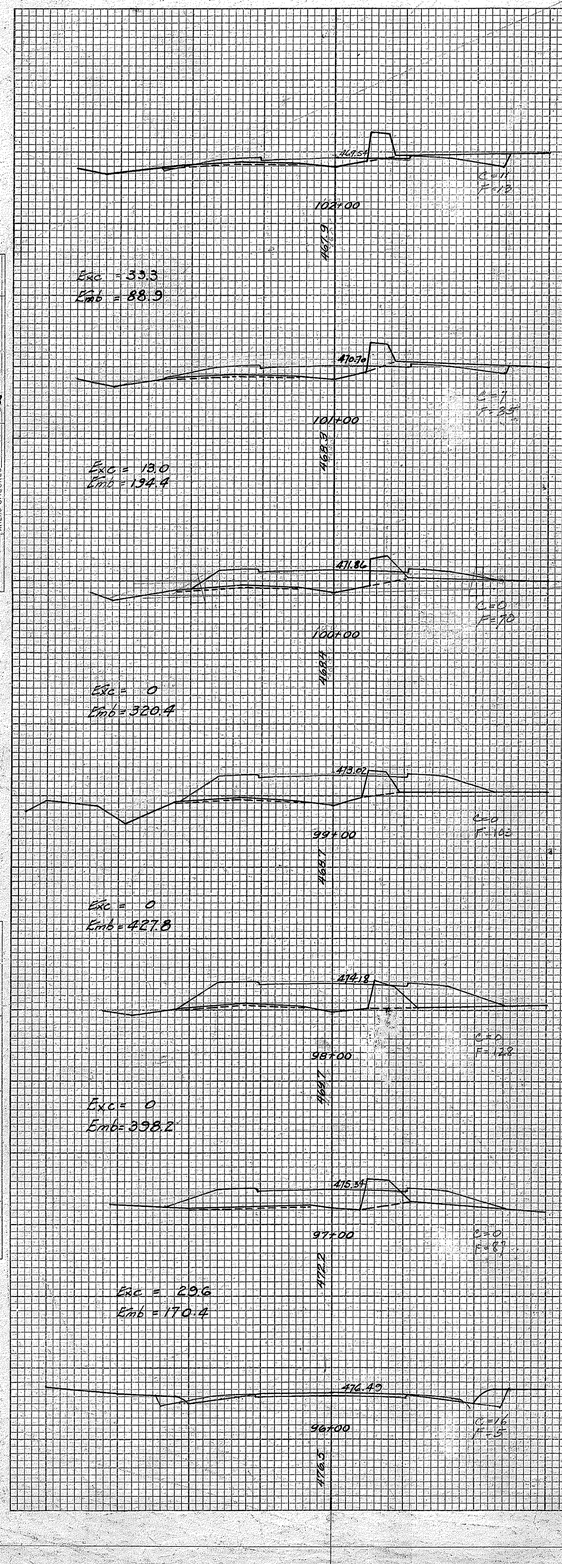
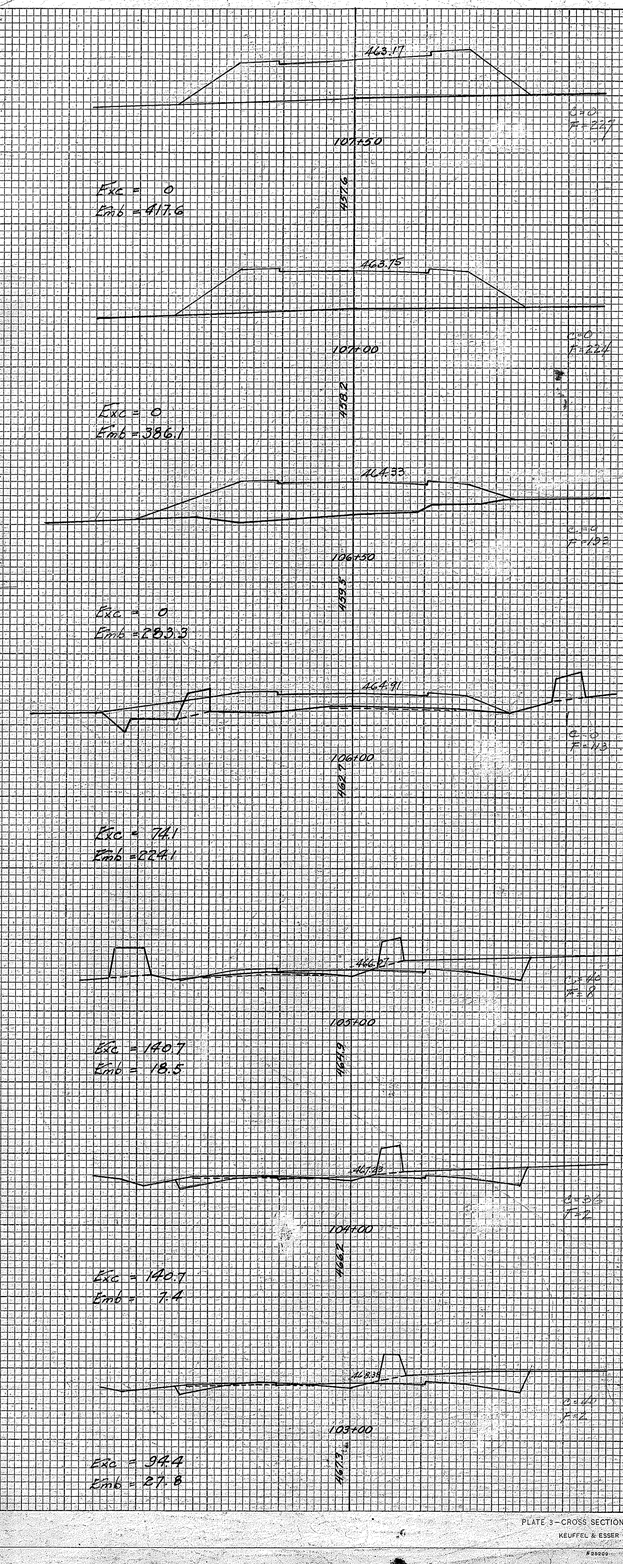
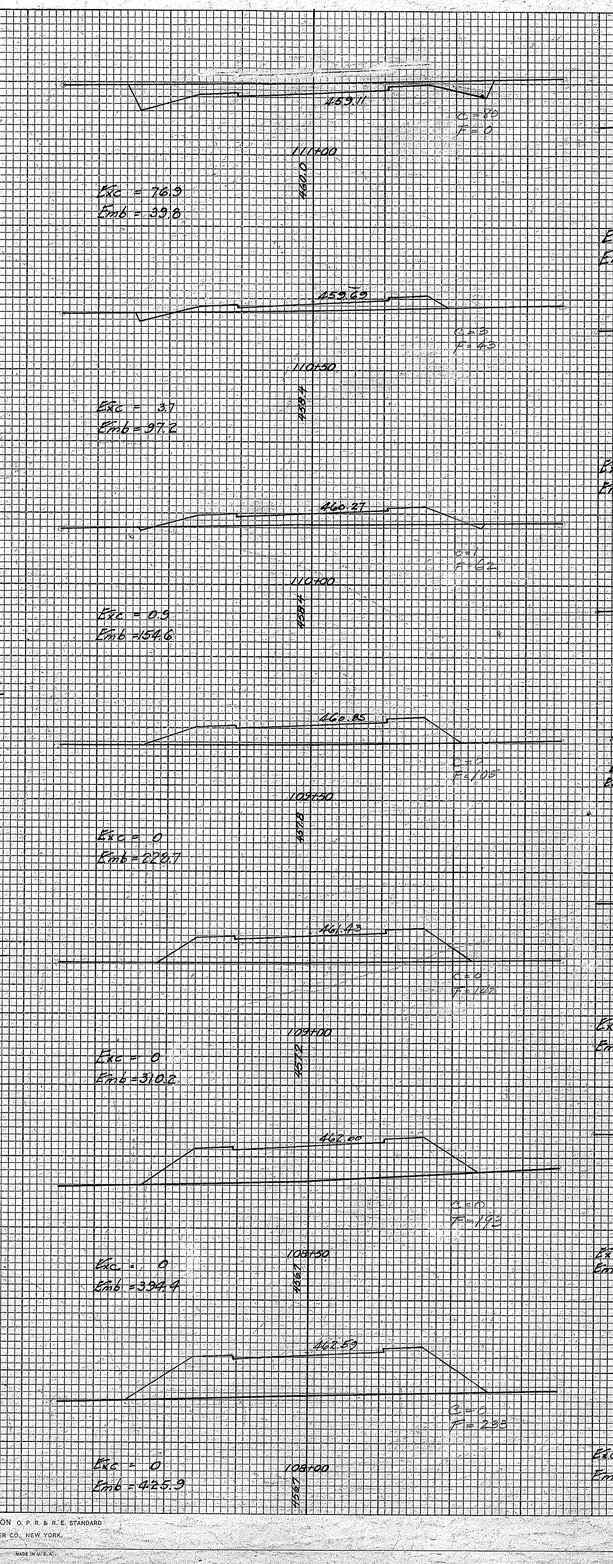
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	12-J	1938	34	60

FINAL SURVEY — NOTE BOOK: Schroeder 281 / 281 / Kaneohe 142 — SURVEYED: 4-37 — PLOTTED: 4-37 — TEMPLATE — AREAS — AREAS CHECKED — NO.

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







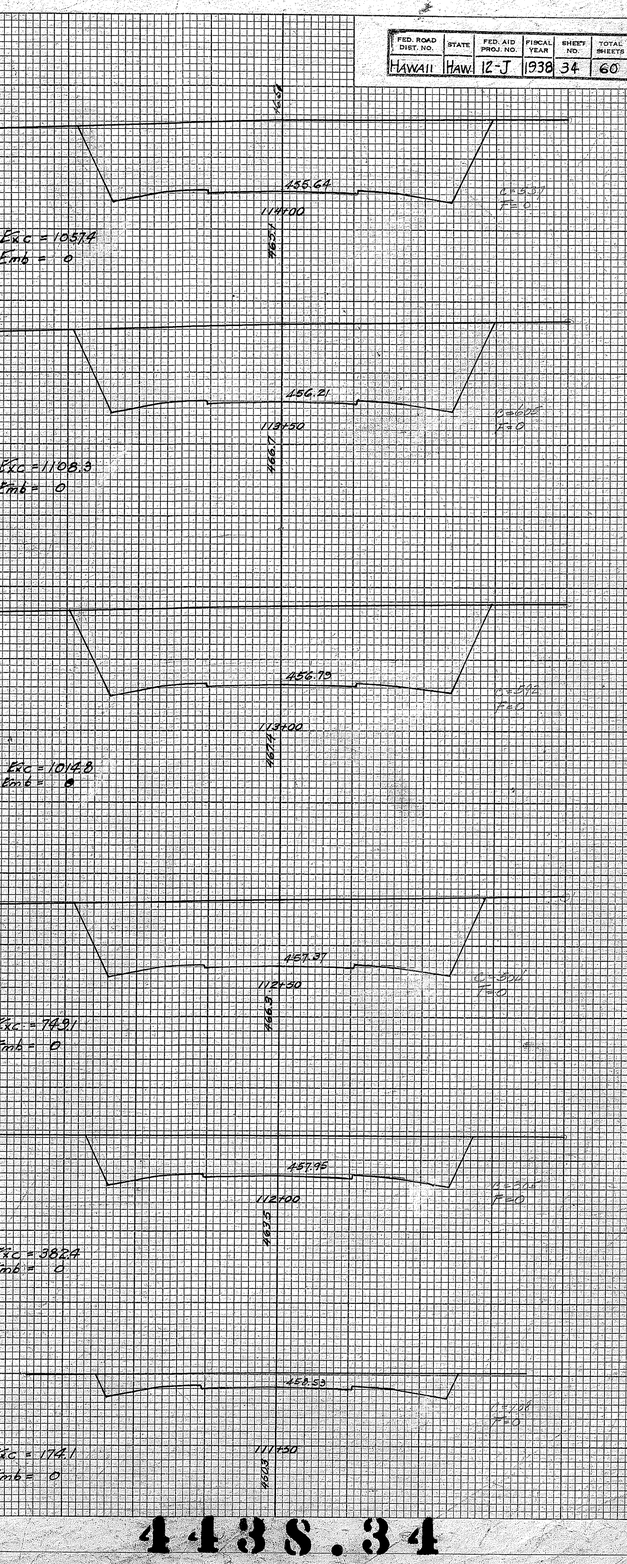


PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

4438.34

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	35	60

FINAL SURVEY		BY	DATE
	SURVEYED	Schumacher	
	PLOTTED	Self	
	TEMPLATE	Eggmann	
NOTE BOOK	AREAS	Lee	
NO.	AREAS CHECKED		

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

Exc. = 712.8
Emb. = 0
C=362
F=0

Exc. = 359.3
Emb. = 0
C=173
F=0

Exc. = 168.5
Emb. = 0
C=16
F=0

Exc. = 27.8
Emb. = 68.5
C=20
F=12

Exc. = 702.8
Emb. = 0
C=340
F=0

Exc. = 374.1
Emb. = 0
C=195
F=0

Exc. = 207.4
Emb. = 0
C=102
F=0

Exc. = 11.1
Emb. = 82.4
C=10
F=62

Exc. = 600.9
Emb. = 0
C=349
F=0

Exc. = 412.0
Emb. = 0
C=209
F=0

Exc. = 209.3
Emb. = 1.9
C=102
F=0

Exc. = 10.2
Emb. = 32.4
C=10
F=21

Exc. = 641.6
Emb. = 0
C=360
F=0

Exc. = 487.0
Emb. = 0
C=236
F=0

Exc. = 246.3
Emb. = 1.9
C=114
F=2

Exc. = 21.3
Emb. = 14.8
C=12
F=16

Exc. = 713.9
Emb. = 0
C=395
F=0

Exc. = 582.2
Emb. = 0
C=270
F=0

Exc. = 316.7
Emb. = 0
C=162
F=0

Exc. = 37.0
Emb. = 9.3
C=14
F=8

Exc. = 717.6
Emb. = 0
C=398
F=0

Exc. = 637.0
Emb. = 0
C=324
F=0

Exc. = 331.5
Emb. = 0
C=150
F=0

Exc. = 38.2
Emb. = 1.9
C=17
F=2

Exc. = 808.3
Emb. = 0
C=447
F=0

Exc. = 658.3
Emb. = 0
C=341
F=0

Exc. = 343.5
Emb. = 0
C=170
F=0

Exc. = 938.0
Emb. = 0
C=476
F=0

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

#20209 MADE IN U.S.A.

4438.35

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	12-J	1938	36	60

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

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

Schmeltzer
Self
Pascoe
Lee

1-37

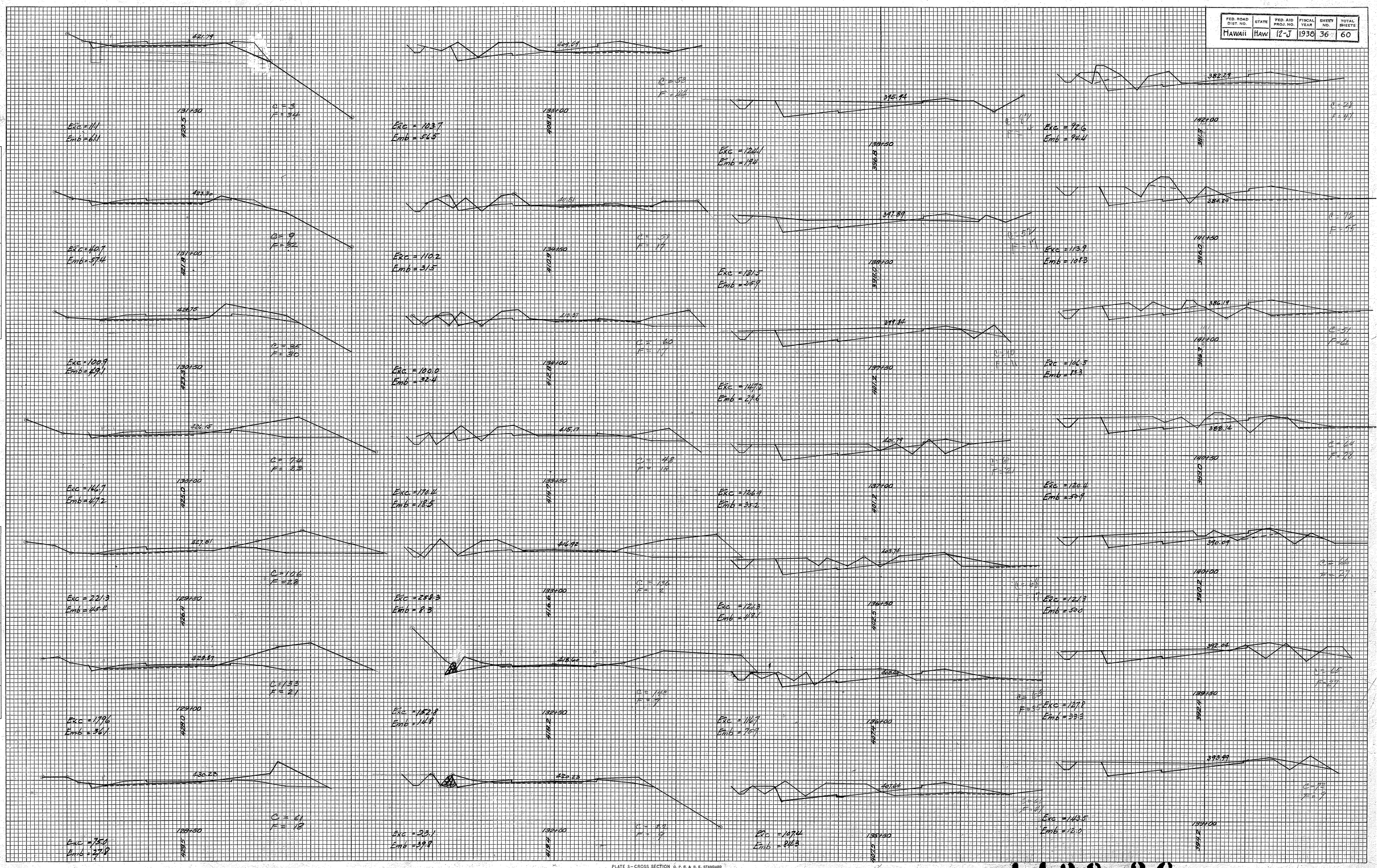


PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
REUFFEL & ESSER CO., NEW YORK.
25209 MADE IN U. S. A.

4438.36

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	12-J	1938	37	60

FINAL SURVEY		BY	DATE
	SURVEYED.	Schumacher	4-37
	PLOTTED.	Bell	4-37
NOTE BOOK	TRACED.	Inamoto	
	AREAS.	Lee	
NO.	AREAS CHECKED.		

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

Exc. = 109.3
Emb. = 28.7
368.64
1401+50
3220
370.54
C = 6%
F = 0

Exc. = 84.3
Emb. = 1.8
372.54
1401+00
3219
374.41
C = 20
F = 2

Exc. = 43.5
Emb. = 2.8
1400+50
3218
378.24
C = 11
F = 1

Exc. = 26.9
Emb. = 2.8
1400+00
3217
376.34
C = 23
F = 22

Exc. = 49.1
Emb. = 63.9
1402+50
3216
312.44
C = 20
F = 2

Exc. = 25.9
Emb. = 2.8
1402+00
3215
330.34
C = 11
F = 1

Exc. = 38.9
Emb. = 21.3
1403+00
3214
C = 11
F = 1

Exc. = 49.5
Emb. = 56.5
354.49
1149+00
3561
324.91
C = 22%
F = 3%

Exc. = 27.8
Emb. = 55.6
1148+50
3522
353.89
C = 37
F = 37

Exc. = 38.0
Emb. = 50.3
1148+00
3521
365.84
C = 9
F = 11

Exc. = 47.2
Emb. = 65.9
1147+50
3520
362.19
C = 23
F = 33

Exc. = 31.9
Emb. = 60.8
1147+00
3519
364.74
C = 17
F = 31

Exc. = 86.1
Emb. = 58.3
1146+50
3518
344.69
C = 17
F = 27

Exc. = 103.7
Emb. = 62.0
1146+00
3517
C = 16
F = 30

Exc. = 16.7
Emb. = 41.7
340.08
1133+00
3523
341.80
C = 6
F = 9

Exc. = 9.3
Emb. = 47.2
1132+50
3522
343.52
C = 10
F = 10

Exc. = 48.1
Emb. = 35.2
1132+00
3521
345.24
C = 42
F = 11

Exc. = 83.3
Emb. = 25.9
1131+50
3520
347.19
C = 46
F = 11

Exc. = 124.1
Emb. = 25.9
1131+00
3519
349.14
C = 46
F = 11

Exc. = 134.3
Emb. = 20.4
1130+50
3518
351.09
C = 46
F = 11

Exc. = 98.6
Emb. = 23.1
1130+00
3517
358.02
C = 46
F = 11

Exc. = 62.0
Emb. = 48.1
1129+50
3516
C = 46
F = 20

Exc. = 82.9
Emb. = 1.9
328.04
1136+50
3526
C = 8%
F = 0

Exc. = 43.5
Emb. = 3.3
329.74
1136+00
3525
C = 25
F = 4

Exc. = 38.0
Emb. = 24.1
335.48
1135+50
3524
C = 20
F = 0

Exc. = 46.3
Emb. = 62.0
333.20
1135+00
3523
C = 11
F = 11

Exc. = 39.8
Emb. = 31.7
334.92
1134+50
3522
C = 9%
F = 16

Exc. = 32.4
Emb. = 63.9
336.64
1134+00
3521
C = 10
F = 9%

Exc. = 38.0
Emb. = 31.5
338.36
1133+50
3520
C = 22
F = 11

PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
#22209 MADE IN U. S. A.

4438.37

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	38	60

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED	Schumacher	4-37
NO.	PLOTTED	Bell	4-37
	TEMPLATE	Bell	5-37
	AREAS	Iwamoto	
	AREAS CHECKED	Lee	

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

160+00 — Exc = 53.2, Emb = 193.3
159+50 — Exc = 94.2, Emb = 48.1
159+00 — Exc = 170.4, Emb = 27.9
158+50 — Exc = 171.3, Emb = 14.3
158+00 — Exc = 134.3, Emb = 1.9
157+50 — Exc = 132.4, Emb = 1.9
157+00 — Exc = 130.6, Emb = 0
316.00 · 317.72 · 313.47 · 321.16 · 322.88 · 324.60 · 326.32
303.96 · 305.68 · 307.40 · 309.12 · 310.84 · 312.56 · 314.28
Exc = 118.7, Emb = 18.5
Exc = 76.9, Emb = 43.5
Exc = 51.0, Emb = 79.6
Exc = 30.4, Emb = 109.2
Exc = 66.7, Emb = 125.9
Exc = 72.4, Emb = 86.1
Exc = 24.4, Emb = 68.3
C=14, F=52 · C=9, F=38 · C=15, F=14 · C=10.6, F=16 · C=7.9, F=6 · C=6.4, F=7.1 · C=9, F=11.4 · C=6.4, F=7.1 · C=7.3, F=5.6
169+50 — Exc = 66.1, Emb = 0
169+00 — Exc = 59.1, Emb = 0
168+50 — Exc = 169.4, Emb = 0
168+00 — Exc = 476.9, Emb = 0
167+50 — Exc = 370.4, Emb = 0
167+00 — Exc = 263.0, Emb = 0
166+50 — Exc = 174.1, Emb = 56.6
271.92 · 276.64 · 275.36 · 277.08 · 278.80 · 280.52 · 282.24
C=3.7, F=11 · C=3.15, F=0 · C=5.82, F=0 · C=2.25, F=0 · C=2.34, F=0 · C=1.17, F=0 · C=3.12, F=0
171+00 — Exc = 94.4, Emb = 62.8
170+50 — Exc = 147.2, Emb = 36.6
170+00 — Exc = 246.7, Emb = 7.4
169+50 — Exc = 41.67, Emb = 0
169+00 — Exc = 55.73, Emb = 0
168+50 — Exc = 71.67, Emb = 0
168+00 — Exc = 73.2, Emb = 0
281.88 · 281.40 · 283.32 · 285.24 · 286.76 · 288.48 · 290.20
C=4.7, F=32 · C=5.0, F=28 · C=1.04, F=8 · C=1.24, F=0 · C=2.16, F=0 · C=3.24, F=0 · C=1.56, F=0

PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
#28209 MADE IN U. S. A.

4438.38

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1958	39	60

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

Schimmelpfennig & Bent Engineers Honolulu

Exc. = 0
Emb. = 345.1

Exc. = 0.9
Emb. = 322.2

Exc. = 3.7
Emb. = 287.0

Exc. = 8.3
Emb. = 242.6

Exc. = 25.3
Emb. = 194.9

Exc. = 40.7
Emb. = 168.5

Exc. = 63.9
Emb. = 116.7

Exc. = 0
Emb. = 240.7

Exc. = 0
Emb. = 274.1

Exc. = 0
Emb. = 307.4

Exc. = 0
Emb. = 351.9

Exc. = 0
Emb. = 344.4

Exc. = 0
Emb. = 310.5

Exc. = 0
Emb. = 346.3

Exc. = 49.1
Emb. = 10.2

Exc. = 17.6
Emb. = 30.6

Exc. = 6.5
Emb. = 63.9

Exc. = 3.5
Emb. = 76.3

Exc. = 2.5
Emb. = 95.4

Exc. = 2.8
Emb. = 140.7

Exc. = 0.9
Emb. = 189.8

Exc. = 240.7
Emb. = 0

Exc. = 219.1
Emb. = 0

Exc. = 214.8
Emb. = 0

Exc. = 173.1
Emb. = 0

Exc. = 123.1
Emb. = 0

Exc. = 75.9
Emb. = 0

Note: No Wall on left side - Sta. 175+00 to 178+18

Note: No Wall on left side - Sta. 187+25 - 182+10

PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD

KEUFFEL & ESSER CO., NEW YORK.

#25209 MADE IN U.S.A.

4438.39

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	40	60

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED	Schumacher	
NO.	PLOTTED	Jack	
	TEMPLATE	Richards	
	TRACED	1938	
	AREAS CHECKED		

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

Exc = 172.2
Emb = 0

Exc = 175.9
Emb = 0

Exc = 202.8
Emb = 0

Exc = 231.5
Emb = 0

Exc = 256.5
Emb =

Exc = 246.3
Emb = 0

Exc = 373.1
Emb = 0

Exc = 372.2
Emb = 0

Exc = 281.5
Emb = 0

Exc = 277.8
Emb = 0

Exc = 255.6
Emb = 0

Exc = 206.5
Emb = 0

Exc = 390.7
Emb = 0

Exc = 160.2
Emb = 0

Exc = 160.2
Emb = 5.6

Exc = 213.0
Emb = 9.3

Exc = 221.7
Emb = 8.8

Exc = 266.7
Emb = 4.6

Exc = 341.7
Emb = 0

Exc = 25.9
Emb = 137.0

Exc = 231.5
Emb = 5.6

Exc = 54.07
Emb = 0

Exc = 67.78
Emb = 0

Exc = 54.26
Emb = 0

Exc = 40.19
Emb = 0

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

MADE IN U.S.A.

4438.40

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	12-J.	1938	41	60

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

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

158.08 — 1597 — 206+00 — C = 1° F = 0
Exc. = 200.9 Emb. = 0

161.08 — 1624 — 204+50 — C = 11 F = 0
Exc. = 143.5 Emb. = 0

164.08 — 1642 — 203+00 — C = 15 F = 0
Exc. = 107.4 Emb. = 166.7

170.08 — 1678 — 201+00 — C = 19 F = 0
Exc. = 0 Emb. = 440.7

176.10 — 1722 — 199+00 — C = 23 F = 0
Exc. = 0 Emb. = 820.4

180.59 — 1756 — 197+00 — C = 27 F = 2.0
Exc. = 0 Emb. = 935.2

184.70 — 1792 — 195+00 — C = 31 F = 3.0
Exc. = 0 Emb. = 520.4

195.08 — 2088 — 209+50 — C = 41 F = 13
Exc. = 150.9 Emb. = 12.0

140.08 — 1485 — 209+00 — C = 36 F = 8
Exc. = 97.4 Emb. = 13.0

143.08 — 1464 — 208+50 — C = 38 F = 10
Exc. = 18.5 Emb. = 86.1

146.08 — 1465.2 — 208+00 — C = 40 F = 12
Exc. = 152.8 Emb. = 23.1

147.08 — 1522 — 207+50 — C = 41 F = 13
Exc. = 277.8 Emb. = 0

152.08 — 1523.73 — 207+00 — C = 42 F = 14
Exc. = 247.2 Emb. = 0

155.08 — 1555.8 — 206+50 — C = 43 F = 15
Exc. = 233.3 Emb. = 0

116.08 — 1164.32 — 213+00 — C = 5 F = 5.5
Exc. = 6.5 Emb. = 117.6

119.08 — 1166.32 — 212+50 — C = 7 F = 7.5
Exc. = 2.8 Emb. = 141.7

122.08 — 1166.61 — 212+00 — C = 9 F = 9.5
Exc. = 2.8 Emb. = 184.3

125.08 — 1168.58 — 211+50 — C = 11 F = 11.5
Exc. = 19.1.1 Emb. = 224.6

128.08 — 1165.68 — 211+00 — C = 13 F = 13.5
Exc. = 0.9 Emb. = 216.7

131.08 — 1166.0 — 210+50 — C = 15 F = 15.5
Exc. = 12.0 Emb. = 136.1

134.08 — 1132.1 — 210+00 — C = 17 F = 17.5
Exc. = 87.0 Emb. = 28.7

93.43 — 1687.00 — 216+50 — C = 1 F = 1.5
Exc. = 0 Emb. = 588.0

93.17 — 1692.33 — 216+00 — C = 3 F = 3.5
Exc. = 0 Emb. = 446.3

101.08 — 1695.48 — 215+50 — C = 5 F = 5.5
Exc. = 0 Emb. = 483.7

104.08 — 1698.73 — 215+00 — C = 7 F = 7.5
Exc. = 0 Emb. = 424.1

107.08 — 1702.49 — 214+50 — C = 9 F = 9.5
Exc. = 0 Emb. = 275.0

110.08 — 1707.86 — 214+00 — C = 11 F = 11.5
Exc. = 4.0 Emb. = 175.0

113.08 — 1716.10 — 213+50 — C = 13 F = 13.5
Exc. = 10.2 Emb. = 136.1

PLATE 3—CROSS SECTION C. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U.S.A. 24003

4438.41

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw.	12-J	1938	42	60

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

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

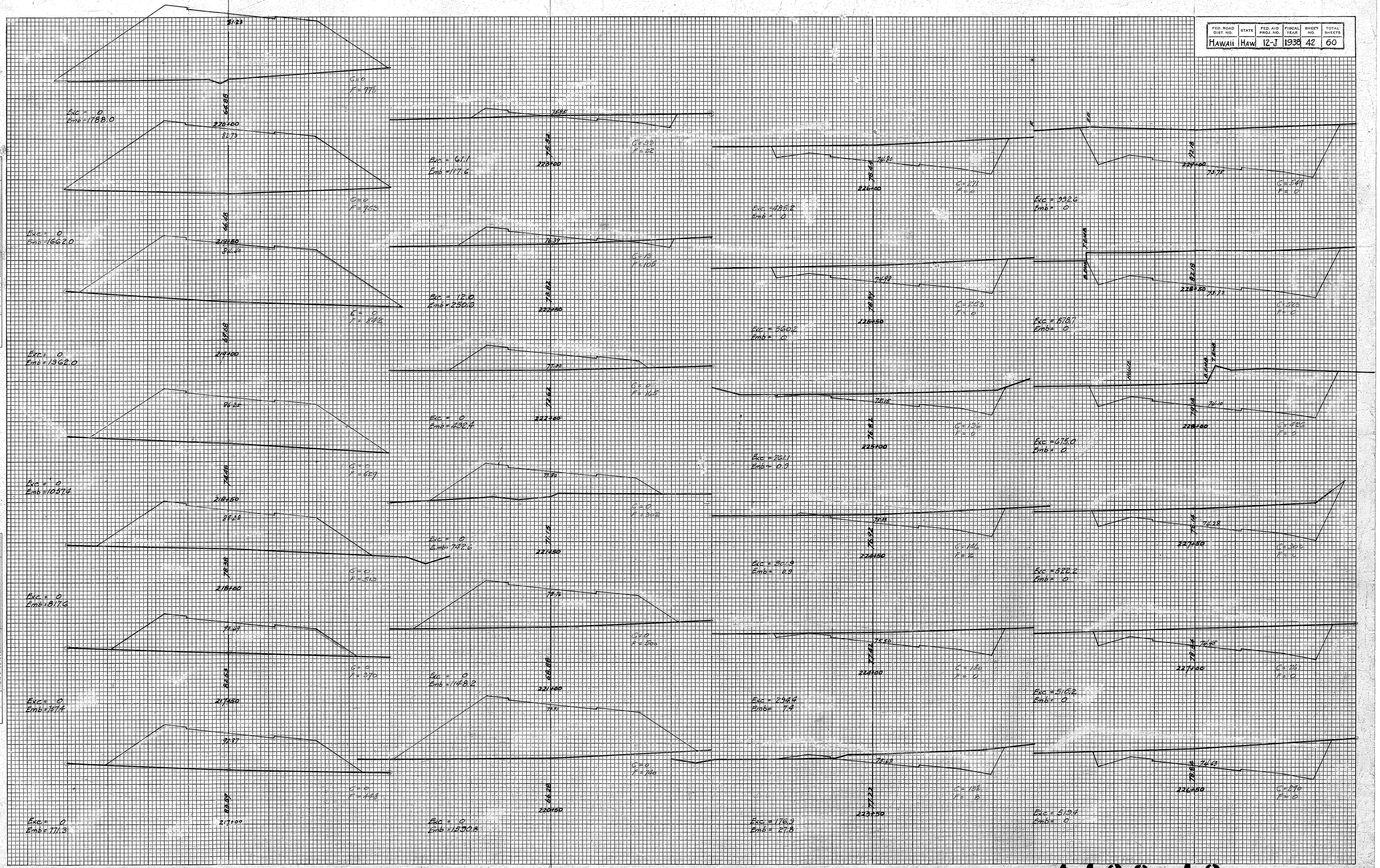


PLATE 3 – CROSS SECTION O. P. R. & R. E. STANDARD

KEUFFEL & ESSER CO., NEW YORK.

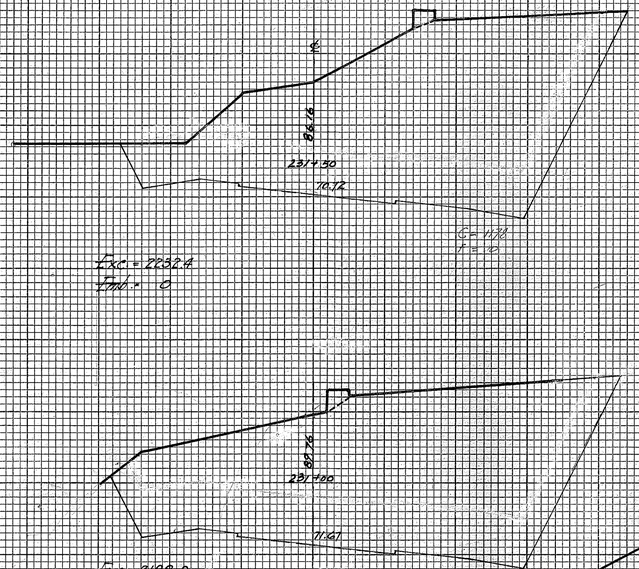
MADE IN U. S. A. 25063

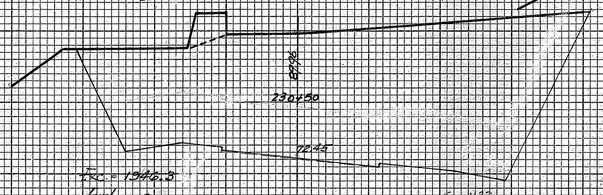
4438.42

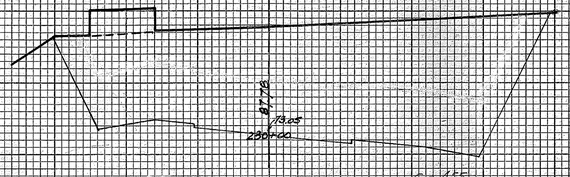
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	43	60

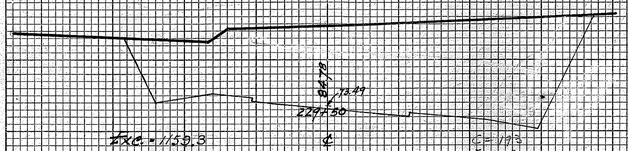
FINAL SURVEY
SURVEYED BY Schumacher
PLOTTED Self
TEMPLATE Drumm
AREAS Lee
AREAS CHECKED
NOTE BOOK
NO.
DATE

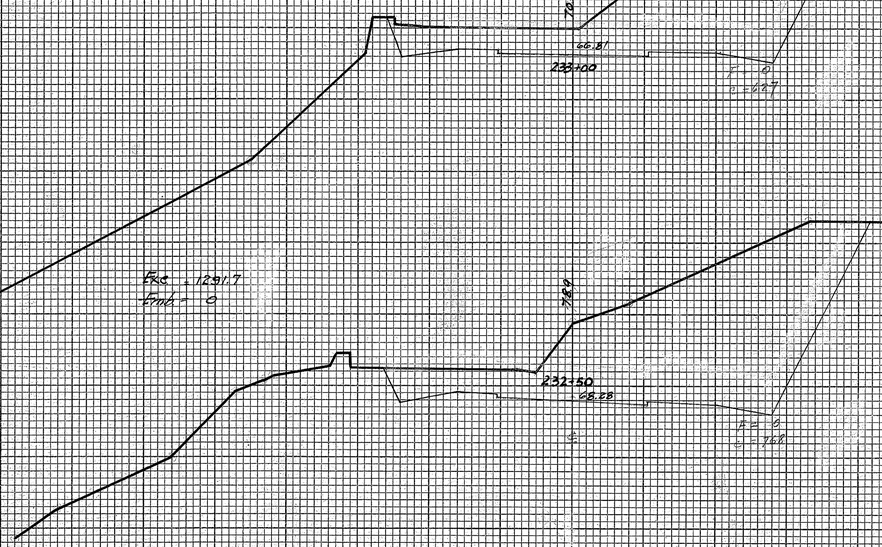
ORIGINAL SURVEY
SURVEYED BY
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
DATE

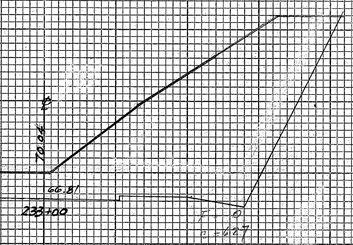


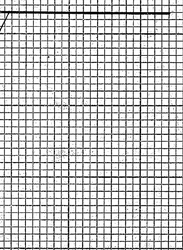


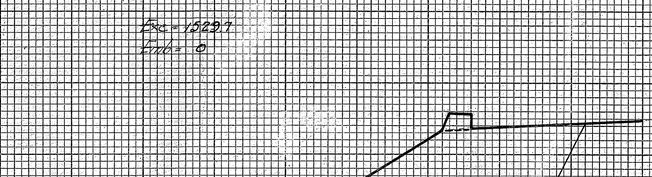












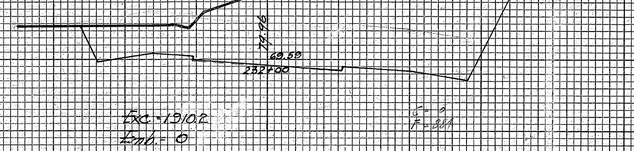


PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A. 28062

OK.

4438.43

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	44	60

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

Schumacher Bell Engineers Inc.

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

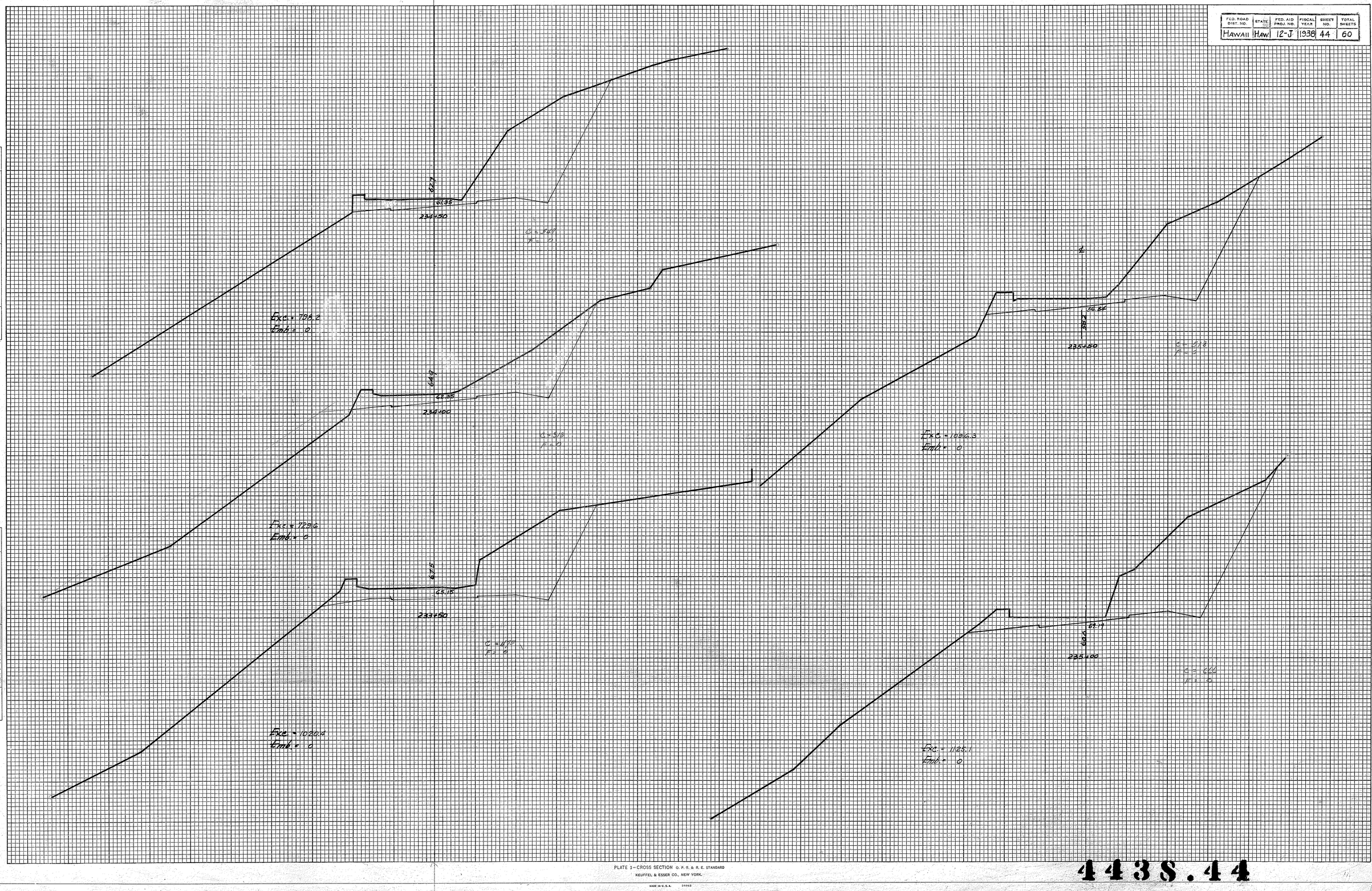


PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A. 20063

4438.44

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	45	60

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS CHECKED
BY Schumacher, Bell, Nishimoto, Lee
DATE

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

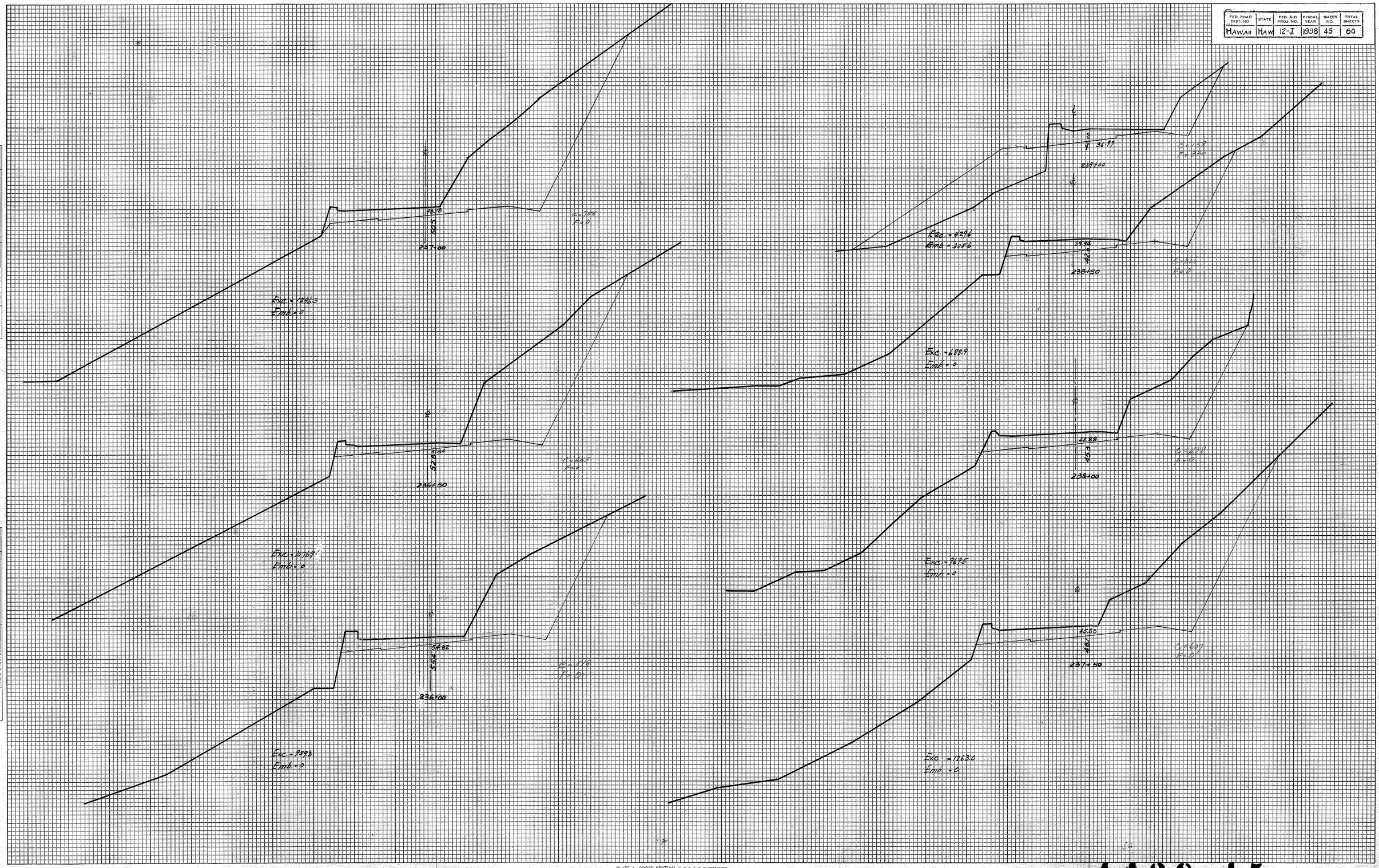


PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

MADE IN U. S. A.

4438.45

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	12-J	1938	46	60

FINAL SURVEY
NOTE BOOK NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE
Schumacher
Bell
Bell
Tsumoto
Lee

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

Exc = 0
Emb = 2142.6
2.24
241+00
23.13
2.64
240+50
F = 1117
C = 0
Exc = 0
Emb = 1838.0
3.16
2.33
240+00
F = 1139
C = 0
Exc = 286
Emb = 1324.3
3.64
2.63
239+50
F = 643
C = 32
Exc = 1756.9
Emb = 902.8
Exc = 0
Emb = 8769
15.01
2.14
242+00
F = 1111
C = 0
Exc = 0
Emb = 1011.1
12.56
2.13
243+50
F = 1138
C = 0
Exc = 0
Emb = 1011.1
16.23
2.83
243+00
F = 586
C = 0
Exc = 0
Emb = 1252.4
18.1
2.46
242+50
F = 1169
C = 0
Exc = 0
Emb = 1819.5
20.38
2.74
242+00
F = 1356
C = 0
Exc = 0
Emb = 1434.5
20.76
2.34
241+50
F = 1029
C = 0
Exc = 0
Emb = 1624.2
Highway Widening Sta 241+40
To Sta 246+60
Exc = 0
Emb = 513.0
3.11
3.78
246+50
F = 236
C = 0
Exc = 0
Emb = 5144
3.46
3.76
246+00
F = 318
C = 0
Exc = 0
Emb = 6425
10.01
3.92
245+50
F = 324
C = 0
Exc = 0
Emb = 7111
10.61
3.82
245+00
F = 371
C = 0
Exc = 0
Emb = 7757
11.85
4.19
244+50
F = 371
C = 0
P.T. EQUATION

PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A. 24063

4438.46

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	12-J	1938	47	60

FINAL SURVEY	DATE
SURVEYED	
PLOTTED	
CUT LATE	
TEST LATE	
NOTE BOOK	
AREAS	
NO.	AREAS CHECKED

BY Schumacher Swift Iwamoto Lee

ORIGINAL SURVEY	DATE
SURVEYED	
PLOTTED	
CUT LATE	
TEST LATE	
NOTE BOOK	
AREAS	
NO.	AREAS CHECKED

BY

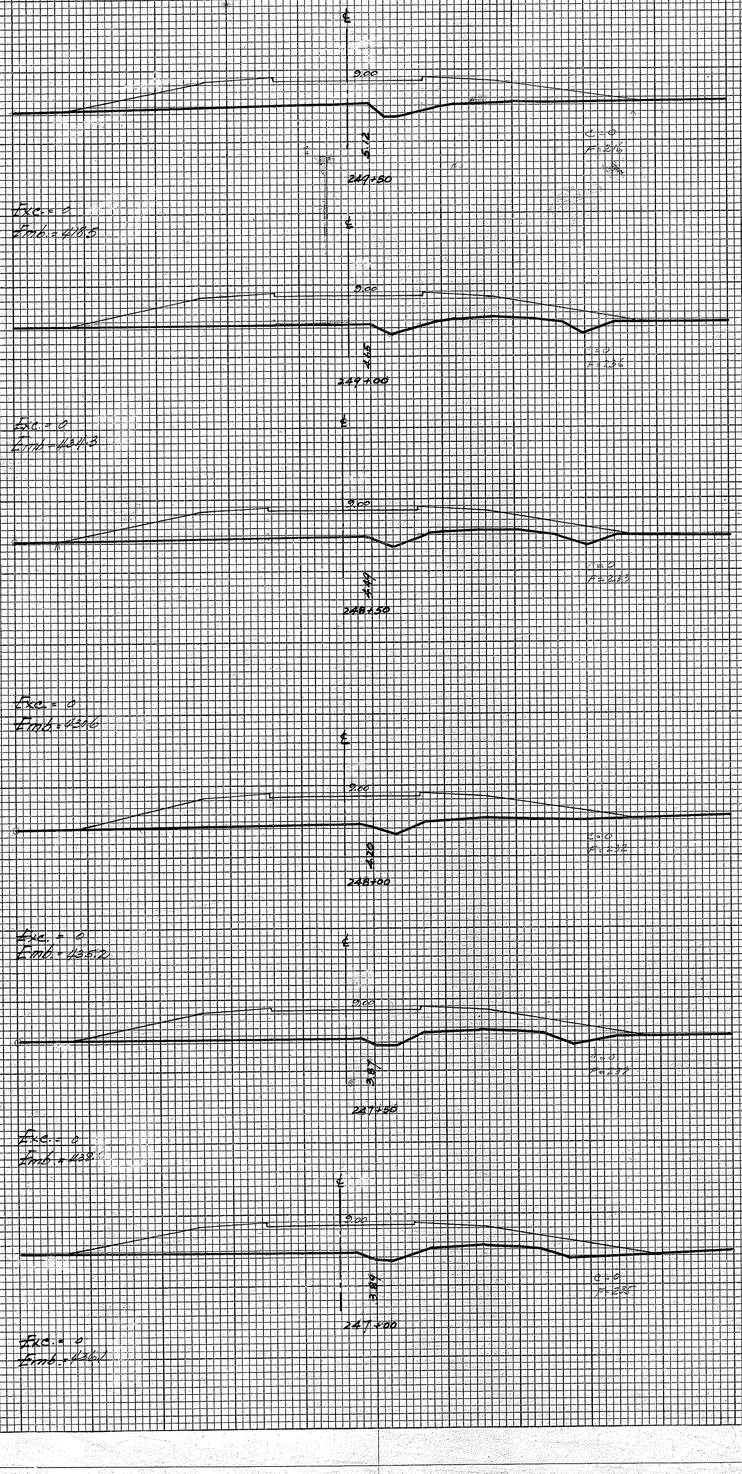


PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD

KEUFFEL & ESSER CO., NEW YORK.

MADE IN U. S. A. 29069

4438.47

PROJECT					
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	12-J	1938	48	60

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TYPLITE
AREAS
AREAS CHECKED
BY Schmitsche Self Kramer Lee
DATE

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

Exc. = 0
Emb. = 433.1

EQUATION — 7A47

242+50

11.11

Exc. = 0
Emb. = 7111

261+50

Exc. = 0
Emb. = 6423

Honopepe Bridge Sta 258+36.2 to 261+13.6

258+00

Exc. = 0
Emb. = 1130.6

257+50

Exc. = 0
Emb. = 1771.8

257+00

Exc. = 0
Emb. = 6277

EQUATION -2.2

256+50

Exc. = 0
Emb. = 4661

EQUATION -5.2

256+00

Exc. = 0
Emb. = 6890

Exc. = 0
Emb. = 3194

265+50

Exc. = 0
Emb. = 3287

265+00

Exc. = 0
Emb. = 3611

264+50

Exc. = 0
Emb. = 4142

264+00

Exc. = 0
Emb. = 4230

263+50

Exc. = 0
Emb. = 5772

263+00

Exc. = 0
Emb. = 1676

268+50

Exc. = 0
Emb. = 1911

268+00

Exc. = 0
Emb. = 2227.6

267+50

Exc. = 0
Emb. = 2387

267+00

Exc. = 0
Emb. = 2093

266+50

Exc. = 0
Emb. = 2401

266+00

Exc. = 46.3
Emb. = 73

271+50

Exc. = 269
Emb. = 781

271+00

Exc. = 0
Emb. = 1364

270+50

Exc. = 0
Emb. = 1556

270+00

Exc. = 0
Emb. = 1342

269+50

Exc. = 0
Emb. = 1826

269+00

PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A. 24013

4438.48

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	49	60

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TRACED
AREAS
AREAS CHECKED
BY
DATE
Schumacher
Bell
Symmes
Lee

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

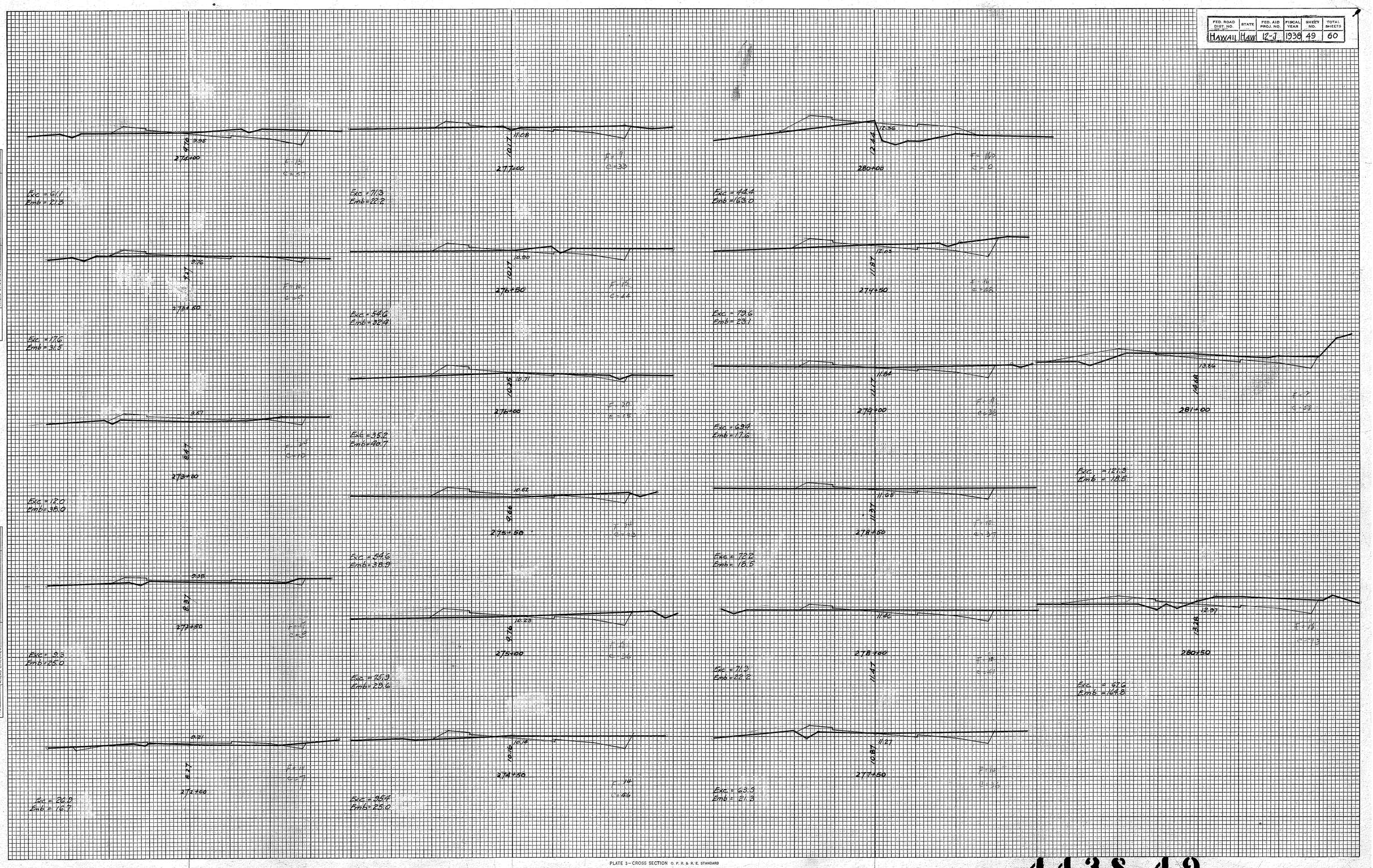


PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A. 26063

4438.49

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	12-J	1938	50	60

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

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

283+50 — Exc = 206.5, Emb = 88.3 — C=1.3, F=.24
283+00 — C=2.10, F=2.5
282+50 — Exc = 746.1, Emb = 39.8 — C=2.65, F=2.0
282+00 — Exc = 496.3, Emb = 22.2 — C=2.18, F=1.14
281+50 — Exc = 406.3, Emb = 13.9 — C=1.73, F=1
281+00 — Exc = 232.4, Emb = 2.8

286+00 — Exc = 0, Emb = 385.2 — C=.9, F=.19
285+50 — Exc = 0, Emb = 588.0 — C=1.0, F=.24
285+00 — Exc = 0, Emb = 513.0 — C=1.0, F=.19
284+50 — Exc = 0, Emb = 358.3 — C=.6, F=.11
284+00 — Exc = 12.0, Emb = 157.2

289+50 — Exc = 230.6, Emb = 46.3 — C=1.61, F=.16
289+00 — C=2.21, F=2.6
288+50 — Exc = 79.6, Emb = 50.0 — C=.94, F=.24
288+00 — Exc = 38.0, Emb = 77.5 — C=.7, F=.09
287+50 — Exc = 12.0, Emb = 107.4 — C=.6, F=.21
287+00 — Exc = 56, Emb = 177.8 — C=.8, F=.25
286+50 — Exc = 0, Emb = 228.1 — C=.8, F=.11
286+00 — Exc = 0, Emb = 375.9

PLATE 3—CROSS SECTION © P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A.

4438.50

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	51	60

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

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

Exc = 20.4
Emb = 10.2

Exc = 2.4
Emb = 0.9

Exc = 52.9
Emb = 0

Exc = 68.5
Emb = 0

Exc = 66.7
Emb = 0

Exc =
Emb =

Exc = 75.9
Emb = 0

Exc = 52.8
Emb = 0

Exc = 69.0
Emb = 0

Exc = 42.6
Emb = 0

Exc = 23.2
Emb = 25.9

Exc = 20.4
Emb = 35.2

Exc = 188.0
Emb = 2.3

Exc = 21.02
Emb = 7.4

Exc = 31.85
Emb = 4.8

Exc = 39.54
Emb = 0

Exc = 24.72
Emb = 0

Exc = 108.3
Emb = 0

PORT ALLEN SPUR

PLATE 3—CROSS SECTION OF P. R. & R. E. STANDARD

KEUFFEL & ESSER CO., NEW YORK.

MADE IN U. S. A. 20069

4438.51

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	
HAWAII	HAW.	12-J	1938	32	60

FINAL SURVEY — NOTE BOOK NO. — SURVEYED BY: Schumacher, Self, Ikamoto, Lee — DATE — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED

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

PORT ALLEN SPUR

PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A.

4438.52

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	53	60

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

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

16+50 — 75.04 — Exc = 650.0, Emb = 302.9

16+00 — 74.98 — Exc = 1150, Emb = 1156

15+50 — 74.50 — Exc = 838, Emb = 100.0

15+00 — 73.89 — Exc = 1454, Emb = 63.0

16+50 — 75.62 — E = 1444, F = 1071

16+00 — 75.91 — E = 1168, F = 1193

15+50 — 74.79 — E = 65, F = 1211

15+00 — 74.08 — E = 314, F = 82

PORT ALLEN SPUR

PLATE 32 CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A. 27188-3

4438.53

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	54	60

FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK
AREAS
AREAS CHECKED
NO.
BY
DATE
Seymour
Self
Kaumana
Lee

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

McBRYDE'S HANAPEPE R.R. NEW ALIGNMENT

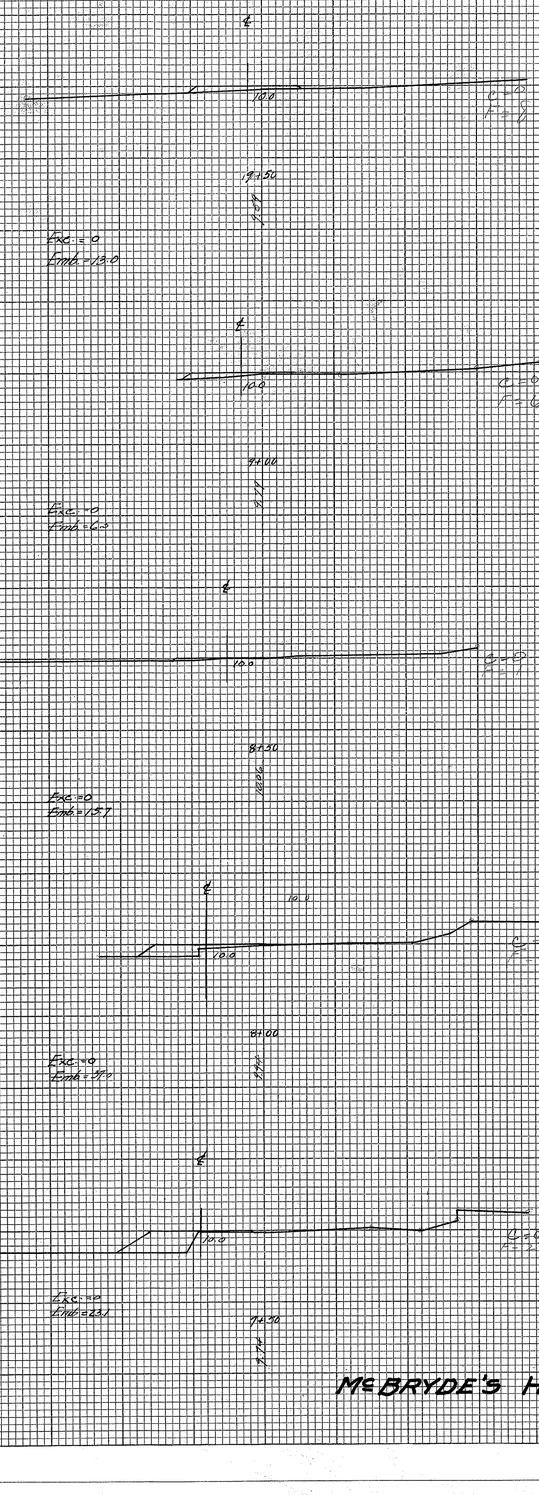
PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

438.54

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	55	60

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED	Schumacher	
NO.	PLOTTED	Self	
	TEMPLATE	Pacanovsky	
	AREAS	Lee	
	AREAS CHECKED		

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



McBRYDE'S HANAPEPE R.R. NEW ALIGNMENT

PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD

KEUFFEL & ESSER CO., NEW YORK.

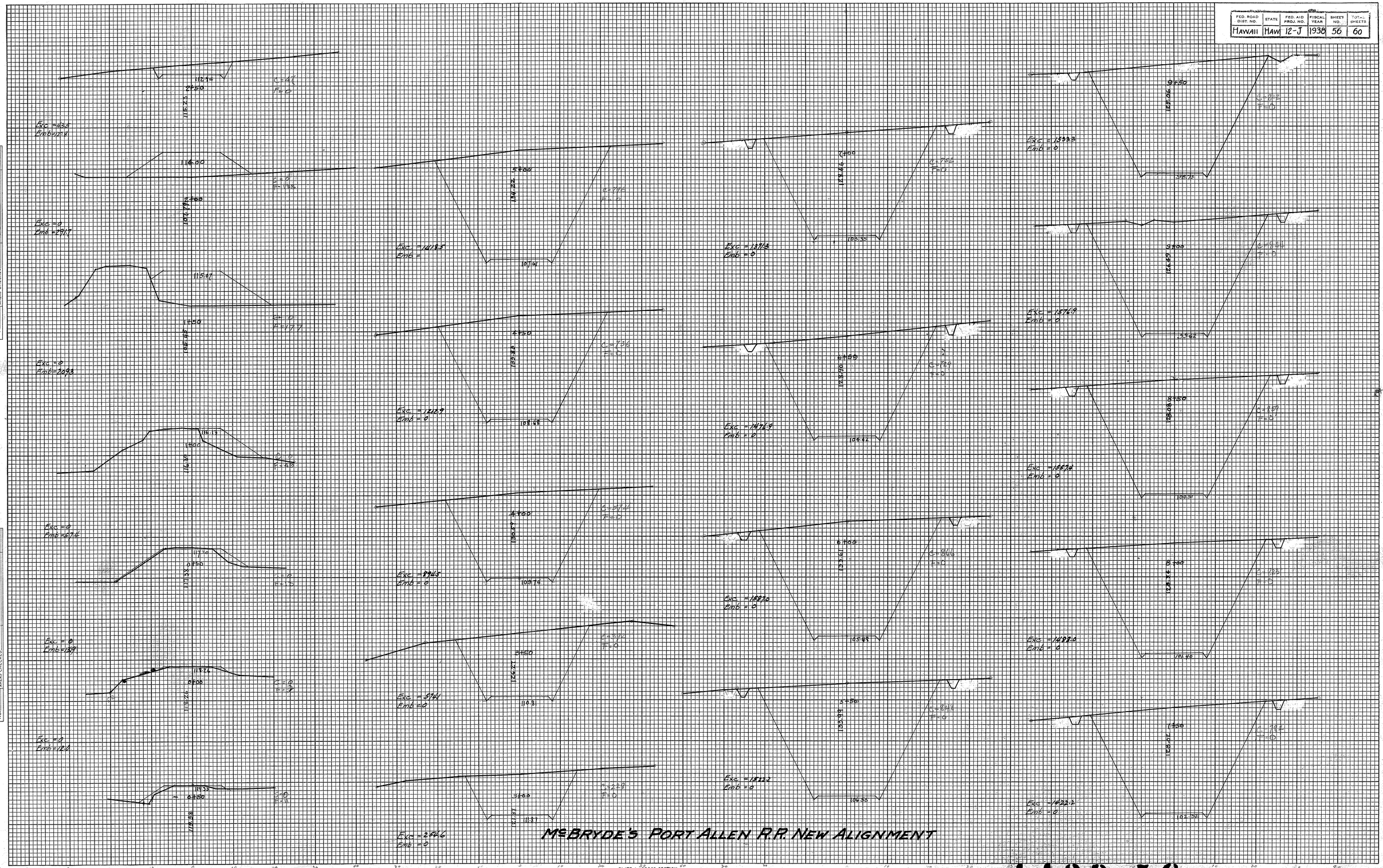
#25209 MADE IN U. S. A.

4438.55

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	56	60

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

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



McBRYDE'S PORT ALLEN R.R. NEW ALIGNMENT

PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A. 27166-3

4438.56

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	
HAWAII	HAW	12-J	1938	57	60

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

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

McBRYDE'S PORT ALLEN R.R. NEW ALIGNMENT

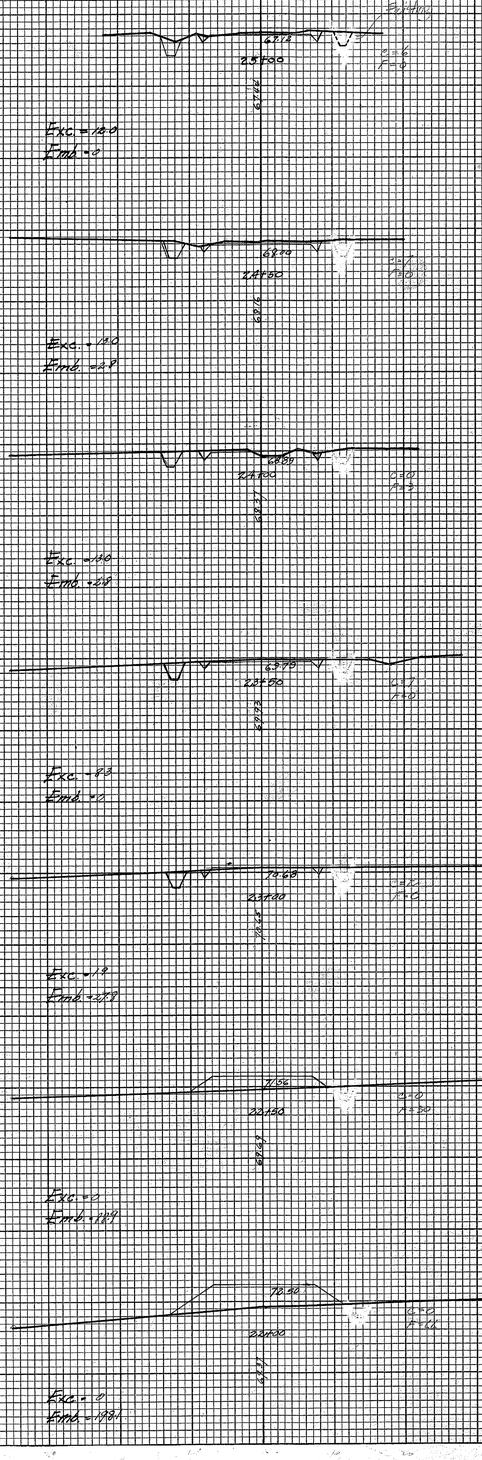
PLATE-3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A. 27185-3

4438.57

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	
Hawaii	Haw.	12-J	1938	58	60

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

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



Mc Bryde's Port Allen R.R. New Alignment

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

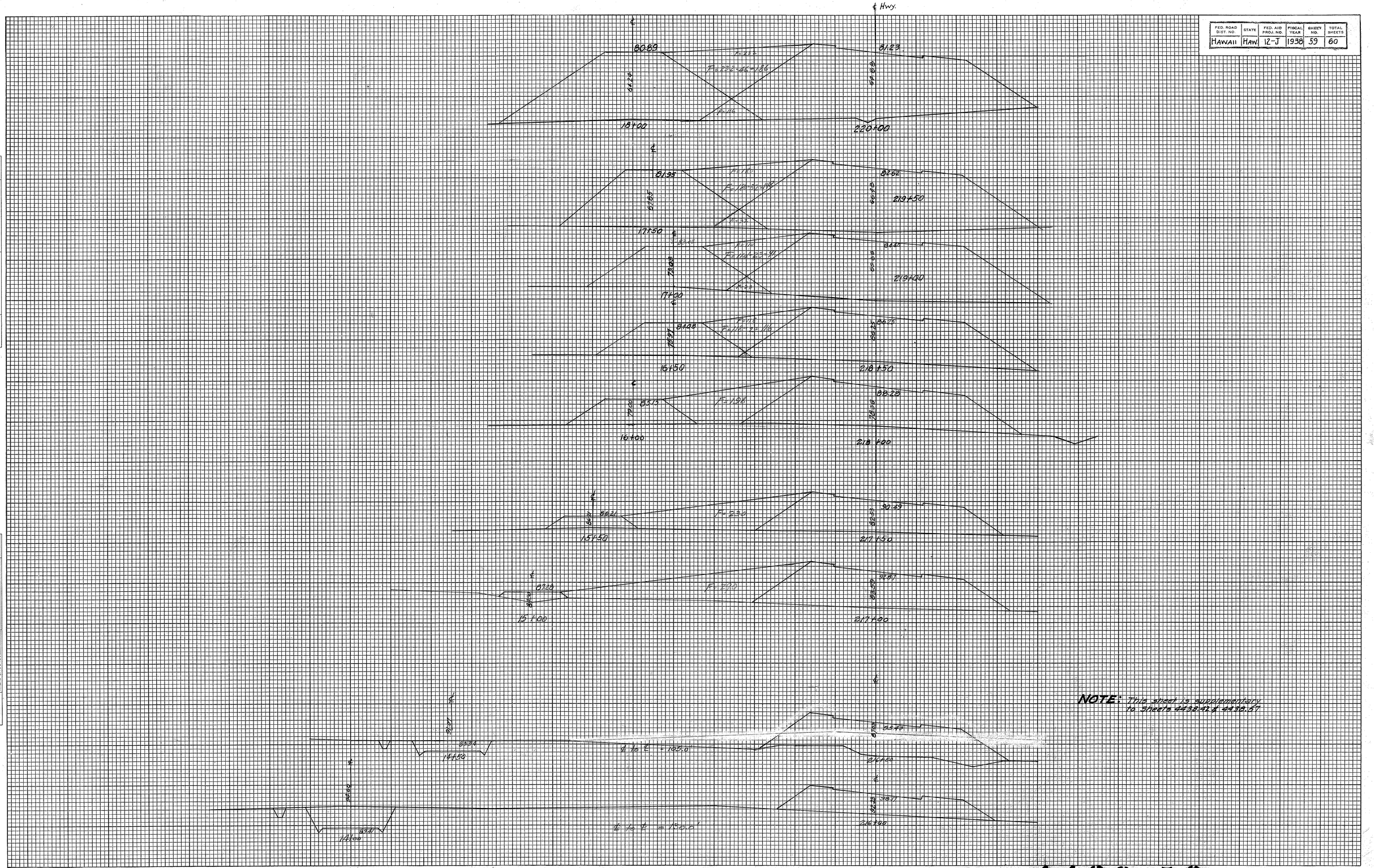
MADE IN U.S.A. 27185-2

4438.58

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	12-J	1938	59	60

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



NOTE: This sheet is supplementary to Sheets 4438.42 & 4438.57

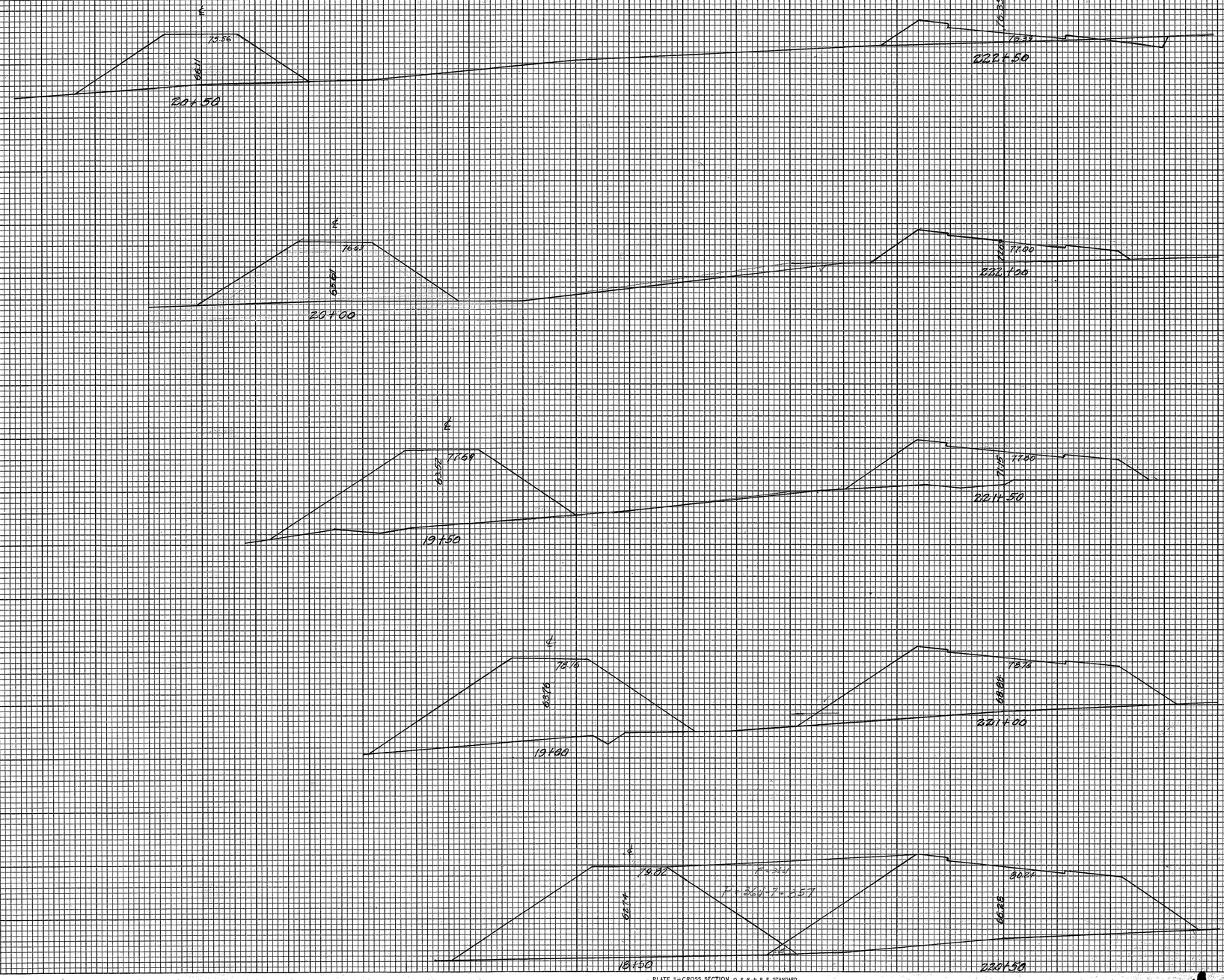
PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
MADE IN U. S. A. 27188-3

4438.59

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw.	12-J	1938	60	60

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

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



NOTE: This sheet is supplementary to Sheets 4435.42 & 4435.57

PLATE 3—CROSS SECTION O. P. R. & R. E. STANDARD

KEUFFEL & ESSER CO., NEW YORK.

MADE IN U.S.A. 27168-3

4438.60