FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	HawnS 2381(1952)		17	20	

FINAL SURVEY — SURVEYED / COMPUTED / TEMPLATE / AREAS / AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

ORIGINAL SURVEY — SURVEYED / COMPUTED / TEMPLATE / AREAS / AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

1120

1122.13

C = 6
F = 24.8

2 + 47

Exc = 23.5
Emb = 336.0

1120

1122.30

C = 21
F = 19.8

2 + 00

Exc = 50.2
Emb = 163.9

1120

1122.46

C = 43
F = 3.9

1 + 50

Exc = 115.7
Emb = 18.1

1120

1122.07

C = 82
F = 0

1 + 00

Exc = 81.5
Emb = 0

1120

1122.85

C = 6
F = 0

0 + 50

Exc = 14.8
Emb = 0

1120

1123.03

C = 10
F = 0

0 + 00

℄

1120

1121.68

C = 0
F = 32.6

3 + 70.56

Exc = 0
Emb = 214.7

1120

1121.76

C = 0
F = 23.8

3 + 50

Exc = 0
Emb = 396.3

1120

1121.04

C = 0
F = 19.0

3 + 00

Exc = 5.6
Emb = 337.8

1120

1122.08

C = 8
F = 29.0

2 + 62

Exc = 24
Emb = 86.7

1110

1122.12

C = 8
F = 29.5

2 + 54

Exc = 1.3
Emb = 70.4

℄

1120

1121.03

C = 0
F = 10.27

5 + 50

Exc = 0
Emb = 1298.1

1120

1121.21

C = 0
F = 3.75

5 + 00

Exc = 0
Emb = 280.6

1120

1121.30

C = 0
F = 2.31

4 + 75

Exc = 0
Emb = 275.9

1110

1121.30

C = 0
F = 36.5

4 + 50

Exc = 0
Emb = 768.3

1110

1121.38

C = 0
F = 4.65

4 + 00

Exc = 0
Emb = 431.2

℄

PLATE 3 - CROSS SECTION O. P. R. & R. E. STA.

KEUFFEL & ESSER CO., NEW YORK.

K & E CO. No. 345-3 MADE IN U.S.A. 28334

5589.19

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	S238(11)	1952	20	20

7-15-52

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

Begin Daylight

1110

8 + 00
1120.12
1117.28
1117.74
Cut = 544
Fill = 180
Exc a = 424.7
Emb = 190.3

7 + 70.56
1120.23
1117.16
1117.56
Cut = 235
Fill = 169

7 + 50
Exc a = 138.2
Emb = 111.6
1120.30
1117.03
1117.39
Cut = 128
Fill = 184

7 + 00
Exc a = 30.3
Emb = 40.16
1120.49
Cut = 0
Fill = 314

6 + 50
Exc a = 0
Emb = 1192.6
1120.67
Cut = 0
Fill = 974

6 + 00
Exc. 0
Emb 2212.0
1120.88
Cut = 0
Fill = 1415

5 + 70.56
Exc. 0
Emb. 1465.4
1120.06
Cut = 0
Fill = 1273

5 + 00
Exc. 0
Emb = 875.7

1120

10 + 19
30.1
Exc. 30.3
Emb. 0
1119.33
1117.23
228
Cut = 160
Fill = 0

10 + 12
Exc. 36.2
Emb. 0
1119.36
1117.30
Cut = 74
Fill = 0

10 + 00
Exc. 653.7
Emb. 0
1119.40
1117.00
Cut = 92
Fill = 0

9 + 63
Exc. 486.8
Emb. 0
1119.53
1118.03
1121.00
Cut = 862
Fill = 0

9 + 50
Exc. 1144.4
Emb. 0
1119.35
1118.80
1121.00
Cut = 1160
Fill = 0

9 + 27.89
Exc. 1771.5
Emb. 0
1119.66
1117.96
1121.00
Cut = 1635
Fill = 0

9 + 00
Exc. 2708.1
Emb. 34.6
1119.76
1117.81
1120.12
Cut = 1795
Fill = 0

8 + 50
Exc. 1639.8
Emb. 275.9
1117.84
1117.24
1118.06
Cut = 1227
Fill = 118

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5589.20

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	HAWS 238(1)	1952	21	29	

FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TRACED — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TRACED — AREAS — AREAS CHECKED — BY — DATE

1110 — 1118.25 — C = 172, F = 0
Exc = 305.5, Emb = 0
12 + 91.14

1120 — 1116.96 — C = 102, F = 0
Exc = 200.0, Emb = 0
15 + 41.14

1110 — 1113.56 — C = 132, F = 0
Exc = 267.6, Emb = 0
17 + 91.14

1110 — 1118.37 — C = 158, F = 0
Exc = 236.1, Emb = 0
12 + 41.14

1120 — 1117.24 — C = 115, F = 0
Exc = 251.0, Emb = 0
14 + 91.14

1110 — 1113.84 — C = 157, F = 0
Exc = 318.5, Emb = 0
17 + 41.14

1120 — 1118.60 — C = 97, F = 0
Exc = 153.7, Emb = 0
11 + 91.14

1120 — 1117.54 — C = 157, F = 0
Exc = 323.2, Emb = 0
14 + 41.14

1110 — 1116.9 — C = 187, F = 0
Exc = 317.6, Emb = 0
16 + 91.14

1120 — 1118.80 — C = 60, F = 0
Exc = 173.1 / 152.6, Emb = 0
11 + 41.14

Equation -1.55 { 11 + 21.12 Ahead / 11 + 19.59 Back

1120 — 1117.77 — C = 102, F = 0
Exc = 350.9, Emb = 0
13 + 91.14

1110 — 1113.49 — C = 156, F = 0
Exc = 272.3, Emb = 0
16 + 41.14

1120 — 1119.00 — End Daylight Sta. 10+30.18 — C = 101, F = 0
Exc = 402.2 / 320.6, Emb = 0
10 + 91.14

1120 — 1118.02 — C = 187, F = 0
Exc = 332.4, Emb = 0
13 + 41.14

1110 — 1116.08 — C = 138, F = 0
Exc = 222.2, Emb = 0
15 + 91.14

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5589.21

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	S238(1)1958	22	29	

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED. NOTE BOOK NO. DATE BY

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED. NOTE BOOK NO. DATE BY

1110 — 1111388 — C = 4.2, F = 0

Exc = 101.9, Emb = 0 — 20 + 91.14

1110 — 1111476 — C = 6.8, F = 0

Exc = 158.3, Emb = 0 — 20 + 41.14

1110 — 1111544 — C = 10.3, F = 0

Exc = 208.3, Emb = 0 — 19 + 91.14

(2' FIELD LOCATION)

1110 — 1111472 — C = 12.2, F = 0

Exc = 220.3, Emb = 0 — 19 + 41.14

1110 — 1111500 — C = 11.6, F = 0

Exc = 212.1, Emb = 0 — 18 + 91.14

1110 — 1111528 — C = 11.3, F = 0

Exc = 226.0, Emb = 0 — 18 + 41.14

1110 — 1111102 — C = 5.0, F = 0

Exc = 110.4, Emb = 0 — 24 + 41.14

1110 — 1111220 — C = 7.0, F = 0

Exc = 138.0, Emb = 0 — 23 + 91.14

1110 — 1111248 — C = 7.0, F = 0

Exc = 141.7, Emb = 0 — 23 + 41.14

1110 — 1111276 — C = 8.3, F = 0

Exc = 138.0, Emb = 0 — 22 + 91.14

(2' FIELD LOCATION)

1110 — 1111304 — C = 6.6, F = 0

Exc = 93.5, Emb = 0 — 22 + 41.14

1110 — 1111332 — C = 3.5, F = 0

Exc = 52.7, Emb = 0 — 21 + 91.14

1110 — 1111360 — C = 2.2, F = 0

Exc = 60.3, Emb = 0 — 21 + 41.14

1110 — 1111131 — C = 50, F = 0

Exc = 70.4, Emb = 13.6 — 25 + 50

1110 — 1111147 — C = 3.2, F = 4.2

Exc = 16.4, Emb = 83.3 — 25 + 24

(2' FIELD LOCATION)

1110 — 1111155 — C = 3.1, F = 28.7

Exc = 8.4, Emb = 56.6 — 25 + 07

1110 — 1111350 — C = 3.4, F = 15.0

Exc = 9.5, Emb = 33.7 — 25 + 00

1110 — 1111164 — C = 2.4, F = 5.2

Exc = 68.5, Emb = 28.9 — 24 + 91.14

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K & E CO. No. 345-3 MADE IN U.S.A. 28334

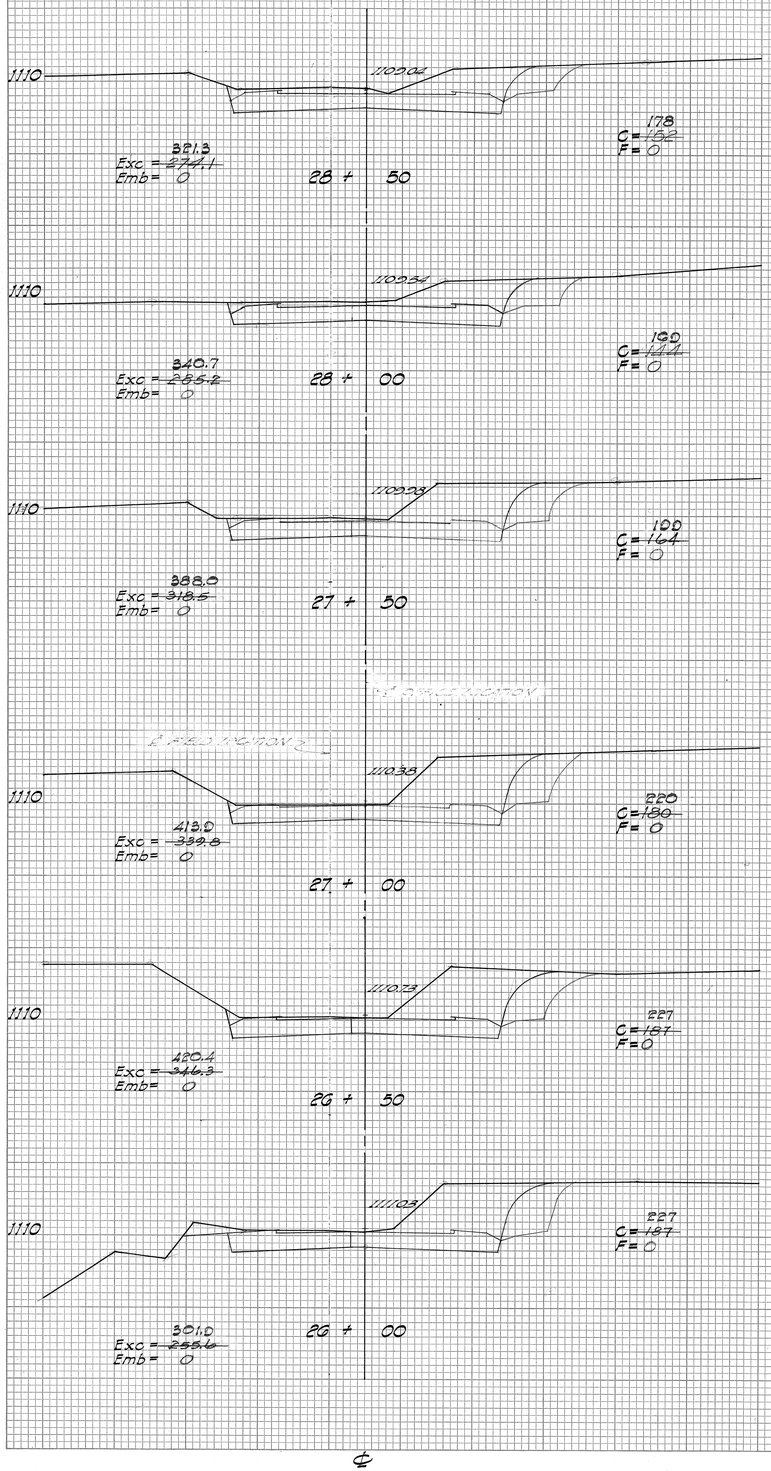
5589.22

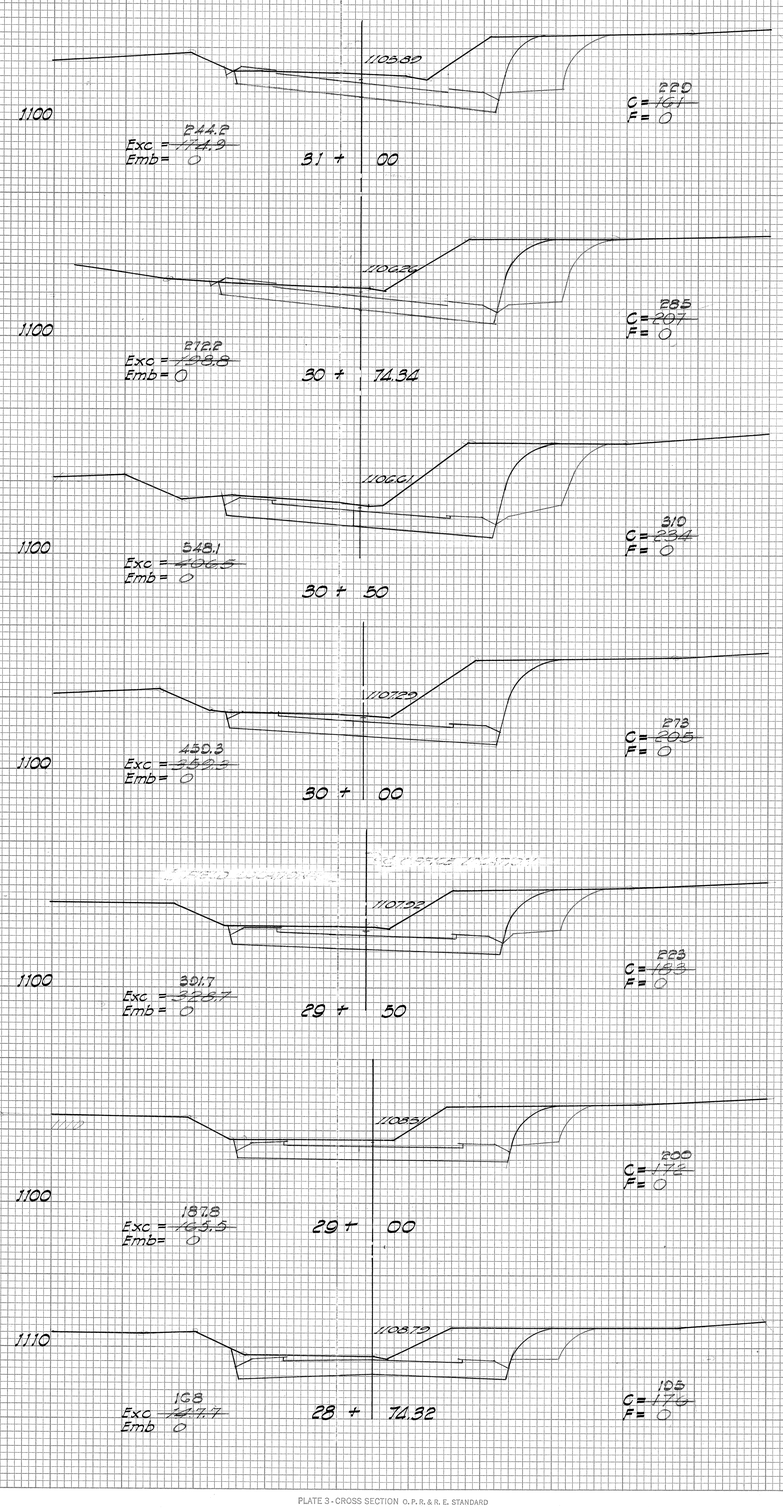
4

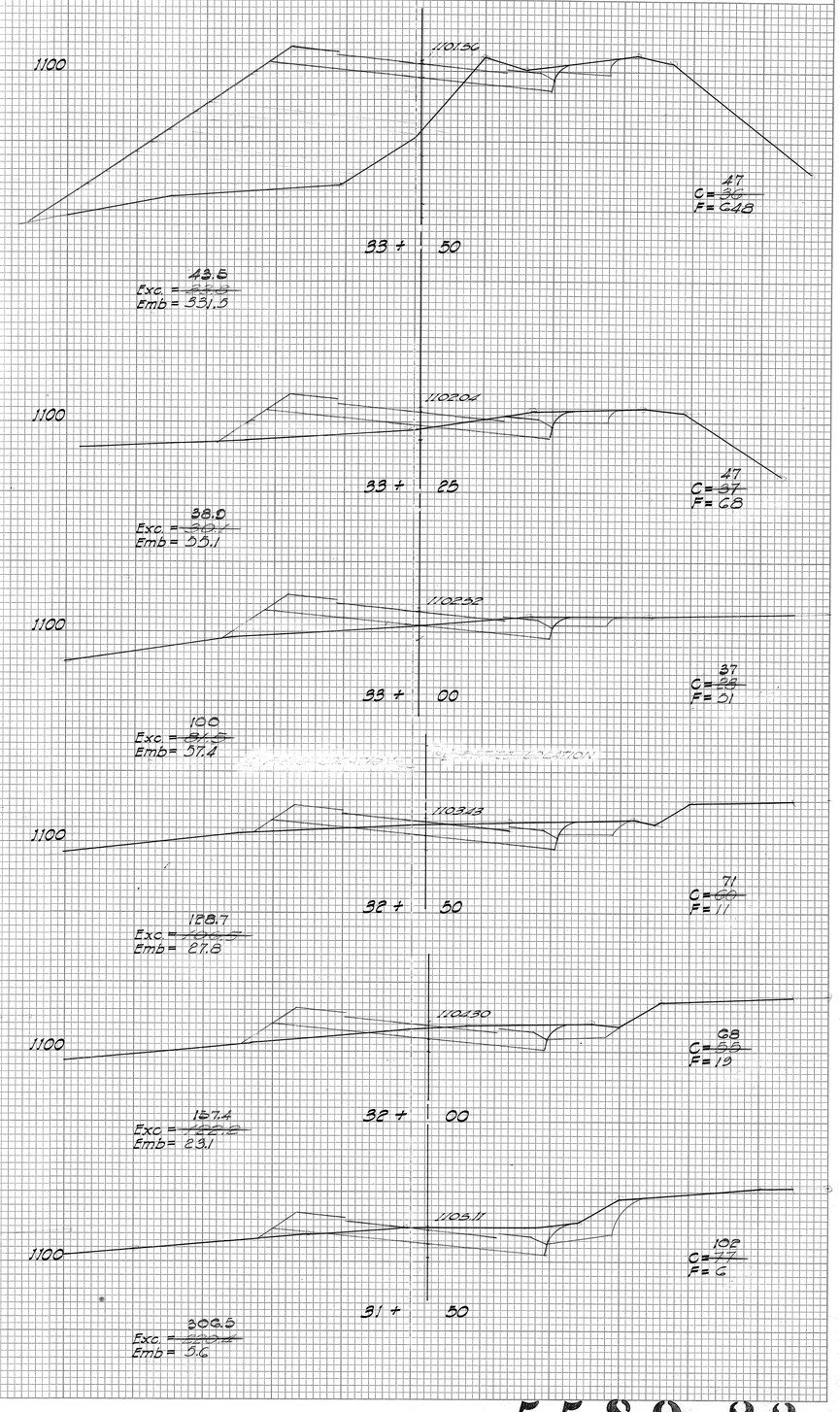
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	HawS-238(1)952			23	29

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE







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KEUFFEL & ESSER CO., NEW YORK.

K & E CO. No. 345-3 MADE IN U.S.A. 28334

5589.23

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii		HAWS-238(1)	1958	24	89

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, NOTE BOOK, TEMPLATE, AREAS, AREAS CHECKED, NO., BY, DATE

1100

1022.77

C=122
F=0

Exc = 142.1
Emb= 8.1

34 + 37.59

1100

1100.56

C=85
F=12

Exc = 61.1
Emb = 347.2

34 + 00

1100

1101.07

C=47
F=1170

Exc = 130
Emb = 339.0

33 + 75

1100

1101.22

C= 41
F= 1118

Exc = 24.2
Emb = 556.0

33 + 67

Equation -209

36+44.65 Ahead
36+42.56 Back

1100

1025.15

C=103
F=0

Exc = 102.8
Emb = 0

36 + 37.59

1100

1030.00

C=305
F=0

Exc= 2616
Emb= 0

36 + 00

1100

1026.00

C=260
F=0

Exc = 224.1
Emb= 0

35 + 75

1100

1027.20

C=224
F=0

Exc = 365.7
Emb= 0

35 + 50

1100

1028.41

C=171
F=0

Exc = 232.8
Emb= 0

35 + 00

1100

1022.80

C=142
F=0

Exc = 60.7
Emb= 0

34 + 50

℄

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KEUFFEL & ESSER CO., NEW YORK.

K & E CO. No. 345-3 MADE IN U.S.A. 28334

5589.24

FED ROAD DIST NO.	STATE	FED AID PROJ NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	S238(1)	1958	25	29

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

1090 — 1080.26 — C = 272, F = 0
Exc = 327.7, Emb = 0
38 + 82

1090 — 1080.03 — C = 281, F = 0
Exc = 329.6, Emb = 0
38 + 50

1090 — 1021.25 — C = 291, F = 0
Exc = 605.6, Emb = 0
38 + 00

1090 — 1022.46 — C = 303, F = 0
Exc = 2025, Emb = 0
37 + 50

1090 — 1022.33 — C = 366, F = 0
Exc = 563.6, Emb = 0
37 + 33

1090 — 1023.74 — C = 411.9, F = 0
Exc = 805.8, Emb = 0
36 + 97.66

1090 — 1024.00 — C = 464, F = 0
Exc = 166.0, Emb = 0
36 + 50

1070 — 1058.76 — C = 0, F = 1553
Exc = 0, Emb = 1080.0
39 + 80

1070 — 1037.60 — C = 0, F = 391
Exc = 128.3, Emb = 379.0
39 + 50

1070 — 1068.87 — C = 133, F = 0
Exc = 117.3, Emb = 0
38 + 97.66

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KEUFFEL & ESSER CO., NEW YORK.

K & E CO. No. 345-3 MADE IN U.S.A. 28334

5589.25

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	S238(1)1958	26	29	

FINAL SURVEY — NOTE BOOK NO.____ — SURVEYED — PLOTTED — TRACED — CHECKED — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK NO.____ — SURVEYED — PLOTTED — TRACED — CHECKED — AREAS — AREAS CHECKED — BY — DATE

1086.40

C = 0
F = 2245

1050

40 + 21

Exc = 0
Emb = 1370.7

1086.99

C = 0
F = 2109

1050

40 + 04

Exc = 0
Emb = 895.8

1086.76

C = 0
F = 1922

1050

39 + 92

Exc = 0
Emb = 772.2

℄

1086.29

1060

C = 0
F = 2234

40 + 95

Exc = 0
Emb = 2196.3

1086.20

C = 0
F = 2510

1050

40 + 70

Exc = 0
Emb = 1848.1

1086.22

C = 0
F = 2480

1050

40 + 50

Exc = 0
Emb = 2037.5

℄

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

K & E CO. No. 345-3 MADE IN U.S.A. 28334

5589.26

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	HAWN	S238(1)1952	27	29	

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

1086.05
1060
41 + 50
C = 90
F = 362
Exc = 16.7
Emb = 1336.7

1086.46
1060
41 + 15.79
C = 0
F = 1741
Exc = 0
Emb = 4114

1086.40
1060
41 + 10
C = 0
F = 2036
Exc = 0
Emb = 1202.8

1085.41
1080
42 + 40
C = 353
F = 0
Exc = 75.9
Emb = 0

1088.05
1080
42 + 27
C = 57
F = 0
Exc = 110.5
Emb = 0

1088.10
1080
42 + 00
C = 164
F = 0
Exc = 541.8
Emb = 0

1087.71
1080
41 + 93
C = 259
F = 0
Exc = 232.0
Emb = 0

1087.51
1080
41 + 77
C = 548
F = 0
Exc = 313.0
Emb = 102.5

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

K & E CO. No. 345-3 MADE IN U.S.A. 28334

5589.27

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	S238(1)1952	28	29	

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

1100
1077.77
C = 326
F = 0
44 + 00
Exc = 1243.5
Emb = 0

1100
1076.77
C = 8.17
F = 0
48 + 50
Exc = 1013.0
Emb = 0

1100
1072.80
C = 78.2
F = 0
48 + 18.79
Exc = 431.9
Emb = 0

1100
1071.00
C = 69.5
F = 0
48 + 00
Exc = 956.5
Emb = 0

1090
1089.70
C = 3.58
F = 0
42 + 50
Exc = 128.0
Emb = 0

1100
1100.47
C = 0
F = 300
45 + 96
Exc = 0
Emb = 235.2

1100
1103.71
C = 0
F = 477
45 + 83
Exc = 0.7
Emb = 42.59

1100
1106.73
C = 4
F = 220
45 + 50
Exc = 214.4
Emb = 298.0

1100
1105.73
C = 0.4
F = 37
45 + 00
Exc = 216.7
Emb = 17.1

1100
1100.73
C = 190
F = 0
44 + 50
Exc = 663.0
Emb = 0

1100
1118.79
C = 0
F = 348
47 + 50
Exc = 0
Emb = 1526.8

1100
1116.21
C = 0
F = 1015
47 + 08
Exc = 0
Emb = 284.6

1100
1115.73
C = 0
F = 906
47 + 00
Exc = 0
Emb = 1498.1

1100
1112.73
C = 0
F = 712
46 + 50
Exc = 0
Emb = 1212.0

PLATE 3 - CROSS SECTION — U.S. STANDARD
KEUFFEL & ESSER CO. NEW YORK.

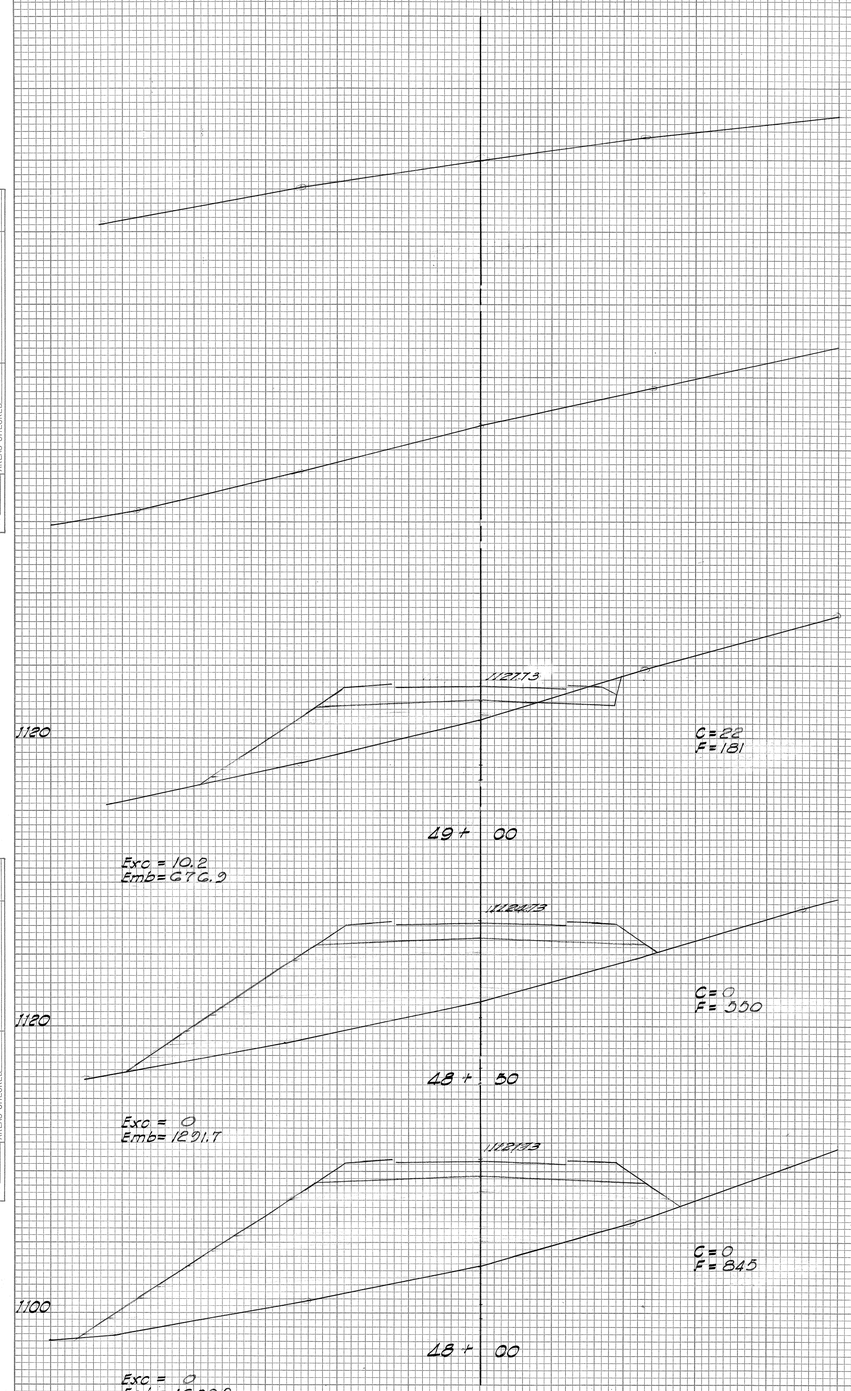
K & E CO. No. 345-3 MADE IN U.S.A. 28334

5589.28

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	SHEET
Hawaii	Haw.	S238(1)	1952	29	29

FINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
FIELD CHECKED
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
FIELD CHECKED
AREAS
AREAS CHECKED
BY
DATE



NOTE: QUANTITIES FROM 49+00 TO END OF PROJ S 238 (1) INCLUDED IN THE INTERSECTION QUANTITIES.

PLATE 3 - CROSS SECTION C. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

K & E CO. No. 345-3 MADE IN U.S.A. 28334

5589.29