	230.59	9.80		225.92
135+00	13.91			5.1	225.5
136+00				5.2	225.4
B.M.				5.25	225.34
137+00				5.4	225.2
138+00				5.0	225.6
139+00				4.4	226.2
140+00				2.8	227.8
T.P.	8.04	238.52	2.11		228.48
141+00			22.56	5.6	225.0
	22.56		237.13		
	13.91		228.48		
	8.65		8.65		

A-Line Levels.

Carley-Level Ster-K-Rad

R.R. spike in tele. pole R of sta. 124+93

R.R. spike in tele pole R of sta 136+69

3/13/23

Sheet #12 of 32 sheets

Sta.	+	H.I.	-	Red	Elev.
	8.04	236.52			
142+00				4.6	231.9
143+00				5.0	231.5
144+00				5.9	230.6
B.M.				6.25	230.27
				6.41	230.11
145+90				6.3	230.12
+75					
146+00				3.5	233.0
146+00				3.2	233.2
B.M.	4.00	236.83	3.69		232.83
147+00	12.04			4.3	232.5
148+00				3.7	233.1
149+00				4.6	232.2
150+00				5.5	231.3
151+00				5.9	230.9
152+00				6.1	230.7
153+00				7.6	229.2
T.P.	0.41	229.54	7.70		229.13
154+00			11.39	1.6	227.9
155+00				2.1	228.4
156+00				3.6	225.9
157+00				6.6	222.9
B.M.				8.64	220.90
	11.39		229.13		
	12.04		228.48		
	0.65		0.65		

M.W. Carley

A. Line Levels

Carley-Level, Sterk-Rod.

S. rail of S. Track 250

N. " " N. "

} Top of monument on ϕ at sta 146+03.7
} road on L level out 500'

R.R. spike in tele pole R of 157+87

3/2/23

Sheet #13 of 32 sheets

Sta.	+	H.I.	-	Red	Elev.
	0.91	229.59			
158+00				9.1	220.4
159+00				11.0	218.5
160+00				11.0	218.5
TR	6.00	224.45	11.09		218.45
161+00				5.9	218.6
162+00				6.0	218.5
163+00				5.8	218.7
164+00				4.5	220.0
165+00				3.6	220.9
166+00				3.6	220.9
167+00				4.2	220.3
168+00				5.0	219.5
TR	6.00	225.49	4.96		219.49
	12.41				
169+00				6.5	219.0
170+00				5.5	220.0
171+00				4.6	220.9
172+00				4.1	221.4
RM	9.56	230.46	4.09		221.40
			20.19		
173+00				8.0	222.5
174+00				6.4	224.1
175+00				5.1	225.4
				5.6	224.9
	20.19		229.13		
	12.41		221.40		
	7.73		7.73		

Alpine Levels

Carley-Level Stork Rod

Top of monument on d at sta 172+29

3/14/23 sheet #14 of 32 sheets

Sta.	+	11.5	-	Rod Elev.
	9.06	230.46		
177+00			6.8	223.7
178+00			7.8	222.7
179+00			8.3	222.2
T.P.	4.00	225.84	8.62	221.84
180+00			3.1	222.7
+45			2.9	221.9
181+00			3.5	222.3
182+00			5.0	220.8
B.M.			5.81	220.03
183+00			6.2	219.6
184+00			7.0	218.8
185+00			7.3	218.5
T.P.	3.44	221.75	7.53	218.31
186+00			3.5	218.3
187+00			4.5	217.2

3/15/23

B.M.	3.52	223.55		220.03
T.P.	6.76	223.80	<u>6.51</u>	217.04
188+00			221.66	7.1 216.7
189+00			6.8	217.0
190+00			5.3	218.5

A. Line Levels

Carley Level Stark Road

220.03

RR spike in tele pole Ref sta 182+69

sta 182+69

3/15/23

Sheet #15 of 32 sheets

Sta.	T.	H.L.	-	Rod.	Elev.
	6.76	223.80			
191+00				4.8	219.0
+25				3.6	220.2
192+00				3.6	220.2
+79.0 RI.				4.4	219.4
T.T.	3.04	223.41	3.43		220.37
193+00				3.6	219.8
194+00				4.4	219.0
195+00				6.3	217.1
196+00				8.3	215.1
197+00				11.9	217.5
TP	6.00	218.39	11.02		212.39
	<u>15.70</u>				
198+00				7.4	211.0
199+00				7.2	211.2
200+00				5.6	212.8
201+00				3.7	214.7
+95.7 RI.				3.1	215.3
B.M.	0.89	217.73	<u>1.55</u>		216.84
			16.00		
202+00				2.6	215.1
203+00				2.9	214.8
204+00				4.4	213.3
205+00				6.9	210.8
+30				7.9	209.8
	16.00		217.04		
	<u>15.70</u>		<u>216.84</u>		
	.30		.30		

A. line Levels Carfax Level / Stark Rd

Nail in tele. pole 4 of sta 201+96

old elev
216.89

3/16/23 Sheet #16 of 32 sheets

Sta + H.I. - Rod Elev

0.89 217.73

✓ +50

2.3 215.4

✓ 206+00

7.5 210.2

✓ 207+00

7.1 210.6

T.P.

2.47 219.15

6.05

211.68

+35

3.36

3.3 210.8

+52.6 A.I.

5.1 209.1

✓ 208+00

14.0 200.1

+50

17.0 197.1

✓ 209+00

19.0 195.1

✓ 210+00

18.0 196.1

+15

16.0 198.1

✓ 211+00

10.0 204.1

+15

8.4 205.7

T.P.

3.28 208.49

8.99

205.21

✓ 212+00

14.99

4.6 203.9

+20

7.1 201.4

+22

7.9 200.6

+50

8.3 200.2

✓ 213+00

15.6 192.9

+50

18.0 190.5

✓ 214+00

21.0 187.5

BM

12.50 195.99

14.49

216.84

3.36205.21

11.63

11.63

A. Line Levels

Carley-Level / Sterk-Rod

R.R. spike in tele pole 90' L of sta 217+00

3/16/23 Sheet #17 of 32 sheets

Sta + H.I. - Rod Elev

3.28 208.49

+70 20.0 188.5

R15+00 17.0 191.5

+05 17.0 191.5

+30 10.9 197.6

+65 6.7 201.8

T.P. 1.58 206.72 3.35 205.14

R16+00 3.9 202.8

+40 4.8 201.9

+80 11.3 195.4

T.P. 2.58 196.81 12.49 194.23

7.49

R17+00 5.6 191.2

+50 9.4 187.4

+75 10.3 186.5

+80 9.4 187.4

R18+00 9.9 186.9

+60 8.4 188.4

R19+00 2.3 194.5

T.P. 8.53 204.04 1.30 195.51

17.14

+60 2.4 201.6

R20+00 5.5 198.5

RR1+00 6.8 197.2

RRR+00 9.7 194.4

17.14 205.21

7.49 195.51

9.70 9.70

A. Line Levels Carley-Level, Steer-K-Rod.

3/16/23 sheet #18 of 32 sheets

Sta	+	H.I.	-	Red Elev.
		8153	209.04	
+45				7.7 196.3
RT	12.92	215.89	1.07	202.97
RR3+00				11.6 204.3
B.M.				11.63 204.26
+35				7.2 208.7
RR4+00				4.3 211.6
+50				1.5 214.4
RI, RR4+81.7				1.3 214.6
T.P.	12.05	227.33	0.61	215.28
+98	3350			9.9 217.4
RR5+00				5.7 218.6
+30				7.6 219.7
RR6+00				1.6 225.7
T.R.	3.06	229.69	0.70	226.63
+20			2.38	2.0 227.7
+45				2.0 227.7
RR7+00				6.0 223.7
+80				6.3 223.4
RR8+00				4.4 225.3
+05				5.6 224.1
+35				6.2 223.5
+40				5.5 224.2
	33.50		226.63	
	2.38		195.51	
	<u>31.12</u>		<u>31.12</u>	

A₁ Line Levels

Carley-Level/Stein-Rod

R.R spike in blozed fence-post L. at sta 223+00

3/16/23

sheet #19 of 32 sheets

Sta + H.T. - Rod Elev

3.06 229.69

B.M.

9.58 220.11

229+00 P.O.T.

9.0 220.7

T.P. 0.0 217.14 12.55 217.14

230+00 5.4 211.7

+45 8.6 208.3

T.P. 0.56 205.06 12.64 204.50

231+00 3.3 201.8

232+00 12.3 193.8

T.P. 2.84 195.51 12.39 192.67

+60 6.96 6.6 188.9

+860 P.I. 6.9 188.6

233+00 5.7 189.8

234+00 6.4 189.1

235+00 8.5 187.0

T.P. 5.47 193.90 7.08 188.43236+00 7.66 8.9 185.0

+70 8.9 185.0

+75 6.1 187.8

237+00 5.7 188.2

238+00 3.8 190.1

239+00 6.2 187.7

240+00 5.6 188.3

44.66 226.63

6.96 188.43

38.20 38.20

A. Line Levels

Carley-Level Sterk-Rod

RR spike in 14" oak tree 30' Ref sta 228480

3/16/23

Sheet # 20 of 32 sheets

Sta. + H.I. - Rod Elev.

57.97 193.90

✓ +40 5.5 188.4

TR 9.84 192.67 6.07 187.83

10.31

✓ 241+00 6.2 186.5

✓ P.I. +09.7 6.3 186.4

B.M. 5.53 187.19

✓ 242+00 9.8 182.9

+05 10.7 182.0

243+00 11.3 181.4

✓ +15 10.9 181.8

✓ +12 6.2 186.5

+80 2.7 190.0

✓ 244+00 3.6 189.1

✓ +20 6.4 186.3

✓ 245+00 7.3 185.4

✓ 246+00 8.8 183.9

✓ +42 8.5 184.2

✓ +45 7.4 185.3

✓ +80 2.2 190.5

✓ 247+00 4.9 187.8

TR 6.15 194.32 4.50 188.17

10.57

✓ +15 8.9 185.4

✓ +18 12.3 182.0

10.57

188.43

10.31188.17

.26

.26

A. Line Levels.

Carley Level Stake-Rod

R.R. spike in 10" oak tree R of sta 241+10

3/16/23

sheet #21 of 32 sheets

Sta + H.T. - Rod Elev

6.15 194.32

✓ +60				12.6	181.7
✓ +65				8.2	186.1
✓ +70				7.1	187.2
✓ 248+00				0.0	194.3

TR 7.53 195.70 188.17

TR 12.04 207.04 0.70 195.00

TR 10.75 217.30 0.49 206.55

✓ 249+00 9.4 207.9

✓ +45 4.4 212.9

✓ 250+00 6.1 211.2

✓ +30 9.0 208.3

TR 0.66 205.34 12.62 204.68

30.98

✓ 251+00 7.6 197.7

✓ +25 7.3 198.0

✓ P.I. +46.6 5.8 199.5

✓ 252+00 7.1 198.2

B.M. 8.17 197.17

✓ +80 6.4 198.9

✓ 253+00 8.6 196.7

TR 0.53 195.03 10.84 194.50

29.65

✓ 254+00 7.1 187.9

✓ +95 8.4 186.6

30.98 194.50

29.65 188.17

6.33 6.33

A. line Levels

Car/ey-Level / Sterk-Rod

Elev. taken from last TR on preceding page

R.R. spike in 15" oak tree L of sta 252+25

3/16/23

Sheet #22 of 32 sheets

Sta

+ H.I.

- Rod Elev.

0.53 195.03

✓ 255+00

9.9 183.1

✓ 256+00

12.5 182.5

T.P.

3.39 186.62 11.80

183.23

P.I. +32.7

3.92

3.1 183.5

✓ 257+00

5.1 181.5

✓ 258+00

4.6 182.0

✓ 259+00

5.0 181.6

✓ 260+00

5.5 181.1

✓ 261+00

5.1 181.5

T.P.

6.92 189.19 4.35

182.27

✓ +45

16.15

5.1 184.1

✓ +50

2.0 187.2

✓ +75

3.9 185.3

B.M.

2.55 186.64

✓ 262+00

2.0 187.2

✓ +129

1.7 187.5

✓ +20

2.3 186.8

✓ +28

4.5 184.7

✓ 263+00

5.7 183.5

✓ 264+00

6.7 182.5

✓ 265+00

7.0 182.2

✓ 266+00

7.7 181.5

16.15

194.50

3.92182.27

12.23

12.23

Alpine Levels

Corley-Level-Stark-Rod

R.R. spike in 12" oak tree R of sta 261+75

Checked out on old B.M.

Old elev 188.49

New " 188.98

Difference 0.49

3/16/23

Sheet #23 of 32 sheets

Sta	+	A.I.	-	Red	Elev.
	6.92	189.19			
T.P.	3.47	185.86	6.80		182.39
267+00				5.5	180.4
268+00				5.1	180.8
269+00				5.1	180.8
270+00				4.2	181.7
271+00				3.8	182.1
272+60				2.0	183.9
T.P.	11.91	194.88	1.89		183.97
+80				9.5	185.4
272+00				6.6	188.3
+10				4.4	190.5
P.J. +40				2.6	192.3
+60				3.7	191.2
273+00				9.8	185.1
+65				9.9	185.0
+80				5.6	189.3
274+00				5.6	189.3
T.P.	5.34	195.03	5.19		189.69
+70				6.0	189.0
275+00				9.4	185.6
T.P.	1.66	184.69	12.00		183.03
B.M.	2.53	185.64	1.58		183.11

A. Line Levels

Carley-level Sterk-Rod

R.R. spike in 10" oak tree L. of sta 275+00

3/17/23

Sheet # 24 of 32 sheets

Sta + H.I - Rod Elev

2.03 185.64

275+00				3.9	181.7
276+00 P.I.				5.5	180.1
+45				4.2	181.2
T.P.	8.95	193.13	1.46		184.18
277+00				6.7	186.4
+30				3.8	189.3
+63				4.4	188.7
278+00				8.2	184.9
+20				10.2	182.9
T.P.	3.65	183.79	12.89		180.24
279+00				4.4	179.4
280+00				6.0	177.8
281+00				4.8	179.0
B.M.	2.36	184.94	1.21		182.58
+80		<u>17.39</u>		1.4	183.5
282+00				2.9	182.0
+35				4.6	180.3
283+00 P.I.				6.5	178.1
T.P.	3.75	181.97	6.72		178.22
284+00			<u>22.28</u>	4.7	177.3
285+00				5.0	177.0
286+00				4.7	177.3
	22.28		183.11		
	<u>17.39</u>		<u>178.22</u>		
	4.89		4.89		

A. Line Levels

Carley-Level Stock-Rod

R. R. spike in 14" oak tree R of sta 281+18

3/17/23

Sheet # 25 of 32 sheets

Sta.	+	H.T.	-	Rod	Elev.
	3.75	<u>181.97</u>			
✓ +18				5.4	176.6
✓ +30				4.7	177.3
✓ +32				3.2	178.8
+57.4				3.2	178.8
T.P.	2.86	181.83	3.00		178.97
					110.17
✓ +69.1 pdl				4.3	177.5
287+00				5.0	176.8
288+00				6.6	175.2
289+00				6.0	175.8
290+00				4.3	177.5
B.M.				1.89	179.94
291+00				2.4	179.4
T.P.	6.95	186.17	2.61		179.22
292+00	<u>13.56</u>			4.8	181.4
293+00				6.8	179.4
294+00 P.I.				5.2	181.0
295+00				3.7	182.5
T.P.	3.52	186.12	<u>3.57</u>	3.57	182.60
296+66			<u>9.18</u>	5.3	180.8
296+00				7.9	178.2
297+00				10.4	175.7
	13.56		182.60		
	<u>9.18</u>		<u>178.22</u>		
	4.38		4.38		

A. Line levels. Carley-Level / 5' - K-Rod

Centre of R.R. trestle on ground-line
↗ ↘
Top of rail on trestle.

R.R. spike in 5" willow L of sta 290+80

3/19/23

sheet #26 of 32 sheets

Sta	+	M.T.	-	Rad	F/ov
	3.52	186.12			
✓ 298+00				9.7	176.4
299+00				5.6	180.5
✓ +55				2.7	183.4
✓ +75				2.6	183.5
300+00				4.5	181.6
✓ +50				2.4	176.7
301+00				10.4	175.7
302+00				10.5	175.6
T.P.	3.45	179.93	9.64		176.48
303+00				4.3	175.6
304+00				5.1	174.8
305+00				5.8	174.1
306+00				5.1	174.8
307+00				3.0	176.9
T.P.	9.09	187.01	2.01		177.92
✓ +75	16.06			9.0	178.0
308+00				7.5	179.5
309+00				3.6	183.4
✓ +48.3				4.5	182.5
BM.	1.10	183.60	4.51		182.60
✓ 310+00			16.16	5.5	178.1
✓ 311+00				8.1	175.6
	16.16		182.60		
	16.06		182.50		
	.10		10		

Alpine levels

Carley-Level/Star-K-Rod

section line

Top of 3rd fence post L of ϕ

A line levels

Carley-level / Sterk-Rod

R.R. spike in 14" oak R of sta 329+20

3/19/23 sheet # 28 of 32 sheets

Sta + H.T. - Rod Elev

3.80 187.78

325+00 11.4 186.4

TP 1.32 178.60 10.50 177.28

326+00 5.2 173.4

327+00 4.9 173.7

328+00 4.2 174.4

329+00 5.5 173.1

330+00 5.5 173.1

331+00 4.7 173.9

332+00 5.0 173.6

TP 5.72 180.19 4.13 174.47

333+00 10.18 4.1 176.1

334+00 4.0 176.2

335+00 6.0 174.2

+10 7.0 173.2

+20 6.4 173.8

336+00 6.3 173.9

337+00 6.8 173.4

338+00 5.8 174.4

B.M. 6.63 181.56 5.26 174.93339+00 19.89 6.7 174.9

340+00 3.7 177.9

341+00 4.0 177.6

19.89 183.98

10.18 177.93

9.05 9.05

M.W. Carley

A line levels Carley-level / Sterk-Rod.

R.R. spike in fence post 5th from sta 338+

3/29/23

Sheet #29 of 25 sheets

Sta. + H.T. - Red Flag

6.63 181.56

✓ 342+00			4.7	176.9
✓ 343+00			6.5	175.1
✓ 344+00			8.3	173.3
T.P.	<u>9.73</u>	184.09	7.20	174.30
345+00	16.36		11.0	173.1
✓ 346+00			10.5	173.6
✓ 347+00			9.0	175.1
B.M.			0.19	183.90
✓ 348+00			6.4	177.7
+45			5.8	178.3
✓ 349+00			8.0	176.1
350+00			10.4	173.7
T.P.				174.53
	3.36	177.89	<u>9.56</u>	
			16.76	
✓ 351+00			5.4	172.5
✓ 352+00			5.5	172.4
✓ 353+00			5.4	172.5
✓ 354+00			4.5	173.4
✓ 355+00	16.76	174.93	3.7	174.2
	<u>16.36</u>	<u>174.53</u>		
✓ 356+00	.40	.40	3.5	174.4

Alpine levels Carley level / Stern / Red

R.R. spike in 20" oak tree 100' R of sta 347+50

Top stake 350

Sta	+	HI	-	Rod Elev
	3.36			
✓ 357+00		177.89	4.1	173.8
T.P.			2.95	174.94
	11.80	186.74 ✓		
358+00			12.40	174.34
✓ 359+00			10.0	176.7
+80			7.0	179.7
✓ 360+00		186.74	3.1	183.3
T.P.			1.37	185.31
	10.42	195.79		
P.I 360+46.4			5.01 ✓	190.78
361+00			0.8	195.0
T.P.			0.59	195.20
	11.33	206.53		
✓ +70	<u>36.91</u>		5.10	198.43
362			7.10	199.43
363			5.3	201.2
364 ✓			1.3	205.2
T.P.			0.32	206.21
	8.43	214.64	<u>5.23</u>	

A Line Levels Weber-Level-Star-M-Rod

Top of Stake Sta 357+00

Top Stone

Top Spike 361

Top So. Rail

36.91	206.21
<u>5.23</u>	<u>179.53</u>
31.68	31.68

Top Stake 364

Sta	+	H.I.	-	Rod	ELEV
-----	---	------	---	-----	------

	8.43	214.64			
--	------	--------	--	--	--

+40

6.5 209.1

365+00

6.6 208.0

366+00

6.1 208.5

367+00

4.6 210.0

+68⁰

6.95 207.69

8.43

207.69

6.95206.21

1.48

1.48

A. line levels

Weber-level stark-Rod

B.M. Top of Man

Sheet #32 of 32 sheets

B. Line Levels

Corlay-Level / Sterk-Pad

B Line Levels



Sta + H.I. - Rod Elev.

A Line 241+09.7 = B Line 241+09.7

B.M. 10.04 197.18 187.14

241+09.7 11.2 86.0

+30 9.0 86.2

242+00 7.0 90.2

243+00 1.6 95.6

T.P. 10.14 207.32 0.0 197.18

244+00 4.5 202.8

+50 P.I. 4.3 203.0

T.P. 4.47 205.01 6.78 200.54

245+00 1.6 203.4

+50 8.2 196.8

246+00 8.5 196.5

247+00 8.4 96.6

T.P. 4.43 201.66 7.78 197.23

248+00 5.3 96.3

249+00 5.1 96.5

B.M. 0.83

+54.7 P.I. 3.4 98.3

250+00 4.0 97.7

251+00 5.1 96.6

252+00 5.1 96.6

B. Line Levels

Carley-level Steel Rod

R.R. spike in 10" oak tree L of sta 241+10 on A line

R.R. spike in 12" oak tree R of sta 249+21

3/21/23

Sheet #2 of sheets

Sta	+ H.I.	-	Rod Elev.
	4.93	201.66	
T.P.	6.68	203.97	4.37 197.29
253+00			7.5 96 ⁵
254+00			7.4 96 ⁶
+50			6.6 97 ⁴
255+00			3.6 10 ⁴
T.P.	11.13	214.84	0.26 203.71
256+00			2.4 12 ⁵
T.P.	9.43	222.80	1.47 213.37
256+90			1.9 20 ⁹
T.P.	13.11	234.80	1.11 221.69
257+00			11.2 22 ⁶
+50			2.5 32 ³
+65			3.0 31 ⁸
+75.3 P.I.			1.0 33 ⁸
258+00			3.5 31 ³
B.M.	4.69	233.43	6.06 228.74
+30			6.3 27 ¹
259+00			7.5 25 ⁹
+75			12.7 20 ⁷
+80			12.9 20 ⁵
+85			14.0 19 ⁴
+90			11.2 22 ²

B Line Levels

Carlog-level Sterk-Red.

R.R. spike in 18" maple tree h of sto 258+25

3/21/23

Sheet #3 of sheets -

Sta	+	H.E.	-	Rod	Elev
	9.69	233.93			
T.P.	5.39	227.50	11.32		222.11
260+02 P.I.				5.1	224
+15				5.9	221
+25				8.9	186
+30				7.9	19.6
+80				7.9	20.1
261+00				6.9	21.1
+75				7.0	23.5
+80				5.1	22.4
+85				3.7	23.8
262+00				3.3	24.2
+10				3.1	24.4
+15				4.1	23.4
+20				4.1	23.4
+22				3.0	24.5
T.P.	3.27	227.61	3.16		224.34
+40				3.9	23.7
263+00				12.1	15.5
T.P.	1.25	217.02	11.84		215.77
+30				6.8	10.2
264+00				10.9	06.1
+60				12.3	04.7

B Line levels

Carley-Level Sterk-Rod.

3/21/23

Sheet # 4, of sheets

Sta	+	H.I.	-	Rod Elev.
	1.25	217.02		
265+00				16.0 201.0
T.R.	1.24	205.63	12.63	209.39
+30				7.7 97.9
266+00				11.0 94.6
267+00				13.1 92.5
T.R.	3.77	197.27	12.13	193.50
+50				3.9 93.4
+75				5.2 92.1
268+00				5.6 191.7
269+00				5.6 91.7
270+00				5.0 92.3
+15				3.5 93.8
T.R.	11.73	209.00	0.0	197.27
T.R.	1.54	219.71	0.83	208.17
T.R.	7.78	226.29	1.20	218.51
				5.3
B.M.	4			4.30 221.99
				4.32 221.97
				5.3 ↓
B.M.	1.88	222.87		221.99
T.R.	0.66	210.99	12.54	210.33
T.R.	0.58	200.35	11.22	199.77

B Line Levels

Carley-Level Sterk-Rod

Edge of fill on S side.

South Rail

North "

Edge of fill on N side

Sta	+ H.I.	-	Red Elev.	...
	0.58	200.35		
271+30			9.0	914
271+45			10.8	896
271+60			9.9	90.5
T.P.	7.74	201.75	6.34	199.01
272+00			10.1	91.7
+06			9.8	92.0
+60			5.2	96.6
273+00			3.8	98.0
+45			1.9	99.9
+70			3.9	97.9
274+00			7.6	94.2
+35			9.5	92.2
275+00			3.3	98.5
T.P.	4.36	203.66	2.45	199.30
+70			0.3	03.4
276+00			3.4	00.3
+20			4.6	99.1
+70			4.4	99.3
277+00			6.8	96.9
T.P.	1.22	192.24	12.64	191.02
278+00			5.1	87.1
+30			6.3	85.9

Bottom of R. R. fill

20'

Right of way line

Sta	+	H.I.	-	Red	Elev
	122	192.2A			
279+00				8.9	183.3
+45				8.7	183.6
+80				6.3	185.9
280+00				5.5	186.8
T.P.	3.11	190.71	1.64		187.60
B.M.					194.31
+30 AT				4.7	186.0
281+00				6.0	189.7
282+00				4.8	185.9
283+00				2.0	188.7
284+00				7.2	183.5
285+00				7.1	183.6
B.M.				4.07	186.64
286+00				3.3	187.4
T.P.	7.13	195.52	2.32		188.39
287+00				4.3	191.2
+75				2.4	193.1
288+00				2.8	192.7
+20				3.9	191.6
+60				5.9	186.6
289+00				9.7	185.8
+45				9.6	185.9

Top of stake sta 280

Old B.M. on B line 40' L of sta 295+80

R.R. spike in 7" tree L of sta 285+95

Sta	+	H.T.	-	Rod Elev
	7.12	190.52		
290+00				5.8 189.7
291+00				9.6 185.9
T.P.	0.99	187.74	8.77	186.75
292+00				5.0 182.7
293+00				7.0 180.7
294+00				6.9 180.8
B.M.				1.91
295+00				4.7 183.0
+60				2.2 185.5
296+00				2.5 185.2
+21				0.8 186.9
T.P.	2.39	189.41	0.72	187.02
+25				1.3 188.1
297+00				3.1 186.3
298+00				6.1 183.3
299+00				9.5 179.9
300+00				9.8 179.6
T.P.	6.61	187.13	8.89	180.52
301+00				7.7 179.4
302+00				5.8 181.3
+20				5.0 182.1
303+00				4.5 182.6

R.R. spike in 8" tree 50' L of sta 299+60

Sta	+ H.I.	-	Red Elev
	6.61	187.13	
309+00			5.2 181.9
305+00			5.8 181.3
306+00			6.4 180.7
307+00			6.5 180.6
T.P.	3.25	184.66	5.72 181.41
308+00			7.4 180.3
309+00			5.3 179.4
+10 P.T.			5.1 179.3
310+00			6.2 178.5
311+00			6.3 178.4
312+00			6.2 178.5
B.M.			2.02 182.64
313+00			6.5 178.2
T.R.	6.04	187.54	3.16 181.50
+20			7.2 180.3
314+00			6.2 181.3
+35			4.8 182.7
+95			7.8 179.7
315+00			10.5 177.0
+10			11.0 176.5
+15			8.9 178.6
+40			6.2 181.3

Top of monument 300' N of sta 311450

Sta + Hgt. - Rod Elev

6.09 187.59

+60

8.2 179.3

316+00

8.0 179.5

+30

2.9 184.6

+80

1.9 186.1

317+00

3.0 184.5

+45

5.9 182.1

318+00

5.3 182.2

T.P.

1.84 184.90

1.48

183.06

319+00

0.0 184.9

319+80

0.6 184.3

320+00

2.0 182.9

321+00

8.7 176.2

322+00

11.6 173.3

323+00

11.4 173.5

?

11.3 173.6

T.P.

6.10 180.63

10.37

174.53

T.P.

6.05 183.07

3.61

177.02

B.M.

1.57

181.50

B. Line Levels Carley-Level / Sterk-Rod

B.M. on Tree Ref 324+ on A line

BM 2.55

China Levels

Sta.	"C" LINE +	π	-	Rod	Elev
		178.71			
340				4.9	173.8
339				5.2	173.5
137				5.5	173.2
135				8.0	170.7
131				8.0	170.7
130				5.6	173.1
338				5.0	173.7
337				5.1	173.6
336				5.3	173.4
325				4.8	173.9
+70				5.0	173.7
+45				3.2	175.5
334				2.5	176.2
	3.78	178.71			174.93

} Ditch-Runs approx. N45.

+	-
3.78	6.40
1.83	4.10
8.66	4.63
5.56	6.15
7.83	0.95
11.41	1.56
<u>+ 39.07</u>	<u>23.29</u>
- 23.29	
<u>+ 15.78</u>	
<u>174.98</u>	
190.71	

R.R. spike in F.R. 5th from E 338+ on "A" Line

'G' LINE

+

 π

-

Rod.

Elev.

340.

1.83

178.70

+78.70

T.R.

6.40

176.87

345

7.1

175.2

344

6.5

176.8

343

5.7

177.6

160

4.8

178.5

+20

6.7

176.6

+15

7.7

175.6

342

8.5

174.8

+02

9.9

173.9

341

10.8

172.5

+98

9.7

173.6

8.66

183.27

T.P.

4.10

174.61

178.71

Top Stake 345

Top of Stake 340

"C" LINE

349

+

π

-

Rod Elev.

178.70

351

5.4 173.3

350

4.5 174.2

+45

5.6 173.1

+42

6.3 172.4

+40

5.2 173.5

349

5.4 173.3

348

5.2 173.5

347

5.1 173.6

+40

4.4 174.3

+35

6.2 172.5

+30

6.2 172.5

+25

4.5 174.2

346

4.4 174.3

178.70

Ditch E+W.

C LINE

Sta	+	π	-	Rod.	Elev.
		178.70			
T.P.			4.63		174.07
	5.56	178.63			
+27				6.9	172.7
+32				8.3	171.3
+35				8.3	171.3
+38				5.9	173.7
+58.7 P1				5.4	174.2
352				5.1	174.5
353				3.9	175.7
354				5.2	174.4
355				6.1	173.5
356				7.0	172.6
357				7.2	172.4
T.P.			6.15		173.48
	7.83	181.31			

Top stake 351

Top stake 357

'C' LINE

350

+

π

-

Rod

181.31

358

8.5

172.8

359

6.3

175.0

360

4.8

176.5

361

2.0

179.3

T.R.

0.45

180.86

11.41

192.27

362

6.0

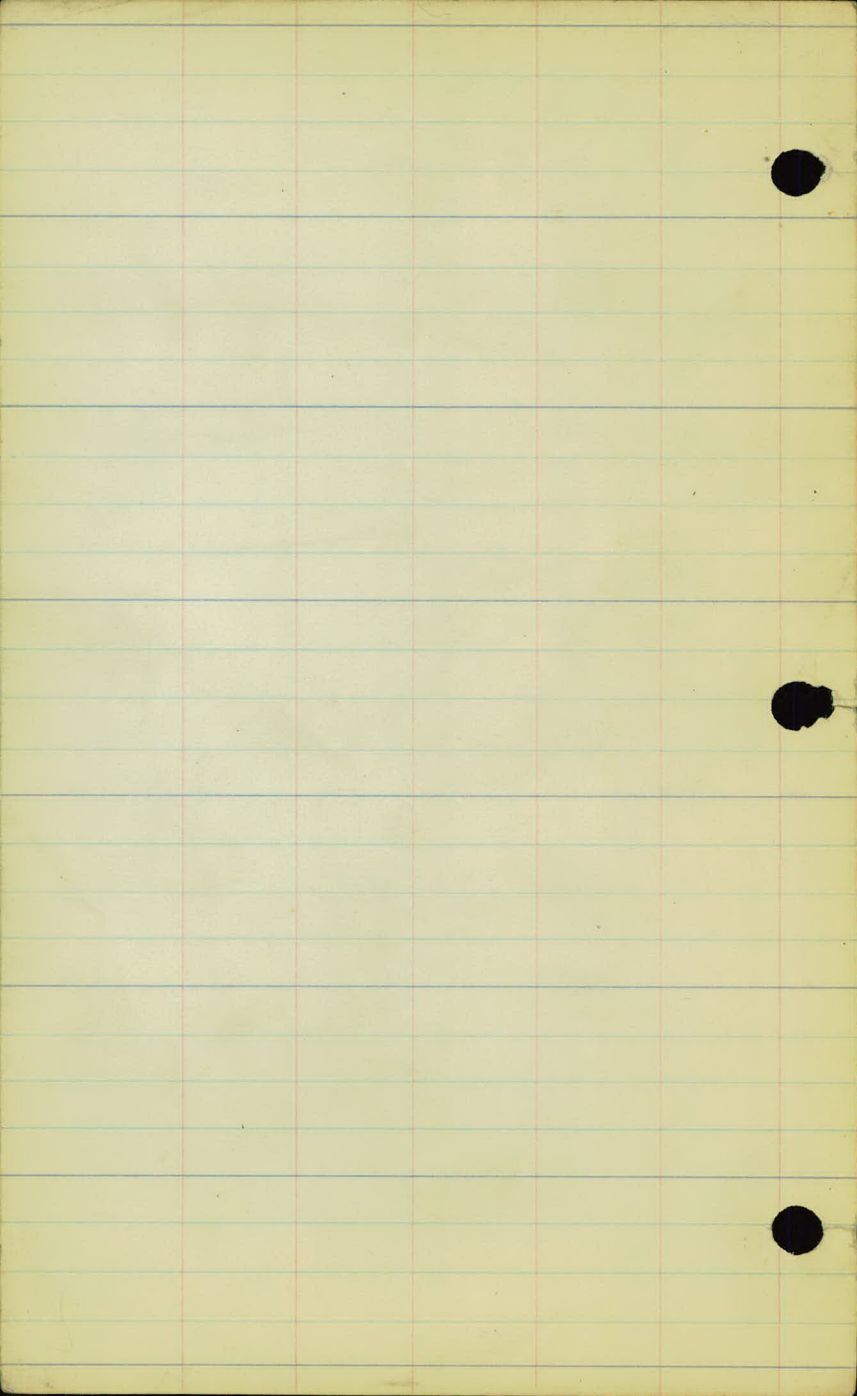
362+38.6 B

360+46.1 A

1.56

190.71

Elev. Top of spike Hub



D Line Levels

Sta	+	H.I.	-	Rod Elev
Sta "B" Line 280+25 ^o	=	"D" Line 280+25 ^o		
	1.0	187.64		186.64
280+25 P.I.			1.7	185.94
281+00			4.7	182.94
282+00			5.4	182.24
283+00			5.6	182.04
284+00			6.4	181.24
285+00			6.3	181.34
286+00			6.5	181.14
287+00			6.7	180.94
T.P.			5.9	181.74
	5.08	186.82		
+15			6.0	180.82
+17			6.8	180.02
+20			6.8	180.02
+25			5.6	181.22
+15				
288+00			6.7	180.12

"D." Line Levels

Weber Levels Starks Road

B.M. in 7" tree

Elev = 186.64

Left "A" Line

Sta 285+45

Top of Line Stake Sta 287+00

{ Ditch }

	+	H.I.	-	Rod	Elev
289+00		186.82		5.5	181.32
290+00				5.0	181.82
291+00				3.7	183.12
292+00			4.50		182.32
T.P.	3.46	185.78			
+80				1.2	184.58
293+00				2.7	183.08
294+00				4.8	180.98
295+00				5.8	179.98
296+00				6.1	179.68
297+00				6.3	179.48
298+00				5.9	179.88
T.P.			5.09		180.69
	6.62	187.31			
299+00				6.6	180.71
300+00				5.4	181.91

"D" Line Levels Weber Levels Sterks Rod

F.I. $\Delta R \frac{1}{2}$

Top of spike 292+00

Top Stake 298+00

Sta	+	H.I.	-	Rad	Elev
301+00		187.31		5.0	182.31
B.M. + 72				4.21	183.10
P.I. 302+00				5.7	181.61
303+00				6.6	180.71
304+00				6.0	181.31
T.P.			5.13		182.19
	7.80	189.98			
305+00				6.2	183.78
306+00				4.1	185.88
+60				3.5	186.48
307+00				4.8	185.18
308+00				7.3	182.68
T.P.	6.29	189.18	7.09		182.89
309+00				7.6	181.58
310+00				5.6	183.58
+75				3.9	185.28

"D" Line Levels Weber Levels, Stent's Rod

R.R. spike in 18" Tree Lt. Sta 301+72

Top Line Stake Sta 304+00

Sta + H.I. - Rods Elev

T.P. 189.18 0.82 188.36
 7.20 195.56

311+00 4.5 191.06

312+00 1.4 194.16

P.I. + 799 6.4 189.16

313+00 6.8 188.76

314+00 9.2 186.36

T.P. 8.30 187.26

3/24/28

T.P. 3.90 191.16 187.26

315+00 5.1

316+00 6.1

B.M. 1.44 186.99 5.61 185.55

317+00 4.6

318+00 6.0

319+00 5.4

320+00 4.6

T.P. 6.58 188.79 3.78 183.21

"J" Line Levels Carley Level Sterk Road

R.R. spike in 18" oak tree Lot sta 316 + 25

3/24/23

Sheet #5 of 8 sheets

Sta	+	π	-	Rod Elev
	5.58	188.79		
321+00	P.I.			5.6
322+00				4.3
323+00				4.6
324+00				6.3
325+00				5.6
326+00				5.3
T.P.	8.45	192.91	4.33	189.46
326+70				10.9
+72				12.8
+74				10.9
327+00				9.8
328+00				7.1
329+00				3.8
330+00				1.9
331+00				2.8
332+00				4.0
B.M.	7.71	195.06	5.57	187.34
333+00				8.6
333+60				7.2
334+00				8.4
+20				9.4
335+00				6.7

D-Line Levels

Corley-Level / Sterk-Rod

R.R. spike in fence post 15' R of sta 332+00

3/29/23

Sheet #6 of 8 sheets

Sta + H.T. - Rod Elev

7.71 195.06

336+00

3.8

+60

3.8

+70

8.1

+72

9.1

+79

8.3

337+00

6.6

+12

5.0

T.P.

7.53

201.37

1.22

193.84

+80

5.8

338+00

5.9

339+00

4.5

+60

1.3

340+00

6.1

+75

8.1

+60

10.4

341+00

12.7

T.P.

4.62

194.28

11.71

189.66

342+00

7.4

343+00

6.3

344+00

5.6

T.P.

5.87

198.69

1.46

192.82

3.15

195.54

D Line levels

Carley-level / StarK-Red

891.81

T.P. on state high-way

Elev 891.81

3/24/23

Sheet #7 of 8 sheets

Sta + H.I. - Rod Elev

5787 (198.69)

345+00

2.5

T.P. 10.55 208.71 0.53 198.16

+25

7.6

+30

3.1

T.P. 10.78 219.07 0.42 208.29

+50

7.7

346+00

3.7

+40

0.0

+80

2.5

347+00

2.7

T.P. 4.65 221.96 1.76 217.31

+20

4.9

+80

1.6

348+00

2.7

T.P. 0.92 210.90 11.98 209.98

+60

4.5

349+00

9.4

350+00

10.4

9.3

B.M.

9.33

220.23

D Line Levels

Carley-Level Sterk-Rod

Old B.M. on B line checked

found Elev. = 214.67

Right of sta 303+00 on
corner fence post.

original elev =

int.

Top of large boulder on ϕ at sta 350+75

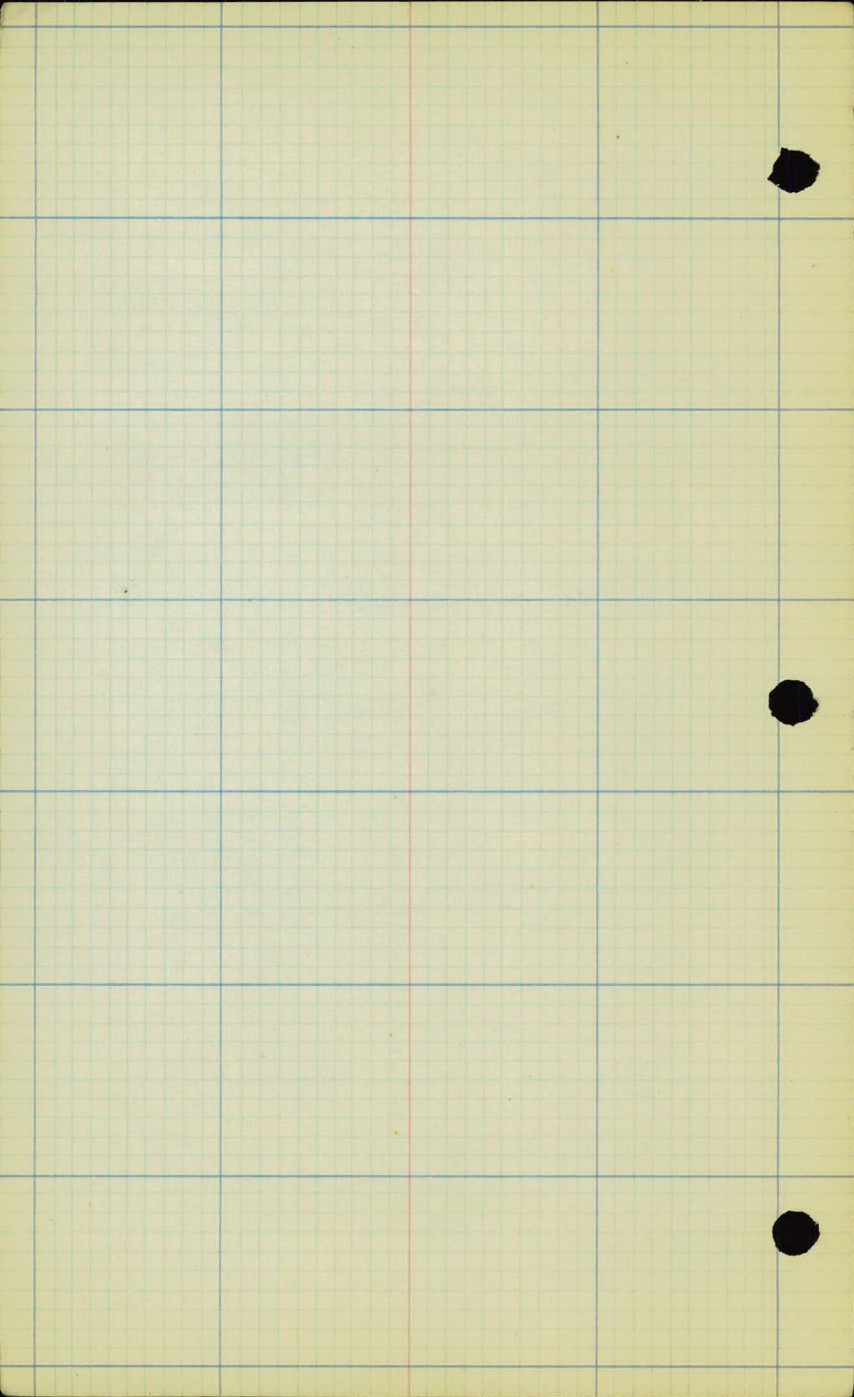
Sheet #8 of 8 sheets

"ST. PAUL - ANOKA SURVEY"

CROSS SECTION NOTES

A, B, C + D Lines

PR-Banieter - Engineer in Charge
Corday - Recorder



X SEC 'A' LINE

149 to 207

149 to End.

3/29/23 sheet # of sheets.

Sta.

Elev.

207+00

206

+50

205

204

203

202

201

200

199

198

197

A-Line Xsections

$$\begin{array}{r} +2.6 \\ 50 \end{array} \quad \begin{array}{r} +2.5 \\ 24 \end{array} \quad \begin{array}{r} +1.4 \\ 10 \end{array} \quad \begin{array}{r} -3.4 \\ 15 \end{array} \quad \begin{array}{r} -6.5 \\ 50 \end{array}$$

$$\begin{array}{r} +7.3 \\ 50 \end{array} \quad \begin{array}{r} +5.3 \\ 44 \end{array} \quad \begin{array}{r} +1.7 \\ 19 \end{array} \quad \begin{array}{r} -1.0 \\ 10 \end{array} \quad \begin{array}{r} -2.5 \\ 24 \end{array} \quad \begin{array}{r} -3.0 \\ 50 \end{array}$$

$$\begin{array}{r} +3.0 \\ 50 \end{array} \quad \begin{array}{r} +1.0 \\ 29 \end{array} \quad \begin{array}{r} +0.5 \\ 18 \end{array} \quad \begin{array}{r} -4.5 \\ 9 \end{array} \quad \begin{array}{r} -5.5 \\ 35 \end{array} \quad \begin{array}{r} -5.5 \\ 42 \end{array} \quad \begin{array}{r} -4.2 \\ 50 \end{array}$$

$$\begin{array}{r} +6.5 \\ 50 \end{array} \quad \begin{array}{r} +6.2 \\ 40 \end{array} \quad \begin{array}{r} +5.0 \\ 16 \end{array} \quad \begin{array}{r} -1.0 \\ 6 \end{array} \quad \begin{array}{r} -2.0 \\ 12 \end{array} \quad \begin{array}{r} -2.0 \\ 33 \end{array} \quad \begin{array}{r} 0.0 \\ 40 \end{array} \quad \begin{array}{r} 0.0 \\ 10 \end{array}$$

$$\begin{array}{r} +7.8 \\ 50 \end{array} \quad \begin{array}{r} +5.3 \\ 27 \end{array} \quad \begin{array}{r} -1.0 \\ 20 \end{array} \quad \begin{array}{r} 0.0 \\ 10 \end{array} \quad \begin{array}{r} -0.3 \\ 12 \end{array} \quad \begin{array}{r} -0.8 \\ 20 \end{array} \quad \begin{array}{r} +4.5 \\ 34 \end{array} \quad \begin{array}{r} +4.5 \\ 50 \end{array}$$

$$\begin{array}{r} +2.5 \\ 50 \end{array} \quad \begin{array}{r} +2.0 \\ 24 \end{array} \quad \begin{array}{r} -0.5 \\ 6 \end{array} \quad \begin{array}{r} -1.0 \\ 15 \end{array} \quad \begin{array}{r} +3.5 \\ 29 \end{array} \quad \begin{array}{r} +1.0 \\ 50 \end{array}$$

$$\begin{array}{r} +3.5 \\ 50 \end{array} \quad \begin{array}{r} +3.4 \\ 19 \end{array} \quad \begin{array}{r} +1.0 \\ 12 \end{array} \quad \begin{array}{r} -1.0 \\ 30 \end{array} \quad \begin{array}{r} +0.5 \\ 56 \end{array} \quad \begin{array}{r} +1.0 \\ 50 \end{array}$$

$$\begin{array}{r} +5.0 \\ 50 \end{array} \quad \begin{array}{r} +1.0 \\ 27 \end{array} \quad \begin{array}{r} 0.0 \\ 17 \end{array} \quad \begin{array}{r} -0.8 \\ 17 \end{array} \quad \begin{array}{r} +0.3 \\ 25 \end{array} \quad \begin{array}{r} +1.6 \\ 34 \end{array} \quad \begin{array}{r} +2.4 \\ 50 \end{array}$$

$$\begin{array}{r} -1.0 \\ 50 \end{array} \quad \begin{array}{r} -4.0 \\ 27 \end{array} \quad \begin{array}{r} -1.0 \\ 16 \end{array} \quad \begin{array}{r} -0.7 \\ 12 \end{array} \quad \begin{array}{r} -3.5 \\ 20 \end{array} \quad \begin{array}{r} -3.0 \\ 32 \end{array} \quad \begin{array}{r} -2.0 \\ 10 \end{array}$$

$$\begin{array}{r} -2.5 \\ 50 \end{array} \quad \begin{array}{r} -3.0 \\ 41 \end{array} \quad \begin{array}{r} -3.2 \\ 31 \end{array} \quad \begin{array}{r} -1.0 \\ 21 \end{array} \quad \begin{array}{r} -0.5 \\ 7 \end{array} \quad \begin{array}{r} -7.8 \\ 17 \end{array} \quad \begin{array}{r} -3.5 \\ 50 \end{array}$$

$$\begin{array}{r} -2.0 \\ 50 \end{array} \quad \begin{array}{r} -2.0 \\ 29 \end{array} \quad \begin{array}{r} -0.5 \\ 26 \end{array} \quad \begin{array}{r} -0.6 \\ 2 \end{array} \quad \begin{array}{r} -5.0 \\ 8 \end{array} \quad \begin{array}{r} -9.0 \\ 50 \end{array}$$

$$\begin{array}{r} -8.0 \\ 50 \end{array} \quad \begin{array}{r} -3.5 \\ 38 \end{array} \quad \begin{array}{r} -3.5 \\ 35 \end{array} \quad \begin{array}{r} -2.2 \\ 28 \end{array} \quad \begin{array}{r} +0.2 \\ 28 \end{array} \quad \begin{array}{r} -8.0 \\ 17 \end{array} \quad \begin{array}{r} -10.0 \\ 50 \end{array}$$

3/29/23

Sheet # of sheets

Sta

Elev

196

195

194

193

P.L. 179.5

192

191

190

189

188

187

186

A Line Xsections

$$\frac{+0.5}{50} - \frac{0.3}{17} \quad -\frac{1.5}{14} \quad -\frac{2.8}{32} \quad -\frac{5.0}{50}$$

$$\frac{+3.2}{50} + \frac{+3.0}{47} \quad \frac{+1.5}{21} - \frac{0.0}{5} \quad -\frac{2.0}{32} \quad \frac{0.0}{35} \quad \frac{0.0}{50}$$

$$\frac{+2.0}{50} \quad \frac{+2.0}{6} \quad -\frac{0.8}{39} \quad \frac{+0.7}{39} \quad \frac{+0.7}{50}$$

$$\frac{-3.0}{50} \quad -\frac{2.5}{27} - \frac{0.4}{10} \quad -\frac{0.6}{15} \quad -\frac{2.0}{44} \quad -\frac{1.8}{50}$$

$$\frac{-3.5}{50} \quad -\frac{3.5}{35} - \frac{0.6}{28} \quad -\frac{1.3}{10} \quad \frac{0.0}{50}$$

$$\frac{+0.1}{47} \quad \frac{+0.5}{23} - \frac{0.2}{18} \quad -\frac{0.5}{13} \quad \frac{+0.5}{14} \quad -\frac{0.5}{33}$$

$$\frac{+1.0}{33} \quad \frac{+0.3}{17} \quad -\frac{0.3}{6} \quad -\frac{0.3}{33}$$

$$\frac{0.0}{33} \quad -\frac{0.6}{17} \quad -\frac{0.5}{15} \quad \frac{0.0}{15} \quad \frac{0.0}{33}$$

$$\frac{-1.8}{33} \quad -\frac{0.6}{16} \quad -\frac{0.4}{17} \quad -\frac{1.0}{33}$$

$$\frac{-2.0}{33} \quad \frac{-1.0}{15} \quad -\frac{0.2}{20} \quad \frac{0.0}{33}$$

$$\frac{-0.5}{33} \quad -\frac{0.6}{12} \quad -\frac{1.0}{20} \quad \frac{+1.0}{22} \quad \frac{+1.0}{33}$$

$$\frac{-2.0}{33} \quad -\frac{2.0}{30} \quad -\frac{0.6}{16} \quad -\frac{0.5}{13} \quad -\frac{1.5}{20} \quad \frac{+0.5}{23} \quad \frac{+1.0}{33}$$

3/29/23

Sheet# of sheets

Sta.

Elev.

185

184

183

182

181

180

179

178

177

176

175

174

A Line Xsections

$$\begin{array}{r} -2.5 \\ 33 \end{array} \quad \begin{array}{r} -0.6 \\ 16 \end{array} \quad \begin{array}{r} -0.2 \\ 12 \end{array} \quad \begin{array}{r} -1.5 \\ 19 \end{array} \quad \begin{array}{r} +0.5 \\ 22 \end{array} \quad \begin{array}{r} 0.0 \\ 33 \end{array}$$

$$\begin{array}{r} -5.0 \\ 33 \end{array} \quad \begin{array}{r} -5.0 \\ 24 \end{array} \quad \begin{array}{r} -1.0 \\ 17 \end{array} \quad \begin{array}{r} -0.7 \\ 10 \end{array} \quad \begin{array}{r} -3.2 \\ 17 \end{array}$$

$$\begin{array}{r} -4.7 \\ 33 \end{array} \quad \begin{array}{r} -4.1 \\ 23 \end{array} \quad \begin{array}{r} -1.0 \\ 17 \end{array} \quad \begin{array}{r} -0.5 \\ 12 \end{array} \quad \begin{array}{r} -2.6 \\ 17 \end{array} \quad \begin{array}{r} -2.4 \\ 33 \end{array}$$

$$\begin{array}{r} -3.0 \\ 33 \end{array} \quad \begin{array}{r} -0.5 \\ 18 \end{array} \quad \begin{array}{r} -0.6 \\ 13 \end{array} \quad \begin{array}{r} -2.8 \\ 21 \end{array} \quad \begin{array}{r} -1.5 \\ 24 \end{array} \quad \begin{array}{r} -1.8 \\ 33 \end{array}$$

$$\begin{array}{r} -2.0 \\ 33 \end{array} \quad \begin{array}{r} -0.5 \\ 18 \end{array} \quad \begin{array}{r} -0.6 \\ 13 \end{array} \quad \begin{array}{r} -1.5 \\ 17 \end{array} \quad \begin{array}{r} +2.5 \\ 27 \end{array} \quad \begin{array}{r} +2.0 \\ 33 \end{array}$$

$$\begin{array}{r} -0.1 \\ 33 \end{array} \quad \begin{array}{r} +0.3 \\ 26 \end{array} \quad \begin{array}{r} -1.3 \\ 24 \end{array} \quad \begin{array}{r} -0.5 \\ 19 \end{array} \quad \begin{array}{r} -0.5 \\ 12 \end{array} \quad \begin{array}{r} -2.0 \\ 16 \end{array} \quad \begin{array}{r} -0.6 \\ 26 \end{array} \quad \begin{array}{r} +1.0 \\ 33 \end{array}$$

$$\begin{array}{r} -2.3 \\ 33 \end{array} \quad \begin{array}{r} -2.0 \\ 24 \end{array} \quad \begin{array}{r} -0.5 \\ 19 \end{array} \quad \begin{array}{r} -1.0 \\ 11 \end{array} \quad \begin{array}{r} -2.0 \\ 18 \end{array} \quad \begin{array}{r} -2.2 \\ 23 \end{array} \quad \begin{array}{r} -0.7 \\ 26 \end{array} \quad \begin{array}{r} -0.5 \\ 33 \end{array}$$

$$\begin{array}{r} -2.0 \\ 33 \end{array} \quad \begin{array}{r} -2.5 \\ 23 \end{array} \quad \begin{array}{r} -0.5 \\ 17 \end{array} \quad \begin{array}{r} -0.7 \\ 12 \end{array} \quad \begin{array}{r} -1.0 \\ 19 \end{array} \quad \begin{array}{r} -5.0 \\ 33 \end{array}$$

$$\begin{array}{r} -0.3 \\ 33 \end{array} \quad \begin{array}{r} -0.3 \\ 24 \end{array} \quad \begin{array}{r} -1.0 \\ 21 \end{array} \quad \begin{array}{r} -0.7 \\ 18 \end{array} \quad \begin{array}{r} -0.5 \\ 12 \end{array} \quad \begin{array}{r} -2.8 \\ 16 \end{array} \quad \begin{array}{r} -2.7 \\ 23 \end{array} \quad \begin{array}{r} -2.0 \\ 31 \end{array}$$

$$\begin{array}{r} +1.3 \\ 33 \end{array} \quad \begin{array}{r} +1.3 \\ 31 \end{array} \quad \begin{array}{r} 1.0 \\ 29 \end{array} \quad \begin{array}{r} 0.0 \\ 21 \end{array} \quad \begin{array}{r} -0.7 \\ 17 \end{array} \quad \begin{array}{r} -0.5 \\ 13 \end{array} \quad \begin{array}{r} -1.0 \\ 16 \end{array} \quad \begin{array}{r} +0.3 \\ 20 \end{array} \quad \begin{array}{r} +0.5 \\ 33 \end{array}$$

$$\begin{array}{r} 0.0 \\ 33 \end{array} \quad \begin{array}{r} +0.7 \\ 23 \end{array} \quad \begin{array}{r} -1.0 \\ 21 \end{array} \quad \begin{array}{r} -0.7 \\ 12 \end{array} \quad \begin{array}{r} -1.2 \\ 16 \end{array} \quad \begin{array}{r} 0.0 \\ 20 \end{array} \quad \begin{array}{r} +1.8 \\ 30 \end{array} \quad \begin{array}{r} +1.0 \\ 33 \end{array}$$

$$\begin{array}{r} +2.3 \\ 33 \end{array} \quad \begin{array}{r} +2.0 \\ 24 \end{array} \quad \begin{array}{r} 0.0 \\ 22 \end{array} \quad \begin{array}{r} -0.1 \\ 12 \end{array} \quad \begin{array}{r} -1.1 \\ 16 \end{array} \quad \begin{array}{r} +0.2 \\ 20 \end{array} \quad \begin{array}{r} +0.5 \\ 33 \end{array}$$

3/29/23

Sheet #

of sheets

Sta

Elev

173

172

171

170

169

168

167

166

165

164

163

162

A line X sections

$$\frac{+0.6}{33} \quad \frac{-1.3}{29} \quad \frac{-1.0}{19} \quad \frac{-0.6}{11} \quad \frac{-2.2}{18} \quad \frac{-2.2}{25} \quad \frac{-0.3}{26} \quad \frac{0.0}{33}$$

$$\frac{-1.8}{33} \quad \frac{-1.5}{25} \quad \frac{-0.7}{15} \quad \frac{-1.0}{13} \quad \frac{-2.0}{15} \quad \frac{-2.0}{33}$$

$$\frac{-1.5}{33} \quad \frac{-1.0}{19} \quad \frac{-1.0}{13} \quad \frac{-1.7}{15} \quad \frac{-1.7}{33}$$

$$\frac{-2.0}{33} \quad \frac{-2.0}{23} \quad \frac{-1.0}{18} \quad \frac{-1.5}{14} \quad \frac{-2.4}{17} \quad \frac{-1.7}{18} \quad \frac{-1.7}{33}$$

$$\frac{-3.0}{33} \quad \frac{-2.5}{23} \quad \frac{-0.6}{18} \quad \frac{-1.0}{13} \quad \frac{-2.6}{15} \quad \frac{-2.6}{33}$$

$$\frac{-0.6}{33} \quad \frac{-1.5}{24} \quad \frac{-0.7}{18} \quad \frac{-1.1}{12} \quad \frac{-2.2}{14} \quad \frac{-2.2}{33}$$

$$\frac{-1.0}{33} \quad \frac{-0.6}{21} \quad \frac{-1.2}{14} \quad \frac{-1.7}{16} \quad \frac{-1.7}{33}$$

$$\frac{+1.5}{33} \quad \frac{+1.5}{24} \quad \frac{-0.7}{17} \quad \frac{-0.7}{16} \quad \frac{-0.5}{18} \quad \frac{-0.5}{33}$$

$$\frac{-0.5}{33} \quad \frac{-0.5}{22} \quad \frac{-1.0}{17} \quad \frac{+0.3}{14} \quad \frac{+1.0}{16} \quad \frac{+2.0}{33}$$

$$\frac{-0.5}{33} \quad \frac{-1.7}{22} \quad \frac{-1.0}{14} \quad \frac{-0.5}{30}$$

$$\frac{-3.5}{33} \quad \frac{-3.0}{22} \quad \frac{-1.0}{18} \quad \frac{-1.0}{13} \quad \frac{-2.0}{16} \quad \frac{-2.0}{33}$$

$$\frac{-2.5}{24} \quad \frac{-2.0}{21} \quad \frac{-1.0}{17} \quad \frac{-1.2}{14} \quad \frac{-2.3}{16}$$

3/29/23

Sheet# of sheets

Sta

Elev.

161

160

159

158

157

+50

156

155

154

153

152

151

L & R

A line Xsections

$$\begin{array}{r} -2.5 \\ 33 \end{array} \quad \begin{array}{r} -2.5 \\ 23 \end{array} \quad \begin{array}{r} -1.2 \\ 20 \end{array} \quad \begin{array}{r} -1.4 \\ 15 \end{array} \quad \begin{array}{r} -2.3 \\ 16 \end{array} \quad \begin{array}{r} -2.3 \\ 33 \end{array}$$

$$\begin{array}{r} -2.3 \\ 33 \end{array} \quad \begin{array}{r} -2.0 \\ 22 \end{array} \quad \begin{array}{r} -1.0 \\ 19 \end{array} \quad \begin{array}{r} -1.5 \\ 14 \end{array} \quad \begin{array}{r} -2.8 \\ 17 \end{array} \quad \begin{array}{r} -2.8 \\ 33 \end{array}$$

$$\begin{array}{r} -2.0 \\ 33 \end{array} \quad \begin{array}{r} -2.0 \\ 23 \end{array} \quad \begin{array}{r} -1.0 \\ 20 \end{array} \quad \begin{array}{r} -1.2 \\ 14 \end{array} \quad \begin{array}{r} -2.8 \\ 16 \end{array} \quad \begin{array}{r} -2.5 \\ 33 \end{array}$$

$$\begin{array}{r} -3.0 \\ 33 \end{array} \quad \begin{array}{r} -2.7 \\ 24 \end{array} \quad \begin{array}{r} -3.2 \\ 25 \end{array} \quad \begin{array}{r} -1.0 \\ 19 \end{array} \quad \begin{array}{r} -1.0 \\ 15 \end{array} \quad \begin{array}{r} -1.5 \\ 21 \end{array} \quad \begin{array}{r} -0.5 \\ 33 \end{array}$$

$$\begin{array}{r} -3.0 \\ 33 \end{array} \quad \begin{array}{r} -4.0 \\ 27 \end{array} \quad \begin{array}{r} -2.5 \\ 23 \end{array} \quad \begin{array}{r} -1.5 \\ 19 \end{array} \quad \begin{array}{r} -1.3 \\ 18 \end{array} \quad \begin{array}{r} 0.0 \\ 33 \end{array}$$

$$\begin{array}{r} -0.5 \\ 33 \end{array} \quad \begin{array}{r} -0.4 \\ 27 \end{array} \quad \begin{array}{r} -1.2 \\ 23 \end{array} \quad \begin{array}{r} -0.5 \\ 20 \end{array} \quad \begin{array}{r} -1.2 \\ 15 \end{array} \quad \begin{array}{r} -0.5 \\ 33 \end{array}$$

$$\begin{array}{r} -1.0 \\ 33 \end{array} \quad \begin{array}{r} -0.7 \\ 13 \end{array} \quad \begin{array}{r} -1.2 \\ 23 \end{array} \quad \begin{array}{r} -0.5 \\ 33 \end{array}$$

$$\begin{array}{r} -1.0 \\ 33 \end{array} \quad \begin{array}{r} -1.0 \\ 29 \end{array} \quad \begin{array}{r} -2.0 \\ 28 \end{array} \quad \begin{array}{r} -1.7 \\ 21 \end{array} \quad \begin{array}{r} -0.7 \\ 18 \end{array} \quad \begin{array}{r} 0.0 \\ 33 \end{array}$$

$$\begin{array}{r} -0.8 \\ 33 \end{array} \quad \begin{array}{r} -1.0 \\ 30 \end{array} \quad \begin{array}{r} -1.5 \\ 29 \end{array} \quad \begin{array}{r} -1.5 \\ 21 \end{array} \quad \begin{array}{r} -1.0 \\ 20 \end{array} \quad \begin{array}{r} -0.6 \\ 18 \end{array} \quad \begin{array}{r} -1.0 \\ 18 \end{array} \quad \begin{array}{r} -2.0 \\ 33 \end{array}$$

$$\begin{array}{r} 0.0 \\ 33 \end{array} \quad \begin{array}{r} -1.0 \\ 29 \end{array} \quad \begin{array}{r} -1.0 \\ 23 \end{array} \quad \begin{array}{r} -0.4 \\ 20 \end{array} \quad \begin{array}{r} -1.0 \\ 14 \end{array} \quad \begin{array}{r} -1.4 \\ 18 \end{array} \quad \begin{array}{r} -0.7 \\ 22 \end{array} \quad \begin{array}{r} -0.8 \\ 33 \end{array}$$

$$\begin{array}{r} 0.0 \\ 33 \end{array} \quad \begin{array}{r} 0.0 \\ 29 \end{array} \quad \begin{array}{r} -1.0 \\ 26 \end{array} \quad \begin{array}{r} -1.0 \\ 19 \end{array} \quad \begin{array}{r} -1.1 \\ 15 \end{array} \quad \begin{array}{r} -2.0 \\ 33 \end{array}$$

$$\begin{array}{r} -0.5 \\ 33 \end{array} \quad \begin{array}{r} -0.5 \\ 30 \end{array} \quad \begin{array}{r} -1.0 \\ 26 \end{array} \quad \begin{array}{r} -1.0 \\ 20 \end{array} \quad \begin{array}{r} -1.1 \\ 12 \end{array} \quad \begin{array}{r} -2.1 \\ 17 \end{array} \quad \begin{array}{r} -3.0 \\ 33 \end{array}$$

3/29/23 Sheet# of sheets

Sta

Elev

150

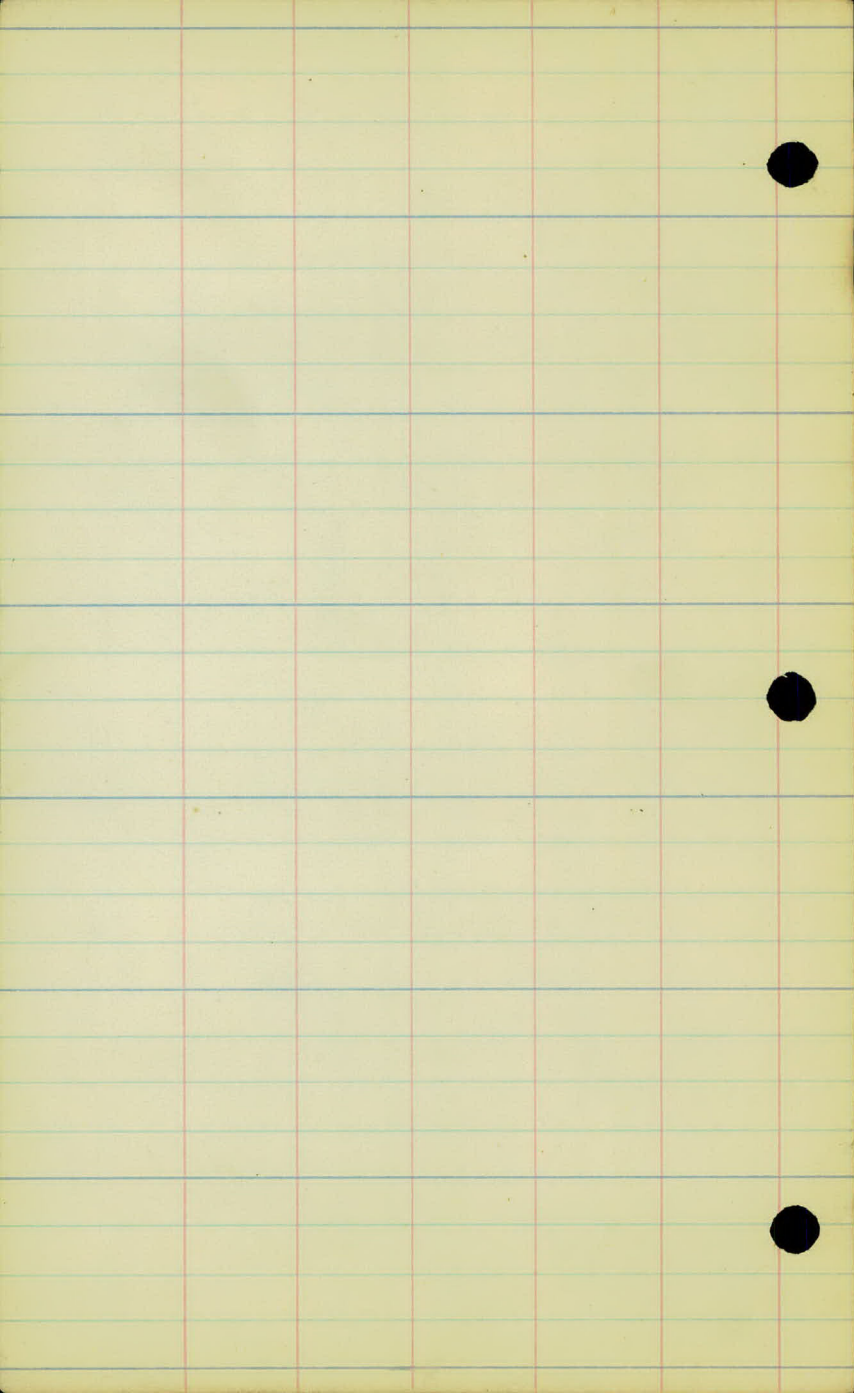
149

L R

A Line Xsections

$$\frac{-15}{33} \quad \frac{-13}{30} \quad \frac{-10}{20} \quad \frac{-12}{15} \quad \frac{-2.5}{20} \quad \frac{-3.0}{33}$$

$$\frac{-1.0}{33} \quad \frac{-2.0}{27} \quad \frac{-2.0}{23} \quad \frac{-2.6}{20} \quad \frac{-1.0}{15} \quad \frac{-1.7}{20} \quad \frac{-1.5}{33}$$



Xsections
Contours

A. Line

278-362

Xsections

362+25

362+50

363

363+50

364

364+20

364+65

365+25

366

367+15

367+20

367+68⁰ $\frac{1}{2}$ dia. top of ground

St. P. & H. Survey
H-Line

FMC 3/20/23

+1.0	+1.5	+1.0	+0.5	00	+3.4	+4.0
50	33	20	15	15	24	33

+1.0	+6.5	+0.5	+1.5	+3.5
33	26	10	20	31

+1.2	+7.5	+7.5	+1.2	00	+7.0
50	33	21	11	27	32

+9.5	+5.0	+5.0	+0.1	+1.0	-0.1	+6.0
50	32	15	5	16	30	33

+6.5	+7.3	+0.2	-0.5	+4.3	+4.0
50	15	7	15	25	50

+2.5	+2.0	-1.8	-0.2	-0.2	+0.5	+0.2
50	19	8	3	9	42	50

-2.1	-1.5	-2.4	-1.5	-0.7	-1.2	-1.5
50	16	11	8	10	16	50

-3.0	-3.9	-2.9	-1.2	-0.2	-2.0	-2.6	-1.5	-1.8
50	25	13	10.4	6	12	15	23	50

+1.0	00	-1.2	-0.7	-1.0	-1.5	+0.2	+0.1	00	-1.0
50	20	15	10	14	19	22	33	39	50

+2.0	+1.5	-1.0	+0.1	+0.4
50	21	15	20	50

-1.0	-1.0	+0.1	+0.4
50	20	20	50

-2.0	-1.2	-1.0	00	-0.5	-1.2	+0.5	+0.4	+0.2
50	42	22	12	8	11	15	30	50

361+50

361+60

361+80

361+87

St. P. & A. - Surrey
A-line

FMC 3/20/23

+0.5
33

00
33

00
33

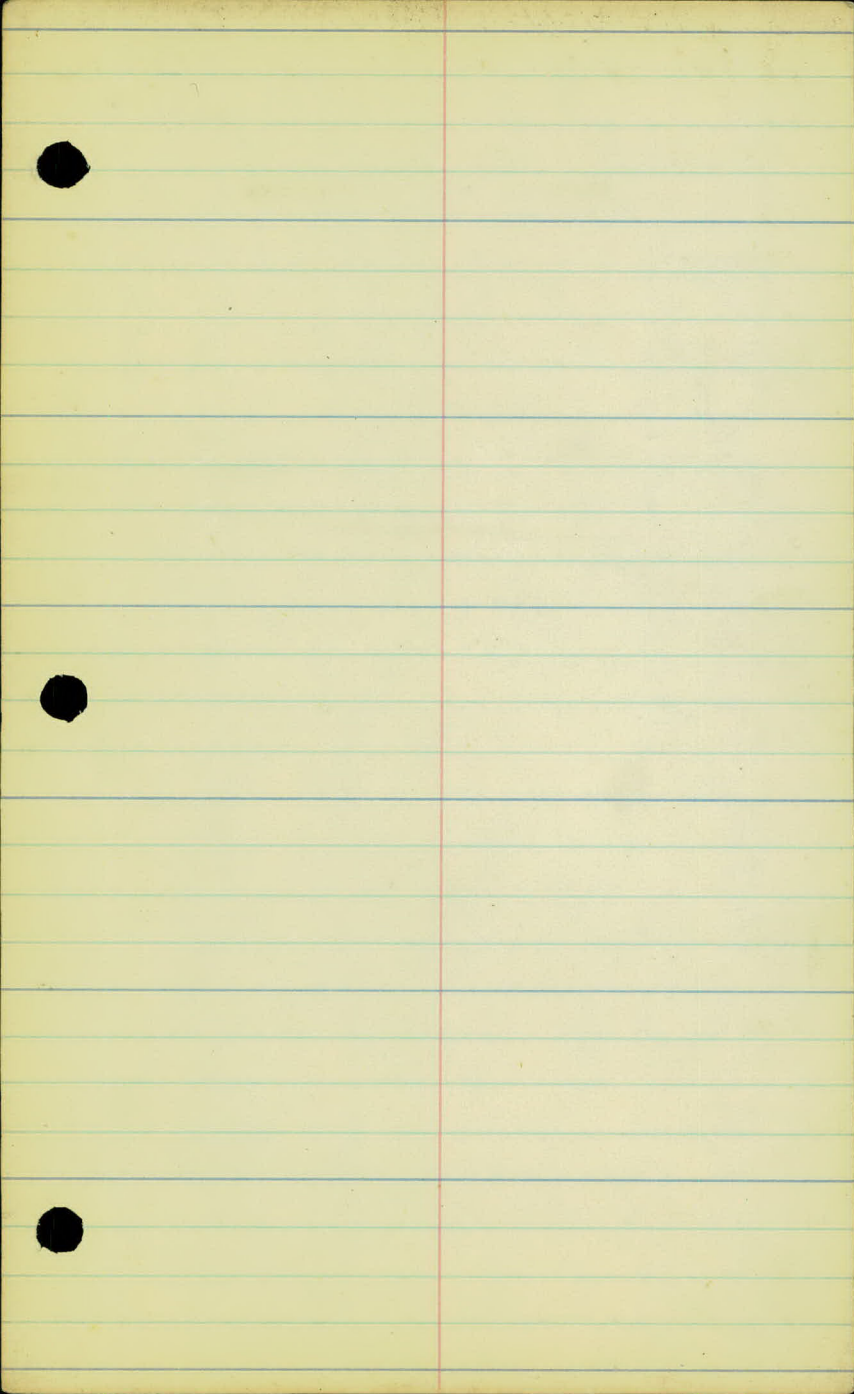
+0.3
33

00
33

+0.3
33

+1.0	+1.5	+1.6	+2.5	+2.8
33	6	10	19	33

1927
1000 18.25
1000 18.41
1000 18.59



3/26/23 sheet of sheets

Sta.	Elev.		
361+00	195.0	X	X
360+46	190.8		
360+00	183.3		
+70	179.7		
359+00	176.7		
358+00	174.3		
357+00	173.8		
356+00	174.4		
355+00	174.2		
354+00	173.4	X	X
353+00	172.5		
352+00	172.4		

Black soil

Open fields

Swamp

A. Line Xsections

$$\frac{-0.7}{40} \quad \frac{-0.6}{7} \quad \frac{0.0}{3} \quad \frac{0.0}{3} \quad \frac{-0.6}{7} \quad \frac{0.0}{19} \quad \frac{-0.8}{22} \quad \frac{-1.3}{40}$$

$$\frac{+1.3}{44} \quad \frac{+1.0}{39} \quad \frac{-0.2}{20} \quad \frac{-0.5}{7} \quad \frac{+0.4}{3} \quad \frac{+0.2}{10} \quad \frac{-0.5}{25} \quad \frac{-0.6}{44}$$

$$\frac{+0.5}{44} \quad \frac{+1.7}{35} \quad \frac{+3.7}{28} \quad \frac{+2.8}{19} \quad \frac{+1.5}{14} \quad \frac{+0.5}{5} \quad \frac{-0.5}{13} \quad \frac{-0.7}{44}$$

$$\frac{+1.7}{44} \quad \frac{+1.0}{41} \quad \frac{+2.8}{38} \quad \frac{+1.2}{29} \quad \frac{+0.4}{18} \quad \frac{+1.0}{28} \quad \frac{+3.0}{44}$$

$$\frac{-0.2}{44} \quad \frac{+0.8}{24} \quad \frac{+2.0}{44}$$

$$\frac{+0.7}{44} \quad \frac{+1.0}{44}$$

$$\frac{+0.2}{44} \quad \frac{+1.0}{44}$$

$$\frac{-0.5}{44} \quad \frac{+1.0}{44}$$

$$\frac{-0.5}{44} \quad \frac{-0.7}{14} \quad \frac{+0.5}{34} \quad \frac{+1.0}{44}$$

Level

11

11

Sta.	Elev		
351+00	172.5	X	X
350+00	173.7		
349+00	176.1		
+50	178.3	open fields	clay soil
+25	178.0		
348+00	177.7		
347+00	175.1	X	X
346+00	173.6		
345+00	173.1		
344+00	173.3		
343+00	175.1		
342+00	176.9	X	X

swamp

L C R

A. Line Xsections

$$\frac{+0.5}{44} \quad \frac{-0.2}{44}$$

$$\frac{+0.3}{44} \quad \frac{+0.1}{10} \quad \frac{+0.4}{23} \quad \frac{0.0}{26} \quad \frac{0.0}{44}$$

$$\frac{+0.2}{44} \quad \frac{+0.5}{8} \quad \frac{+0.7}{21} \quad \frac{0.0}{32} \quad \frac{-0.2}{44}$$

$$\frac{-1.0}{44} \quad \frac{+0.5}{9} \quad \frac{+1.8}{21} \quad \frac{+9.0}{30} \quad \frac{+7.3}{50} \quad \frac{+7.3}{75}$$

$$\frac{-0.5}{44} \quad \frac{+0.3}{14} \quad \frac{+1.0}{25} \quad \frac{+2.5}{34} \quad \frac{+5.0}{44} \quad \frac{+9.0}{50} \quad \frac{+9.0}{75}$$

$$\frac{-0.8}{44} \quad \frac{+0.5}{28} \quad \frac{+1.0}{44}$$

$$\frac{+0.8}{44} \quad \frac{+0.5}{31} \quad \frac{+0.8}{44}$$

Sta	Elev		
341+00	177.6		
340+00	177.9		clay
339+00	174.9	X	X
338+00	174.4		
337+00	173.4		
336+00	173.9		
335+00	174.2	X	
334+00	176.2		
333+00	176.1		
332+00	173.6	X	X Black soil
331+00	173.9		
330+00	173.1		

Swamp

L R

Airline Xsections

$$\frac{-1.5}{44} \quad \frac{0.0}{12} \quad \frac{+0.4}{11} \quad \frac{+2.0}{28} \quad \frac{+3.2}{44} \quad \frac{+5.3}{50} \quad \frac{+15.3}{100}$$

$$\frac{-2.3}{44} \quad \frac{+0.5}{13} \quad \frac{+4.0}{46} \quad \frac{+5.3}{50} \quad \frac{+10.6}{75} \quad \frac{+15.9}{100}$$

$$\frac{-1.0}{44} \quad \frac{+2.0}{44} \quad \frac{+3.0}{60} \quad \frac{+4.5}{75}$$

$$\frac{-0.5}{44} \quad \frac{+1.0}{15} \quad \frac{+2.0}{24}$$

$$\frac{-1.0}{44} \quad \frac{+1.0}{44}$$

$$\frac{-2.0}{44} \quad \frac{-1.0}{15} \quad \frac{+1.8}{41} \quad \frac{+5.0}{75}$$

Sta	Elev.
329+00	173.1
328+00	174.4
327+00	173.7
326+00	173.4
325+00	186.4
+25	178.4
324+00	180.6
+60	187.8
+27	185.0
323+00	184.3
322+00	176.2
+30	175.0

Swamp

X

X

clay

clay soil

L E R

A. Line Xsections

$$\frac{0.0}{40} \quad \frac{+1.0}{30} \quad \frac{+2.0}{44}$$

$$\frac{-0.5}{44} \quad \frac{+2.0}{45} \quad \frac{+3.0}{60} \quad \frac{+5.3}{65} \quad \frac{+10.6}{80} \quad \frac{+15.9}{100}$$

$$\frac{-1.0}{44} \quad \frac{+1.5}{9} \quad \frac{+3.0}{16} \quad \frac{+10.6}{30} \quad \frac{+15.9}{45} \quad \frac{+15.9}{60}$$

$$\frac{-3.8}{44} \quad \frac{-1.5}{7} \quad \frac{+1.5}{6} \quad \frac{+5.3}{15} \quad \frac{+10.6}{25} \quad \frac{+13.9}{31} \quad \frac{+15.2}{45} \quad \frac{+17.2}{75}$$

$$\frac{-9.0}{40} \quad \frac{-8.3}{29} \quad \frac{+1.4}{5} \quad \frac{+5.0}{44} \quad \frac{+5.0}{75}$$

$$\frac{-8.0}{40} \quad \frac{-6.0}{30} \quad \frac{-1.8}{11} \quad \frac{+1.2}{11} \quad \frac{+3.0}{27} \quad \frac{+4.0}{44} \quad \frac{+10.6}{108}$$

$$\frac{-5.5}{50} \quad \frac{-2.5}{22} \quad \frac{+4.0}{34} \quad \frac{+6.6}{75} \quad \frac{+10.6}{100} \quad \frac{+15.9}{125}$$

$$\frac{+1.0}{44} \quad \frac{+1.0}{27} \quad \frac{+0.3}{20} \quad \frac{+2.2}{35} \quad \frac{+5.0}{47}$$

$$\frac{+2.5}{56} \quad \frac{+3.5}{43} \quad \frac{+3.8}{26} \quad \frac{+1.5}{12} \quad \frac{+0.3}{6} \quad \frac{+0.5}{44}$$

Sta	Elev.		
321+00	177.3		
+60	173.0		
320+00	174.6	X	X
319+00	174.6		
318+00	174.9		
317+00	174.0		
316+00	174.2		
315+00	174.7		
314+00	174.7		
313+00	174.7		
312+00	175.9	X	X
311+00	175.5		

Swamp

Swamp

L ~~R~~ R

Airline Xsections

$$\frac{+1.5}{44} \quad \frac{+2.0}{33} \quad \frac{+1.3}{16} \quad \frac{-2.0}{21} \quad \frac{-3.2}{44}$$

$$\frac{+2.0}{60} \quad \frac{+2.0}{44} \quad \frac{+1.5}{21} \quad \frac{+1.1}{16} \quad \frac{+0.5}{7} \quad \frac{-0.5}{44} \quad \frac{-0.7}{60}$$

$$\frac{0.0}{50} \quad \frac{-0.3}{16} \quad \frac{-0.2}{24} \quad \frac{0.0}{44} \quad \frac{0.0}{60}$$

$$\frac{0.0}{44} \quad \frac{0.0}{28} \quad \frac{+1.0}{44}$$

$$\frac{0.0}{44} \quad \frac{+1.0}{44}$$

3/26/23 sheet # of sheets

Sta	Elev		
310+00	178.1		
+48	182.5		
309+00	183.4		clay
308+00	179.5	clay	
307+00	176.9		
306+00	174.8	X	X
305+00	174.1		swamp
304+00	174.8	swamp	
303+00	175.6		
302+00	175.6		
301+00	175.7	X	X
300+00	181.6		

L \neq R

Airline Xsections

$$\begin{array}{r} -0.5 \\ 41 \end{array} \quad \begin{array}{r} -0.7 \\ 44 \end{array}$$

$$\begin{array}{r} -3.0 \\ 51 \end{array} \quad \begin{array}{r} +0.2 \\ 20 \end{array} \quad \begin{array}{r} +1.5 \\ 36 \end{array} \quad \begin{array}{r} +3.0 \\ 54 \end{array} \quad \begin{array}{r} +4.0 \\ 70 \end{array} \quad \begin{array}{r} +6.0 \\ 100 \end{array}$$

$$\begin{array}{r} -5.0 \\ 61 \end{array} \quad \begin{array}{r} -9.0 \\ 39 \end{array} \quad \begin{array}{r} +5.3 \\ 28 \end{array} \quad \begin{array}{r} +10.6 \\ 56 \end{array} \quad \begin{array}{r} +15.9 \\ 82 \end{array} \quad \begin{array}{r} +18.0 \\ 100 \end{array}$$

$$\begin{array}{r} -2.0 \\ 37 \end{array} \quad \begin{array}{r} +9.0 \\ 27 \end{array} \quad \begin{array}{r} +5.3 \\ 34 \end{array} \quad \begin{array}{r} +10.6 \\ 48 \end{array} \quad \begin{array}{r} +15.9 \\ 61 \end{array} \quad \begin{array}{r} +26.6 \\ 100 \end{array}$$

$$\begin{array}{r} -1.5 \\ 47 \end{array} \quad \begin{array}{r} +1.5 \\ 39 \end{array} \quad \begin{array}{r} +5.0 \\ 66 \end{array} \quad \begin{array}{r} +26.0 \\ 125 \end{array}$$

$$\begin{array}{r} \cancel{-3.5} \\ 75 \end{array} \quad \begin{array}{r} +1.0 \\ 50 \end{array} \quad \begin{array}{r} 0.0 \\ 50 \\ \hline 0.0 \end{array}$$

$$\begin{array}{r} -3.5 \\ 75 \end{array} \quad \begin{array}{r} -2.5 \\ 52 \end{array} \quad \begin{array}{r} +2.0 \\ 21 \end{array} \quad \begin{array}{r} +3.8 \\ 41 \end{array} \quad \begin{array}{r} +5.3 \\ 74 \end{array} \quad \begin{array}{r} +6.8 \\ 94 \end{array}$$

sta	Elev		
+75	183.5		
+30	183.0		
299+00	180.5	Black	soil
+50	178.4		
298+00	176.4	X	X
297+00	175.7		
+30	176.9		
296+00	178.2		
+60	180.8		
295+00	182.5		
+50	181.9		
294+00	181.0		

L R

Airline Xsections

$$\frac{-5.0}{80} \quad \frac{-4.0}{69} \quad \frac{-2.3}{32} \quad \frac{+1.8}{21} \quad \frac{+3.0}{48} \quad \frac{+5.6}{100}$$

$$\frac{-5.0}{75} \quad \frac{+3.0}{19} \quad \frac{+5.3}{48} \quad \frac{+9.3}{100}$$

$$\frac{-4.5}{100} \quad \frac{-3.5}{73} \quad \frac{-2.3}{35} \quad \frac{+4.0}{40} \quad \frac{+5.3}{63} \quad \frac{+8.5}{100}$$

$$\frac{-2.0}{68} \quad \frac{0.0}{31} \quad \frac{+1.0}{24} \quad \frac{+2.5}{48} \quad \frac{+7.0}{90} \quad \frac{+5.0}{100}$$

Level

11

$$\frac{0.0}{50} \quad \frac{+1.5}{33} \quad \frac{+3.5}{65} \quad \frac{+5.0}{84} \quad \frac{+7.6}{100}$$

$$\frac{-2.0}{62} \quad \frac{-1.4}{29} \quad \frac{+2.3}{28} \quad \frac{+4.0}{58} \quad \frac{+5.3}{76}$$

$$\frac{-3.5}{79} \quad \frac{-3.3}{59} \quad \frac{+1.5}{28} \quad \frac{+4.0}{50} \quad \frac{+9.8}{90}$$

$$\frac{-5.0}{73} \quad \frac{-3.0}{44} \quad \frac{+1.1}{16} \quad \frac{+3.4}{35} \quad \frac{+10.6}{79} \quad \frac{+13.6}{100}$$

$$\frac{-5.0}{78} \quad \frac{-4.0}{56} \quad \frac{+2.5}{26} \quad \frac{+5.3}{32} \quad \frac{+10.6}{52} \quad \frac{+19.1}{100}$$

$$\frac{-3.5}{78} \quad \frac{-2.3}{29} \quad \frac{+2.8}{14} \quad \frac{+10.6}{37} \quad \frac{+15.9}{65} \quad \frac{+20.9}{100}$$

Sta 1 Elev

293+00 179.9

292+00 181.4

291+00 179.9

290+00 177.5

289+00 175.8

288+00 175.2

287+00 176.8

286+00 177.3

285+00 177.0

284+00 177.3

+50 177.8

283+00 178.1

Black

Soil

X

X

Swamp

Swamp

X

X

L ~~E~~ R

$$\frac{-2.0}{75} \quad \frac{+9.0}{22} \quad \frac{+15.9}{62} \quad \frac{+17.6}{100}$$

$$\frac{-3.0}{75} \quad \frac{+8.8}{75} \quad \frac{+9.5}{90}$$

$$\frac{-3.5}{75} \quad \frac{+7.6}{58} \quad \frac{+9.3}{100}$$

Level

11

11

11

11

11

11

$$\frac{-1.2}{83} \quad \frac{+1.8}{38} \quad \frac{+5.3}{54} \quad \frac{+21.2}{100}$$

$$\frac{-0.9}{73} \quad \frac{+1.5}{29} \quad \frac{+5.3}{46} \quad \frac{+23.5}{100}$$

3/26/23

Sheet of sheets

Sta.

Elev.

+30

180.0

282+00

182.0

281+00

179.0

280+00

177.8

279+00

179.4

278+00

187.9

Black soil

Black soil

X

X

L & R

A. Line Xsections

$$\frac{-2.5}{53} \quad \frac{+2.5}{16} \quad \frac{+28.5}{100}$$

$$\frac{-3.5}{50} \quad \frac{+29.0}{100}$$

$$\frac{-0.7}{50} \quad \frac{+4.5}{32} \quad \frac{+15.9}{64} \quad \frac{+21.2}{88} \quad \frac{+26.5}{100}$$

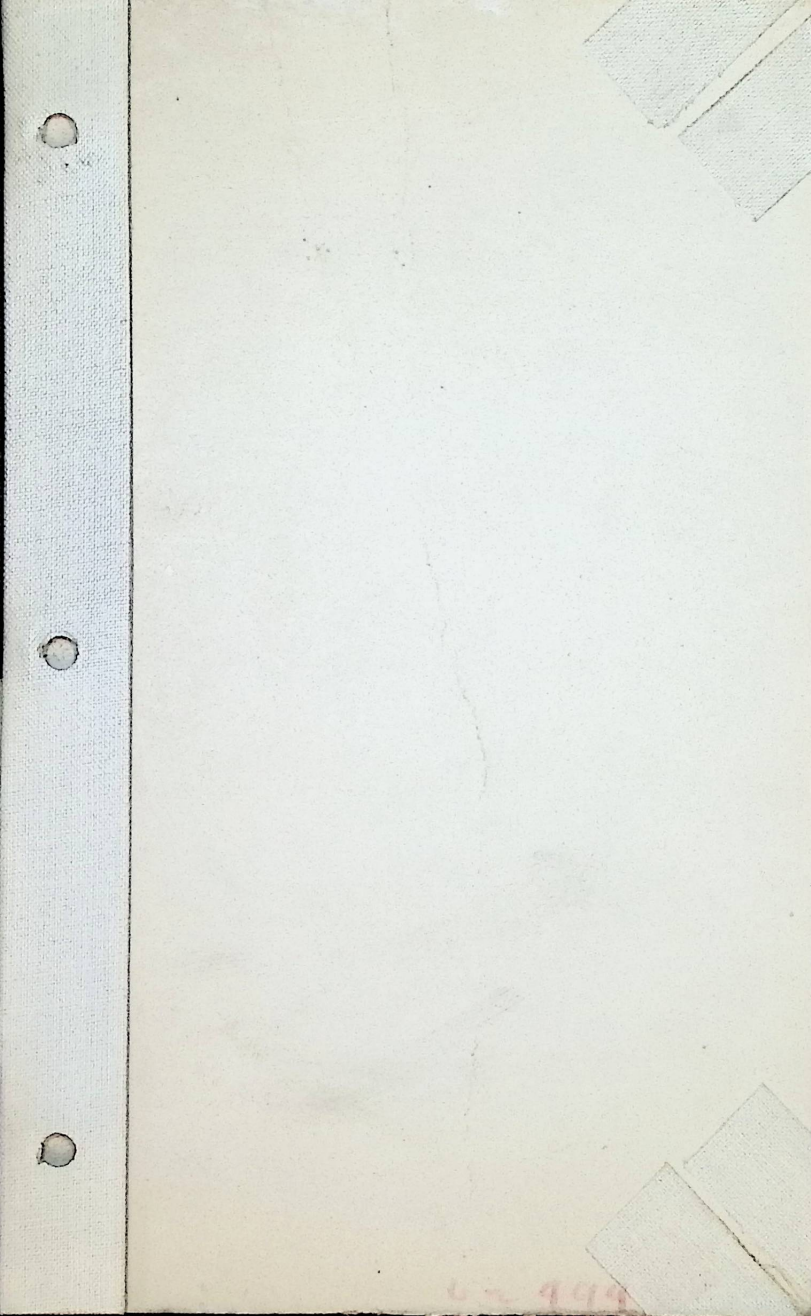
$$\frac{-0.5}{50} \quad \frac{+5.0}{51} \quad \frac{+26.5}{100}$$

$$\frac{-1.5}{50} \quad \frac{+5.0}{36} \quad \frac{+31.8}{100}$$

$$\frac{-5.0}{47} \quad \frac{-4.5}{31} \quad \frac{+34.2}{100}$$

Sheet 4 of sheets

$$\begin{array}{r} 241.06 \\ 9.94 \\ \hline 251.03 \\ 2.47 \\ \hline 248.58 \end{array}$$



U-999