

DR No 13.

Book 2.

1103

LEVEL BOOK

No. 412

Top. & S.L.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide.

Side Slopes 1 on 1.

For Single Track Embankment.

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

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

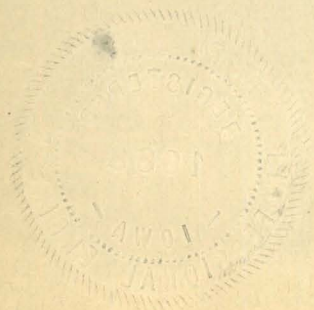
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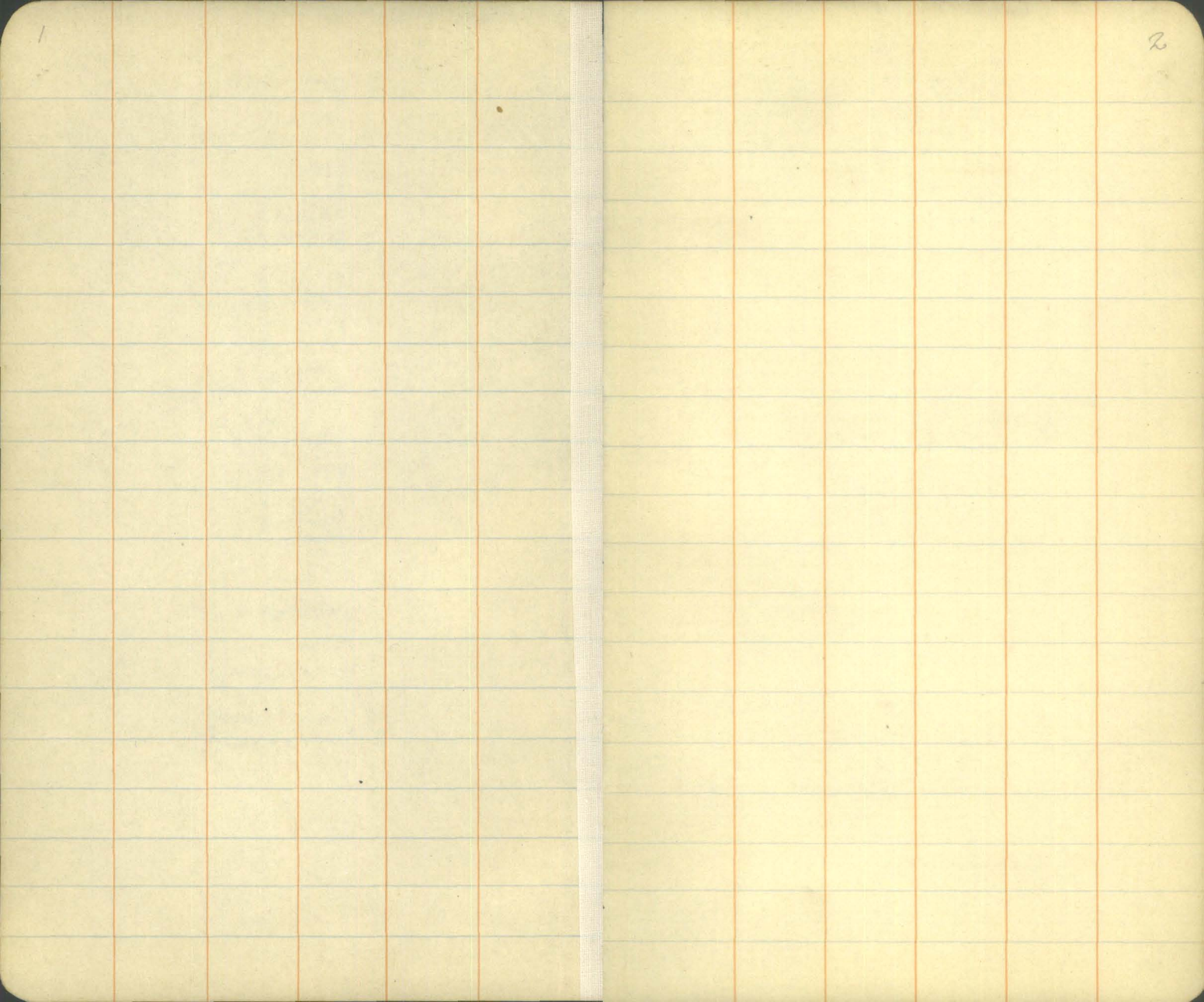
J. W. Barron

FILED
FEB 27 1923
J. W. Barron

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Topography Page 3-108





MA Δ -QB.S. 265°-57' To Δ -P.

Tie 76°-33' W.M. 11 W

Tie 194°-11' C Spruce, N.E.

K 273 $\frac{1}{2}$ 2100 Δ HwyK 277 $\frac{1}{2}$ 2000 E.W. Δ S 253 $\frac{1}{2}$ 1900 close on HwyK 277 $\frac{1}{2}$ 1950 Δ S 247 $\frac{1}{2}$ 1860K 283 $\frac{1}{2}$ 1840

S 242 1680

K 283 $\frac{1}{2}$ 1640S 238 $\frac{1}{2}$ 1480

K 291 1610

S 242 $\frac{1}{2}$ 1500

K 300 1600

S 248 $\frac{1}{2}$ 1640

K 306 1680

S 254 1740

K 315 1640

S 259 1750

S 264 1760

K 317 $\frac{1}{4}$ 1280

S 266 1650

K 312 $\frac{1}{2}$ 1120

S 267 1440

K 314 990

S 263 $\frac{3}{4}$ 1350

S 254 1240

K 300 $\frac{3}{4}$ 975

S 244 1090

K 295 $\frac{1}{4}$ 1030

K 290 1020

S 228 950

K 293 890

S 215 830

K 309 990

Hoff
Hill
Simpson Δ Hwy

N+SE

 Δ HwyN+SE Δ E.W. Δ N+SE Δ

S 224° 650'

K 322 670

S 242 690

K 326 600

S 294½ 770

K 317 400

S 820

K 290° 290'

S 269½ 760

K 279 410

S 274½ 520

Close E side E Main

HSE

E Hwy

Close

TADA-I

B.S. 354°-03'

Tie 64°-34'

I-33 229°-38'

1090 T.O.D-33

TADA-33

B.S. 229°-38'

1090 T.O.D-I

K 113° 1500

Tie 100°-02'

Ch N.W.

K 106 1000

K 101 1400

K 97 1270

K 92° 1210

E-W H

K 91½ 1150

K 93¼ 990

Same H

K 98¾ 920

E Hwy

K 80° 860

33-34 340°-45'

1820 T.O.D-34

K 68½ 860

K 58 850

K 50 770

K 47 630

S 350¹/₄ 760

K 54 470

S 4 620

K 66 370

S 12 480

K 87¹/₂ 330

S 346 540

K 105¹/₂ 440

S 325 590

K 121 550

S 339 450

S 2 350

K 134 720

S 346¹/₂ 180

S 315 320

E.W.H.

E.W.H.

S 310 520

K 154 810

S 287¹/₂ 550

S 286 380

K 170 940

S 281¹/₂ 200

S 265 320

S 266 480

K 182 1020

S 267¹/₂ 670

S 260 660

K 195 600

S 245³/₄ 460

K 210 700

S 234 380

S 221 340

E.W.H.

AA Δ-34

B.S. 340°-45'

1845' To Δ-33

Tie 157°-49'

Red Bar & V.M.K.

K 157° 410'

K 172 470

K 186 560

S 154 1060

K 199 700

S 146 1/2 910

K 212 760

S 135 1000

K 226 1/2 900 xed

S 131 1/2 1150

K 230 1000 Sink Hole

S 124 1300

K 233 1/2 1000

S 120 1250

K 231 1100

S 120 1080

K 226 3/4 1120

S 116 1/2 930

K 224 1140

S 113 1040

K 226 1100

S 104 1060

K 228 1100 close Hole

S 106 1250

K 241 1/2 900 xed Back

S 100° 1380 E.H.W.

K 238 1/2 710

S 93 1500

K 249 860

S 85 1500

K 268 810 E.H.W.

S 81 1/4 1280 E.H.W.

S 79 1220

K 215 450

S 79 1060

K 333 90

S 80 870

S 71 700

S 80 570

S 94 350

S 130 290

close on K's

1st from this AA A Δ -21B.S. 86° 04' 2200(?) Δ -KTie 111° 42' 1440 Δ -34Tie 211° 28' Δ -20Tie 90° 32' Δ -4J

S 109½ 1340 ✓

S 109 1150 ✓

S 112 960 ✓

S 106 830 ✓

$$\begin{array}{r} 31 \times 8 \\ 152 \\ \hline 248 \end{array}$$

S 95° 920

S 83½ 1010 red & Hwy

S 87 1070 Sink Hole

S 86½ 1220 ✓

S 91½ 1300 ✓

S 99 1200 ✓

S 105 1200 ✓

S 106 1080 ✓

S 95 1000 close Hole

K 258 650 close on Hwy

K 245 540 ✓

K 223 410 ✓

K 174½ 400 risk

K 150 350 ✓

S 84 1330 red back

K 122 330 ✓

K 80½ 305 E Hwy

S 90 1500 ✓

K 70½ 340 ✓

S 91 1900 ✓

K 35½ 570 ✓

S 87½ 1960 ✓

S 84½ 2060 ✓

S 80¼ 1980 ✓

S 73½ 1940 ✓

21° 35' 37° 08' 1840

TAN 5.35

OS 37° 08' 1800' to 24'

Tie 173° 36' H₂O Tower Denver

S 147 820 ✓

K 228 1240 ✓

S 165 720 ✓

K 239 1160 ✓

S 180 720 ✓

S 178½ 640 ✓

K 247 1300 ✓

S 178½ 620 ✓

S 157½ 550 ✓

K 250½ 1500 ✓

S 132½ 500 ✓

S 130 330 ✓

K 250 1680 ✓

36 S 184 170 ✓

S 242 300 ✓

S 278 370 ✓

S 298 300 ✓

S 337 250 ✓

K 257 1620 ✓

S 358½ 460 ✓

K 260½ 1440 ✓

S 6 900 ✓

K 263¼ 1250 N-5E

S 10 900 ✓

S 6½ 1100 ✓

	S	357	1420	✓	E-W AE	K	267 $\frac{1}{2}$	1400	✓	
	S	354	1460	✓		S	14 $\frac{1}{2}$	790	✓	
	S	347	1550	✓		K	268	1100	✓	
35-36	306° 06'	1720			To A-36	S	10	1070	✓	
	S	339	1430			K	277	1010	✓	E-W AE (?)
					Δ -36 is 6' E of N 45 $\frac{1}{2}$ E	S	14	1200	✓	
	π -A-36					K	280 $\frac{1}{2}$	910	✓	AE (?)
B.S.	306° 06'	1760			To A-35	S	13 $\frac{1}{2}$	1400	✓	
Tie	139° 47'				H20 Tower DENVER	K	279 $\frac{1}{4}$	850	✓	AE (?)
	K	202	930	✓		S	7	1420	✓	
	K	212	950	✓		K	265	760	✓	
	K	227	1150	✓		S	358 $\frac{1}{2}$	1310	✓	
	K	241	1280	✓		K	200	630	✓	
	S	65	870	✓		S	351 $\frac{1}{2}$	1400	✓	
	K	254	1600	✓		K	234	450	✓	
	S	44 $\frac{1}{2}$	670	✓		S	341	1440	✓	
	K	259	1510		F.C.R.	S	341	1280	✓	
	S	27	680	✓		K	173	290	✓	N-S AE

S	346	1100	✓
S	345	1010	
K	158	560	✓
S	336	990	✓
K	141	730	✓
S	331	780	✓
K	124	720	✓
S	344	630	✓
K	109	580	✓
S	354½	370	✓
K	81	390	✓
S	9	210	
K	60	230	✓
K	8½	30	✓
S	318	230	✓
S	304	140 close on K	

N-15E

Top - W. Nailo

TAD

May 21 - 2' 18
Hoff
Hill
Simpson

B.S.	84°-54'		To A-B
Tie	18°-58'		Ch SW
Tie	230°-12'		Baro NE
D-37	360°-02'	955'	To A-37
TAD-37			
B.S.	360-02	955	To A-D
Tie	22°-47'		Ch SW
Tie	92°-24'		Ch W
K	223½	770'	WCF+N
K	235	930	
K	240	1010	
S	106	1200	
K	232½	720	
S	111½	860	N-15E
K	233½	680	WCF+N
S	105	820	
K	223	470	

S 100 1110

K 220 430

K 238 450

S 97 1380

K 239 660 WCFIN

S 93 1700

K 238 780

S 93 1/2 1960

K 249 1/2 960

S 90 1/2 2040 EHWY

S 86 1/2 1990

S 82 1760

K 255 1080

S 80 1410

K 260 1280

S 80 1080

K 264 1/2 1600 10X OF E-WAY

S 79 760

S 82 1/2 530

S 61 340

S 39 360

S 39 580

37-38 284⁰-15⁰ OK Dist on BS. SURV 1590 T6A-38

S 25 730

S 41 880

S 44 1200

S 25 800

S 21 890

S 28 1040

S 20 970

S 16 1/2 1170

37-39 353⁰-57 2170 T6A-39

TAD-39

BS	353°57'	2150	To A-38
Tic	43°07'		Ch SW
Tic	131°51'		Ch. N.W.
S	162½	1190	Island
S	169	1180	
S	172	1320	
S	172¼	1480	
S	170½	1560	
K	202¼	1280	WCFJN
S	168	1450	
K	196½	1310	
S	167	1320	
S	162	1290	close Island
K	182	1360	
K	177	1250	
S	146	1150	
K	175	1130	
S	139	1210	

K	184	1000	
S	135	1400	
K	186½	1000	(?)
S	139	1620	
K	193½	920	(?)
S	139½	1760	close Island
K	188	860	E-W 1/2
S	135	1940	
K	186	870	
S	128½	1820	
K	182½	910	
S	123½	1760	
K	175½	930	
S	119	2030	
K	173	810	E-W 1/2
K	183	750	
K	196	750	
K	200½	810	

	K	200	970	EWB
	K	195 $\frac{1}{2}$	920	
39-40		123 ⁰ -21 ¹	2520	to A-to
	K	192 $\frac{1}{2}$	870	close island
	K	197 $\frac{1}{2}$	970	
	K	205	1010	
	K	210	980	WCF4N
	K	222	660	
	K	206 $\frac{1}{2}$	540	
	K	186	590	
	K	168	700	
	K	160	670	
	K	171	530	
	K	186	450	
	K	205	520	
	K	227	540	
	K	245	580	
	K	234	440	

	K	208 $\frac{1}{2}$	270	
	K	185	320	
	K	169	430	
	K	153 $\frac{1}{2}$	660	
	K	140	610	
	K	156	370	
	K	139	430	
	K	131 $\frac{1}{2}$	530	
	K	117	570	
	K	106	570	
	K	92 $\frac{1}{2}$	600	
	K	85	520	
	K	65	660	
		71 $\frac{1}{2}$	BRIDGE on Hwy	
	K	50	640	
	K	33	660	
	K	19	640	
	K	1	600	

34 1/2 WCK+N Bridge

K 326 1/2 660

K 309 1/2 970

TATA-40

BSI 123° 21' 2490 T.A. 39

Tie 357° 06' Ch.S

Tie 160° 46' Ch.N

S 310 860

S 307 1090

S 302 3/4 1310 E

S 305 1400

S 308 1/2 1340

K ~~318~~ 1990

S 312 1400

S 318 1360

S 319 1130

S 322 990 E & W E

S 323° 770

S 325° 570

S 316 1/2 370

S 329 520

S 346 420

S 13 1/4 270

K 351 1920

S 55 220

S. 104 240

K 345 2100

S 115 330

K 341 2050

S 109 430

K 340 2010

S 130 510

K 331 2140

S 132 690

K 329 2060

Huy
Island
class on map

S 136 730

K 323 2060

S 132 $\frac{1}{2}$ 1080

K 319 2000

S 126 1280

K 323 $\frac{1}{2}$ 1890

S 123 1360

K 331 1540 about here
Island closesS 118 $\frac{1}{2}$ 1360

K 338 1820

S 124 1060

K 344 1840

S 119 980

K 350 1780

S 114 730

K 345 $\frac{1}{2}$ 1740

S 102 670

K 342 $\frac{1}{2}$ 1710K 343 $\frac{1}{2}$ 1480K 337 $\frac{1}{2}$ 1500S 96 $\frac{1}{2}$ 630

S 105 760

K 322 $\frac{1}{2}$ 1660

K 322 1580

S 112 $\frac{1}{2}$ 950K 327 $\frac{1}{2}$ 1970

S 106 1190

K 336 $\frac{1}{2}$ 1230S 100 $\frac{1}{2}$ 1460

ms H

K 340 1210

S 101 1600

K 344 $\frac{1}{2}$ 990

S 99 1780

K 343 $\frac{3}{4}$ 850

E-W H

S 92 $\frac{1}{2}$ 1820

K 358 720

S 88 1540

K	2	670	± Hwy
S	89	1420	N45E
K	13½	730	
S	87	1260	
K	13	850	E4W E
S	85	1070	
K	18½	800	
S	87	820	
K	29	950	
S	79	730	
S	77	820	
K	38	1130	
S	67	620	
K	43	1250	
S	57½	620	
S	64	770	
S	75	950	
S	77	1170	

S	77½	1400	N45E
S	75½	1460	
S	70	1500	
S	67¼	1440	N45E
S	63	1320	
40-41	58°04'	1580'	TΔ-41
S	56	1260	
K	54	1520	
S	50	1070	
K	51	1320	
S	44½	1070	
K	46	1160	} close
S	41½	1050	

$\pi A + \Delta - 41$

B.S. 58° 04' 1590 T.O. 40

Tie 331° 06' Chase

S 308 1860 Hwy

S 308 1530

S 308 1480

S 308 1460

S 312½ 1440

S 311½ 1250

S 308½ 1160

S 300 920

Tie 334° 47' Δ-M

S 309½ 1000

S 314 1200

S 316 1350

S 323 1540

S 330½ 1410

S 327 1260

S 321 1050

S 314 930

S 310 810

S 320 830

S 325 970

K 357½ 1460

S 328 1120

K 1½ 1370

K 9 1280

K 16 1240

K 22½ 1280

Chased off by J.W. Barron

May 23 '21
Hoff
Hill
Simpson

At A-38

BS 284°-15' 1540' To A-37
Tie 40°-33' ch SW.

S 49 1/4 1080 ✓ W. C. F. N.

S 37 1/4 1060 ✓ E. W. E

S 35 1/2 1240 ✓

S 30 1/2 1090 ✓

S 23 1/2 1160 ✓

Divide 100° from A-38

S 22 1310 ✓

S 21 1480 ✓

S 20 1270 ✓

S 15 1280 ✓

S 13 1170 ✓

S 10 1380 ✓

K 194 490 ✓

S 7 1/2 1450 ✓

K 200 370 ✓

S 3 1/2 1600 ✓

K 178 310 ✓

S 7 1/2 1700 ✓

K 150 260 ✓

S 12 1740 ✓

K 133 1/2 300 ✓

S 103 1/4 1840 ✓

K 133 460 ✓

S 9 1820 ✓

K 124 520 ✓

S 3 1/2 1730 ✓

K 118 370 ✓

S 1 1750 ✓

S 360 1820 ✓

K 137 210 ✓

S 3 1950 ✓

K 162 130 ✓

S 3 1/4 2040 ✓

K 4 140

S 359 1980 ✓

At (12)

N. S. E

K 9° 230 ✓

K 347 250 ✓

S 552½ 2000 ✓

K 327 350 ✓

38-42 347°-22' 2000' To A 42

K 303½ 560 ✓ Nisk

K 302 640 ✓

K 306¼ 580 ✓ Some K

K 323 440 ✓

K 340 410 ✓

Tie ✓

37°-07'

To A 39

To A 5-42

BS 347°-22' 2000' To A 38

Tie 63° 42' Chsw.

K 166¼ 1610 ✓

S 129½ 370 ✓

S 139½ 460 ✓

K 165 1340 ✓

S 157 430 ✓

S 177 330 ✓

K 178¼ 1220 ✓

S 217 200 ✓

K 182½ 1320 ✓

S 277½ 320 ✓

K 186 1420 ✓

S 291 440 ✓

K 190½ 1540 ✓

S 297½ 620 ✓

K 194½ 1520 ✓

S 286 730 ✓

K 189 1370 ✓

S 271½ 610 ✓

K 185½ 1280 ✓

S 255 530 ✓

S 244 540 ✓

K 181 1190 ✓

A Cordo

EWT

EWT

EWT

Q 248 630 ✓

K 187 1060 ✓

S 263 700 ✓

K 195 1000 ✓

S 270 $\frac{3}{4}$ 770 ✓

E+WT

K 204 920 ✓

S 281 840 ✓

K 216 940 ✓

S 282 1070 ✓

K 220 930 ✓

S 279 1200 ✓

K 225 1030 ✓

S 273 1200 ✓

S 272 1320 ✓

K 234 1010 ✓

S 268 $\frac{1}{4}$ 1340 ✓

E+WT

K 237 1180 ✓

S 262 1410 ✓

K 237 $\frac{1}{2}$ 1200 ✓

Xed

S 259 1460

S 252 1460 ✓

K 248 1300 ✓

Tie 247°-13' 1580

To A-I

At A-L

BS 78°-34'

To A-J

Tie 82°-47'

Ch. W

Tie 157°-14'

A-29

Tie 137°-40'

A-40

S 96 $\frac{3}{4}$ 2700'

Hwy

S 98 2480

S 98 2320

S 94 $\frac{1}{2}$ 2320S 90 $\frac{3}{4}$ 2340S 86 $\frac{1}{2}$ 2360

S 84 2280

S 80 $\frac{1}{2}$ 2240

Hwy

S 77 2160

S 73 2100

S 69 2030

S 70 1940

S 73 1880

S 74 1810

S 80 1790

K 174 1150 WCF+N

S 84 $\frac{1}{4}$ 1540 HwyK 179 $\frac{3}{4}$ 1410 E-WFS 80 $\frac{3}{4}$ 1460

K 181 1380

S 78 $\frac{3}{4}$ 1280K 183 $\frac{1}{2}$ 1330 E-WF

S 77 1130

K 188 1420

S 70 $\frac{1}{2}$ 1050K 181 $\frac{1}{2}$ 1260

S 64 1100

K 180 $\frac{1}{2}$ 1130

S 67 1260

K 188 1130

K 195 1000

S 69 1460

K 203 1000

S 64 1540

K 199 860

S 65 1620

K 207 $\frac{1}{2}$ 650S 64 $\frac{1}{2}$ 1800

K 222 530

S 64 $\frac{1}{2}$ 1900K 232 $\frac{1}{2}$ 660S 63 $\frac{1}{2}$ 2200

S 61 2200

K 242 890

S 59 2000

S 57 1860
 K 250 1170
 S 54 $\frac{1}{2}$ 1840
 S 57 2060
 K 243 1460
 K 243 1760
 S 49 2180
 K 244 1860
 S 48 $\frac{1}{4}$ 2240
 K 244 $\frac{1}{2}$ 2130
 S 46 $\frac{1}{2}$ 2400
 K 248 2320
 S 42 $\frac{1}{2}$ 2360
 K 249 2160
 S 37 $\frac{1}{2}$ 2220
 K 250 $\frac{1}{2}$ 1860
 S 36 $\frac{1}{2}$ 2190
 K 250 1840
 S 42 2030

N 5 E

E E W

K 252 $\frac{1}{2}$ 1660
 K 257 $\frac{1}{2}$ 1390 N 5 E
 S 44 $\frac{1}{2}$ 1840
 K 265 1290 E Hwy E.S.
 S 47 $\frac{1}{4}$ 1680
 K 268 1450
 S 53 1520
 S 50 1590
 K 267 $\frac{1}{2}$ 1640
 S 53 $\frac{1}{2}$ 1380
 K 266 1940
 S 49 1170
 K 265 2010 Hwy
 S 45 1060
 K 262 $\frac{1}{2}$ 2220
 S 37 960
 K 261 $\frac{1}{2}$ 2360
 S 36 1190

K 264³/₄ 2230

S 33 1440

S 31¹/₂ 1720

K 268 2030

K 271 1820

K 275 1820

K 279 1800

K 278 2000

K 282 1870

K 287¹/₂ 1960K 287¹/₂ 2040

4-43 350-46 2420 1643

K 292 2040

K 294 2050

Hwy

~~front~~

TAD-43

B.S. 350-46'

2400

TAD-4

TIC 122-59'

Ch NW

S 122¹/₂ 1540 ✓

S 125 1480 ✓

S 133¹/₂ 1500 ✓

S 142 1480 ✓

S 151 1460 ✓

K 163³/₄ 800

WCF+N

S 150 1330 ✓

K 152 780

S 141¹/₄ 1290 ✓

K 148 660 ✓

S 135 1330 ✓

K 136 620 ✓

S 126 1310 ✓

K 119 470

K 100 300

K 81 400

K	60	440	✓	
S	133	1200	✓	
K	49	390	✓	
S	135	1060		
K	37 $\frac{3}{4}$	360	✓	E+WT
K	37	520	✓	
S	122 $\frac{1}{2}$	1120	✓	
K	29	680	✓	
S	120	1070	✓	
K	29	880	✓	
S	124	880	✓	
K	28	1020	✓	
S	123 $\frac{1}{2}$	1090	✓	
K	32	1260	✓	
S	109	1300	✓	
K	30 $\frac{1}{2}$	1400	✓	
S	104	1440	✓	
K	38	1560	✓	

S	97	1370	✓	
K	42	1580	✓	
S	98	1220	✓	
K	48 $\frac{1}{2}$	1470	✓	
S	91 $\frac{1}{2}$	1330	✓	
K	56	1270		
S	86	1330	✓	
K	60	1260		
S	92	1170	✓	
K	67	1200		
S	96	960	✓	
K	69	1080		E+WT
S	94	820	✓	
K	73	990		
S	87 $\frac{1}{2}$	970	✓	
K	73	890		
S	83 $\frac{1}{2}$	720		} close
K	74	790		

K 168 820 close on RR

K 182½ 840

K 192 730

K 208 720

K 221 760

K 236 840

K 251 850

K 263 830

K 269 780

K 279 670

K 289 450

K 298 460

K 317 350 EYWE

K 345 330

K 1° 330

K 345 450

K 334 530

K 329 630

K 317 610

K 301 660

K 308 770

K 308 920

K 298½ 800

K 289 870

K 292½ 990

43.44 301°-45' 1200' To A-44

A-H-N

BS 352°-28'

Tie 101°-03'

Tie 43°-33'

K 121 1070

K 122½ 880

K 124 990

K 133 770

K 133 670

K 140 690

K 148 800

S 354½ 1960 Hwy

K 150 630

K 154 590

S 349 2030

K 156 820

S 348 2120

K 157 990

S 340 2260

K 159 1130

-A-S

Ch W

A-44

K 161½ 1170

S 336 2340

K 178 1270 Hwy

S 333 2460

S 327 2600

S 328½ 2650

K 184 1100

S 325½ 2380

K 190½ 1130

S 330 2340

K 198 1150

K 205 1170

S 334 2100

K 212 1070

K 215 990

S 339 1860

K 225 1120

S 344 1790

May 24 21
Hoff (50)
Hill
Simpson

K 229 1030 Waved-Draw(?)

S 349 1720

K 234½ 760

S 353 1700

Hwy

K 240 620

S 360 1660

K 247 580

S 4½ 1600

K 253 620

S 355 1450

Hwy

K 263 490

K 266 590

S 348 1500

K 279 550

S 340 1580

K 290 585

S 333 1960

K 292 720

S 327 1800

K 294 1080

S 322½ 1940

K 294 880

S 321 2120

Int Divide 263° thru 4-N x 5 Hwy W.

S 318 1940

S 317 1840

K 302 1200

K 305 1500 close on 5

LAT Δ-44

BS. 301° 45' 1200

Tie 146° 42'

K 167 380

S 280³/₄ 1780

K 184 400

S 281 1480

K 206 410

S 283¹/₂ 1410

K 226 440

S 289 1460

K 220 370

K 240 380

S 297¹/₂ 1540

K 249 310

K 263 320

S 305 1680

K 285 330

S 309 1780

K 305 320

TO Δ-43

Ch N.W.

Hwy

S 311 1980

K 324 260

S 311 2130

K 19 240

S 308³/₄ 2260

K 50 390

K 70 420

K 60 570

K 67 690

K 67¹/₂ 770

K 77 860

K 73 890

K 79 960

K 71¹/₂ 1090

K 74 1230

K 72¹/₂ 1340

K 69 1420

K 64 1430

Hwy

WCFYN

S	349	1700	
S	344	1660	
K	57	1230	WCF+N
K	52 $\frac{3}{4}$	1265	
S	337	1760	
K	56	1430	
S	330 $\frac{1}{2}$	1820	N45 E
K	57	1590	
S	327 $\frac{1}{2}$	1830	
K	33 $\frac{1}{2}$	1740	
K	53	1740	Waved-E?
S	329	1760	N45 E
K	50	1720	
S	334	1650	
K	46	1600	
S	342	1510	
K	41 $\frac{1}{2}$	1490	WCF+N
S	336 $\frac{1}{2}$	1500	

S	329	1540	
S	325	1460	N45 E
S	321	1460	
K	41 $\frac{1}{2}$	1390	
S	320	1350	
K	40	1240	
S	327 $\frac{1}{2}$	1310	
S	334	1280	
K	30	1010	
S	340	1230	
K	24	1100	
S	330	1100	
K	20 $\frac{1}{2}$	1220	
S	323	1020	
K	23	1370	
S	322 $\frac{1}{2}$	920	
K	18	1480	
S	336	830	

S 355 740

K 17 1300

S 8 990

K 16 1130

K 14 990 close on S

 π At $\Delta-O$

BS 354°-45'

Tic 144°-35'

K 96½ 1700

S 22 430

K 95 1750

K 96 2000

S 35¼ 490

K 95 2120

S 326 390

K 100 2150

S 30¼ 440

K 98 2260

To $\Delta-N$

Ch. N.W.

Hwy

O-45

309°-49'

1270

To $\Delta-45$

K 90 1820

K 90½ 1600

K 91 1320

K 88½ 1200

K 82½ 1100

Hwy xing by $\Delta-O$ is center of low is/and
200' Dig.

S 268¼ 350

xrd

Hwy

K 98 2400

K 99 2360

K 97½ 2600

K 95 2500

K 94 2400

K 93½ 2330

K 92½ 2240

K 90 2260

K 90 2100

K 81 1500

K 79 1200

K 58 890

S 189½ 630 xed-6 close on Hwy

K 45 940

S 204 640

K 44½ 1120 N45E

K 48 1300

S 213 800

S 212 980

S 222 1060

S 233½ 1070

S 240½ 1230

S 240½ 1430

O-46 27°45' 2240 To Δ-46

O-47 252°-49' 1890 To Δ-47

To Δ-47

BS 252°-49' 1895 To Δ-Q

Tie 13°-08' W.M. 11 S

S 119 550

Tie 46°37' 630' Δ-P

S 130 450

S 149 430

S 161½ 530

K 61½ 1050 Hwy

S 166 680

K 65 870

S 176 800

K 61 690

S 188 660

K 54 580

S 201½ 950

K 29½ 600 Hwy

S 211 850

S 223½ 820

S	238	770
K	7	500
S	252	780
K	349	660
S	260	710
K	339	760
S	248	500
S	233 $\frac{1}{2}$	390
K	330	980
S	208	290
K	323 $\frac{1}{2}$	1080
S	175	230
K	319 $\frac{1}{2}$	1200
S	122	170
K	313 $\frac{1}{2}$	1390
S	95	240
K	313	1480
S	76	310
K	305 $\frac{1}{2}$	1500

S	32	170
K	305	1410
S	329	240
K	302 $\frac{1}{2}$	1220
S	310	430
K	302	1070
S	309 $\frac{1}{2}$	580
K	304	840

} Huf
Close

MAA-45

BS 309°-49' 1270 TOLQ

TIC 225°-26' W.M. 11 N.E.

S 138½ 770

S 138½ 660

K 187 700

S 149 640

S 160 470

K 210 620

S 159 360

K 222 660

S 123½ 300

S 108 200

K 232 870

S 149 240

S 175 200

S 202 110

S 206 220

S 247 270

K 240 890

S 269 400

S 285 570

S 297 500

K 258 1160

S 314 590

K 263½ 1300

S 315 810

K 265 1440

S 315 980

S 315 1110

S 323 1100

K 278½ 1500

S 330 1240

S 337½ 1300

K 272 1180

S 334 1520

K 279 940

S	330	1600
K	290	800
S	337	1700
K	293½	1040
S	339	1850
K	292	1240
S	338½	1900
K	295	1370
K	298	1600
S	340	2050
K	298½	1630
S	335½	2400
K	305	1700
S	330	2400
K	312	1980
K	315	2075
S	320	2350

}

A

ATA-46

BS	27-45'	2280	TA-0
Tic	4°-32'		W.M. 11/5W
S	211	1600	
S	212½	1500	
S	217	1400	
S	223	1460	
S	229		pt. on Hwy
K	180½	1220	
S	228	1420	
K	174	1160	
S	230	1270	
K	165	1260	
S	232½	1110	
K	155	1320	
S	239	1190	
K	148½	1450	
S	242½	1320	W.Hwy A + A W

K	143	1600
S	243 $\frac{3}{4}$	1345
K	146	1270
S	248 $\frac{1}{2}$	1500
K	134 $\frac{1}{2}$	1220
S	251	1780
K	136	1110
S	254	1980
K	143 $\frac{1}{2}$	810
S	258 $\frac{1}{2}$	1980
K	152 $\frac{1}{2}$	920
S	261 $\frac{1}{2}$	1780
K	168	690
S	259	1500
K	184	860
S	254 $\frac{1}{2}$	1280
K	199	870
S	251	1130

Hwy

Hwy

K	199	680
S	262	1100
K	181 $\frac{1}{2}$	500
S	268	1170
S	273 $\frac{1}{2}$	1280
K	149 $\frac{1}{2}$	540
K	136	530
S	271	1460
K	130	460
S	277	1380
K	152	255
S	282	1700
K	179	150
S	282 $\frac{1}{2}$	2000
K	218	210
S	281 $\frac{1}{2}$	2230
K	222	380
K	243	460

Hwy
Not Top
Bridge

E-W H

N+3 H

K 258 470
 K 266 340
 K 259 210
 K 247½ 150
 S 283 1500
 K 351 120
 S 278½ 1320
 K 330 240
 S 280 1200
 K 300 440
 S 292 1150
 K 303 550
 S 301 1170
 K 306 640
 K 295 690
 K 284½ 730
 K 290 870
 K 299 960

K 313½ 980
 46-48 323°-32' 1840 To 4-48

Hwy)

E.W.H.

E.W.H.

Hoff
Mill
Simpson

At Δ 48

BS	323° 32'	1740	To Δ 46
Tie	34° 08'		W.M.II S.W.
S	168° 370'		
S	193½ 350		
S	211° 390		
S	221½ 500		Δ Hwy
K	147 840		
S	240¼ 410		Bridge
K	138½ 1020		
S	232½ 490		15/100
S	229 590		
K	132 1230		
S	238 700		
S	245 720		
K	131 1390		N45 E
S	245½ 590		
S	240 500		Close blood
K	129½ 1600		

S	218½ 620	
S	211 690	
S	218 830	
S	222¼ 920	
S	227½ 1050	
S	233½ 1120	
S	239 1060	
S	243 1160	
K	130 1740	
S	248 1350	
K	126 1860	
S	255 1570	
K	122 1840	
S	259½ 1600	
K	121 1740	
S	263½ 1480	
K	120 1570	
S	266 1260	

~~From~~

E-W E

K 114 $\frac{1}{2}$ 1660
 S 261 1150
 S 259 1040
 K 115 1400
 S 259 870
 S 257 $\frac{1}{2}$ 660
 K 117 1160
 S 263 660
 K 116 980
 S 274 620
 K 109 760
 S 273 600
 K 104 1040
 S 272 $\frac{1}{2}$ 1010
 S 281 1000
 K 106 1300
 S 289 990
 K 105 1450

N+51E

N+51E

K 100 1310
 K 94 $\frac{1}{2}$ 1560
 K 94 1620
 S 289 410
 K 86 1360
 S 292 $\frac{1}{2}$ 260
 K 82 $\frac{1}{4}$ 1560
 S 281 110
 S 141 80
 K 80 1320
 S 97 240
 K 84 1210
 S 55 370
 S 52 650
 K 85 980
 K 85 $\frac{1}{2}$ 790
 S 54 900
 K 88 590

Hwy

E+WT

E+WT

N+51E

N	100	500	
S	59	1050	
N	80 $\frac{3}{4}$	475	E-W
S	67	920	
S	62 $\frac{1}{2}$	740	
S	67 $\frac{1}{2}$	550	

$\Delta-40$ is 1352' S Δ -E along Hwy + 85' E
of Δ Hwy

6/6/21

Δ A $\Delta-41$

B.S. 58° 24'

to $\Delta-40$

Tie 331-06

C 65 E

Tie 334-47

 $\Delta-11$ S 330 $\frac{1}{2}$ 1270

S 336 1310

S 338 $\frac{1}{2}$ 1160

S 338 990

S 335 800

S 333 610

S 322 480

S 322 $\frac{1}{2}$ 290

S 342 450

S 3 460

S 353 $\frac{1}{2}$ 670

S 348 890

S 348 1080

S 355 1000

K 26 1280

S 3 850

K 37 1400

S 15 770

S 20 570

K 47 1650

S 29 400

K 50 1780

S 55 1/4 270

S 83 230

K 47 1/2 2120

S 101 400

S 82 490

K 46 1/2 2400

S 69 1/2 530

K 49 1/2 2740

S 60 670

K 48 1/2 2850

S 56 840

NAST

E+WT

E+WT

E+WT

NAST

K 50 1/4 2780

K 50 3/4 2840

S 74 1/2 870

K 49 1/2 2700

S 91 780

K 50 2520

S 108 920

K 52 1/2 2200

S 123 1/2 810

K 55 2120

K 57 1/2 2240

S 117 1/2 1170

K 60 2650

S 109 1000

K 63 2850

S 96 1360

K 67 2940

S 74 1/2 1540

E+WT

E+WT

E+WT

NAST

NAST

K	68½	2800	Expect E-W H (P)
S	87	1410	
K	67	2570	
S	83	1300	
K	64	2220	
S	78	1310	13y E-W H
K	61	1840	
S	71	1230	
S	62	1260	
K	68½	2160	
S	59	1400	
K	71½	2200	
S	63½	1440	N+SE
K	74	2260	
S	69	1500	
K	74	2040	
S	72	1900	
K	76½	2300	

S	76	1900
K	79	2300
S	79	2050
K	80	2350

} 6100C

At Δ-M.

B.S. 84° 24'

Tie 282° 18'

S	205°	650
S	182	700
S	166	900
S	152	990
S	139½	1000
S	126	880
K	135½	1650
S	113	820
K	136	1630
S	96	720

To Δ-L

Ch 5E.

E Hwy

N+SE

K 142 1400

S 83 1/2 140

Eitw/

K 139 1380

K 138 1230

S 73 1730

K 123 1300

N45E

S 59 670

K 119 1500

S 38 670

K 120 1800

K 119 1900

K 117 2100

K 114 2300

K 111 1/2 2680

N45E

K 108 1/2 2800

M-49 31°-59' 2260

K 106 2850

K 106 2600

N45E

K 107 1/2 2260

K 110 1950

K 112 1660

K 109 1820

K 107 2000

K 105 2200

K 103 2025

K 103 1640

K 102 1/2 1600

K 99 1740

K 95 1650

K 94 1800

K 91 1800

K 89 1600

K — 1490

Eitw/

A+Δ-49

BS	31°-59'	2230	To Δ 71.
Tie	216°-49'		Ch. N.E.
K	172°	1620	
K	168 1/2	1400	
S	213	1670	
K	169	1320	
S	217	1800	
K	153	1330	
S	222	1800	
K	153	1500	
S	226 1/2	1980	
K	152	1700	
S	229	1800	
K	152 1/2	1900	± Hwy
S	132	1970	± Hwy
K	152 1/2	2200	
S	133	2100	

K	150	2440	N+S E
S	236	1980	Red. E
K	148	2650	Draw runs 500' E + 300' S of this pt
K	144	2900	
K	142	2850	
K	141 1/2	2460	E-W E
K	142 1/2	2380	
K	141 1/2	2140	± Hwy
K	144	1680	
K	140	1540	
139.50	300°-06'	1690	
K	140 146	1340	
K	131	1450	N+S E
K	125	1600	
S	295 1/2	1220	Red.
K	127	1880	
S	294	1050	
K	132 1/2	2100	
S	289	860	

K 135 2320

S 277 860

S 270 830

K 135 2475

S 269 520

S 251 410

K 134 $\frac{3}{4}$ 2620

K 134 2850

K 133 2900

K 131 3000

K 130 $\frac{3}{4}$ 2840

S 243 570

K 130 2700

S 238 730

K 129 2500

S 230 860

K 126 2400

S 218 850

Hwy

E-W F

N-S F

N-S F

Hwy

K 123 2400

S 204 890

K 120 2600

S 192 970

K 117 2800

S 181 1020

S 170 1080

S 169 860

S 173 680

S 171 480

S 159 $\frac{1}{2}$ 590

S 145 680

S 140 870

S 130 950

S 119 960

S 110 970

S 101 900

S 94 750

E-W F

S 83 1/2 830

S 72 730

S 66 550

S 56 420

S 48 520

S 22 410

S 355 480

S 346 670

S 341 900

S 347 1050

S 1 920

E+WF

S 12 900

S 27 1000

S 24 1/2 1050

E+WF

49-51 98°-33' 2300

TAH Δ-51

B.S. 98°-33' 2250 TO Δ-49

Tic 247°-30' CH NE

K 158 3/4 1215 E HWY

K 159 1/2 1400

K 157 1520

K 156 1/2 1680

K 152 1830

K 147 1960

K 143 1820

K 141 1850

K 141 1900

K 139 1600

K 136 1760

67-52 353°-05' 2240 TO Δ-52

K 124 1770 E HWY

K 124 1650

K 126 1450

S	324 $\frac{1}{2}$	2040	xed
K	127 $\frac{1}{2}$	1250	
S	326	1920	
K	126	1110	
K	118	1140	
S	328 $\frac{3}{4}$	1690	E+WT
K	115	1300	
S	319	1580	
S	310	1700	
S	306 $\frac{1}{2}$	1480	
S	308 $\frac{1}{2}$	1220	
S	316	1080	
S	330	1050	
K	113	1460	Barn yard
S	343	1100	
S	345	1340	
S	346	1520	E+WT
K	108 $\frac{1}{2}$	1600	APPROXIMATE

S	350	1670	
K	96 $\frac{1}{2}$	1390	(Draw W) L.H. H.
S	357	1630	
K	90	1300	
S	1	1450	E+WT
K	86	1230	
S	1	1350	
K	89	1060	
S	13 $\frac{1}{2}$	1310	
K	84	800	
S	19	1580	
K	74	950	
K	87	670	
S	26 $\frac{1}{2}$	1800	E
K	96 $\frac{1}{2}$	630	
S	32	1720	B. Yard
K	90	570	
K	85	500	

K 104 460

K 119 370

K 145 270

K 122 130

S 38 1500

K 173 $\frac{1}{2}$ 190

S 44 1540

K 209 310

S 50 $\frac{1}{2}$ 1620

K 226 470

S 52 1340

K 235 560

S 44 1190

K 243 $\frac{1}{2}$ 740

K 250 880

K 251 990

S 60 880

K 260 880

S 51 $\frac{1}{2}$ 720

N+51E

N+51W

K 261 690

S 33 640

K 271 780

S 13 600

K 273 910

S 22 410

K 269 1010

S 47 290

K 272 1180

S 352 $\frac{1}{2}$ 70K 277 $\frac{1}{2}$ 1180

S 328 200

K 275 910

S 324 370

K 282 $\frac{1}{2}$ 740S 309 $\frac{1}{2}$ 450K 288 $\frac{1}{2}$ 550S 294 $\frac{1}{2}$ 490

} close

E+W E

E+W E

N+51E

E+W E

E+W E

TA 4-5-2

BS	353° 05'	2250	TA 4-5
TIC	222° 24'		Ch NE
K	240	1860	ENE
K	246 $\frac{1}{2}$	1860	
K	250 $\frac{1}{2}$	1980	NWSE
K	252	2100	
K	255 $\frac{1}{2}$	2180	
K	258	2220	
K	259 $\frac{1}{2}$	1995	E. Cor.
K	259	1820	
K	256	1640	
K	259 $\frac{1}{2}$	1560	
K	261	1680	
K	265	1890	
K	270	1990	NWSE
K	273	2120	
K	278	2220	

K	284 $\frac{1}{2}$	2340	ENE
K	290 $\frac{3}{4}$	2350	NWSE
K	290 $\frac{1}{2}$	2020	
K	287	1840	
S	248 $\frac{1}{2}$	1220	
S	251	990	
S	239	860	
K	284	1700	ENE
S	235	770	
K	279 $\frac{1}{2}$	1340	
S	249	680	
K	274	1350	
S	227	580	
K	279	1260	
S	268 $\frac{1}{2}$	430	NWSE
K	287	1090	
S	182 $\frac{1}{2}$	320	
S	168	190	
K	297 $\frac{1}{2}$	1080	ENE

S 221 150

K 306 $\frac{1}{2}$ 1090S 247 $\frac{1}{2}$ 260K 313 $\frac{1}{2}$ 1260

S 268 390

K 319 1420

S 288 570

K 324 1500

S 299 $\frac{1}{2}$ 370

K 325 1660

S 319 320

S 353 290

K 322 1900

S 35 300

K 315 2190

S 60 370

K 311 2250

S 75 570

K 307 $\frac{1}{2}$ 2400

N+SE

S 75 810

S 72 980

K 302 $\frac{1}{2}$ 2520

S 70 1110

K 302 2620

S 59 1200

K 305 2600

S 52 1160

S 46 $\frac{1}{2}$ 1120

K 311 2020

S 40 $\frac{1}{2}$ 870K 317 $\frac{1}{2}$ 2220

S 24 790

K 321 2200(?)

S 0000 850

S 345 980

K 329 2100

S 334 990

E+W+E

E+W+E

E

E+W+E

S 332 1180

K 336 2000

S 340 1220

S 350 1120

S 4 1060

S 8 1180

S 1 1/2 1300

waved
Maybe Cut out
50 ft here.

K 328 1660

S 339 1400

K 333 1720

S 356 1500

K 336 1620

S 352 1600

K 339 1540

S 349 1520

K 343 1380

S 346 1470

} close

PA 4-50

14 May 13 B.S

300'-06'

1740

TOD-49

Tie

143'-25'

S. 1/2 NW.

S 187 1/2 1380

S 189 1/2 1110

S 196 780

S 201 1/4 830

N 45 Hwy

K 94 1/4 470

E + W L

S 226 1/2 860

K 88 690

S 230 980

K 83 780

K 15 690

S 230 1270

K 69 540

S 237 1500

K 44 1/2 360

S 243 1560

K 17 370

S 249 1040

K 8 490

K 12 580

K 19 600

S 258 1260 Fcor (P)

S 256 1180

S 252 1/2 880

S 250 700

S 264 610

SD-S3 330°-16' 985 TOD-S3

S 271 730

S 277 650

S 291 600

S 300 530

S 311 1/4 600 Hwy

TADA-53

B.S. 330°-16 995' TOD-S3

Tic 145°-00' S 1/2 NW.

S 205° 300

S 247 200

S 301 220

S 303 370

K 109 960

S 278 520

K 106 1/2 1180

S 263 660

K 105 1320

S 253 870

K 105 1500

S 255 1090

K 103 1580

S 261 1160

K 97 1620

S 271 1070
 S 272 1260
 K 92 1500
 S 279 1420
 K 84 1500
 S 285 1240
 K 78 1400
 S 289 1120
 S 296 1160
 S 296 1310
 S 291 1600
 K 74 1300
 S 293 1780
 K 70 1220
 S 298 1660
 K 71 1030
 S 308 1640
 K 73 870
 S 313 2000

LWFL

... ..

K 60 650
 K 45 600
 K 34 720
 K 42 900
 K 53 1000
 K 60 1150
 K 55 1220
 K 39 2000
 K 22 1600
 K 27 1500
 K 23 1420
 K 22 1200
 K 27 1100
 K 22 970
 K 8 850
 K 35 1/2 730

53-54 306°-37' 1940 Too SK

1400

TAT A-54

B.S. 306° 37' 1940 TAD 53

Tic 156° 28' Ch NW

S 358° 240'

S 329 360

S 315 450

S 300 390

S 268 380

S 266 660

S 276 900

S 289 900

K 106 1/2 1420

S 296 1060

K 109 1280

S 301 1/2 1180

K 103 1330

S 311 1060

K 98 1150

S 325 1/2 900

4 Hwy

K 86 1020

S 339 820

K 73 970

S 351 920

K 62 980

455 329° 30' 1230 TAD 55

B.S. 329°-30' 1240 T A 54

Tic 158°-11' ch N.W.

K 112 1490 E.W.Hay

S 92 1/2 420

S 66 200

K 105 1320

S 17 240

S 350 350

S 322 460

S 293 600

S 281 1/4 890 W.C.F. & N

K 97 1/2 1220

S 293 890

K 89 1160

S 305 850

K 84 1300

S 318 760

K 87 1580

S 336 820

S 344 920

S 345 1110

S 340 1240

K 87 1860 E.W.Hay

S 332 1/2 1540

S 341 1600

S 344 1700

S 341 2020 E.W.H.

K 86 2150

S 340 1/2 2200

K 85 2400

S 344 2250

K 87 1/2 2500

S 349 1/4 1980 E.W.H.

K 86 2600

S 355 1800

K 82 2900 N.S.H.

S 3¹ 1700K 77 $\frac{1}{2}$ 2800

S 5 1450

K 77 2600

S 13 $\frac{1}{2}$ 1220K 73 $\frac{1}{2}$ 2300S 23 $\frac{1}{4}$ 1015

N 51 E

K 70 1970

N 45 W

S 39 1000

K 63 1930

S 47 $\frac{1}{2}$ 1090

K 60 1860

S 43 1300

K 55 1800

K 52 1700

S 47 1460

K 50 1560

K 46 $\frac{1}{2}$ 1670

113-158

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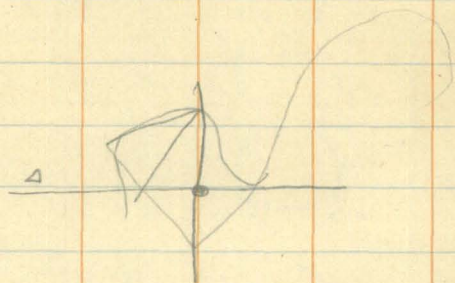


TABLE IX.—CALCULATION OF EARTHWORK.

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

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if $w = 16.2$ and $h = 3.3$, cu. yds. $= 1.48 + .028 + .089 = 1.597$ cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) $= h$, and $\frac{1}{2}$ the roadbed $= w$, add the triangles formed by taking the distance out to each break in turn ($= w$'s) by the difference between the cuts (or fills) on each side of it ($= h$'s) always subtracting the outer from the inner.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide.

Side Slopes 1 on 1½

For Single Track Embankment.

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

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