FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	157	202

Removal Of Surcharge Is To Be Paid For Under Item 203.01 Roadway Excavation

Existing Ground As Placed In Previous Contract

Approximate Settlement

Ramp Template

Reshaping Side Slopes Is To Be Incidental To Item 203.01 Roadway Excavation

DETAIL - E W RAMP SECTION
N.T.S.

NOTE: Detail Is Typical For All Surcharged Areas

TRUE NORTH
Scale: 1" = 100'

MOANALUA FREEWAY

HALAWA STREAM

NORTH HALAWA STREAM

SOUTH HALAWA STREAM

HALAWA STREAM

RELOCATED HALAWA STREAM

RELOCATED HALAWA HEIGHTS RD.

INTERSTATE ROUTE H-1

RAMP I

RAMP J

RAMP K

RAMP O

RAMP P

EW RAMP

ES RAMP

WE RAMP

MATCH LINE STA. 142+00

MATCH LINE STA. 142+00

J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
J. Andrew Schuchardt

ORIGINAL PLAN	
NOTE BOOK	
No.	

SURVEY PLOTTED BY _____ DATE _____
DRAWN BY _____
TRACED BY _____
TRACED BY _____
QUANTITIES BY _____
CHECKED BY _____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION KEY

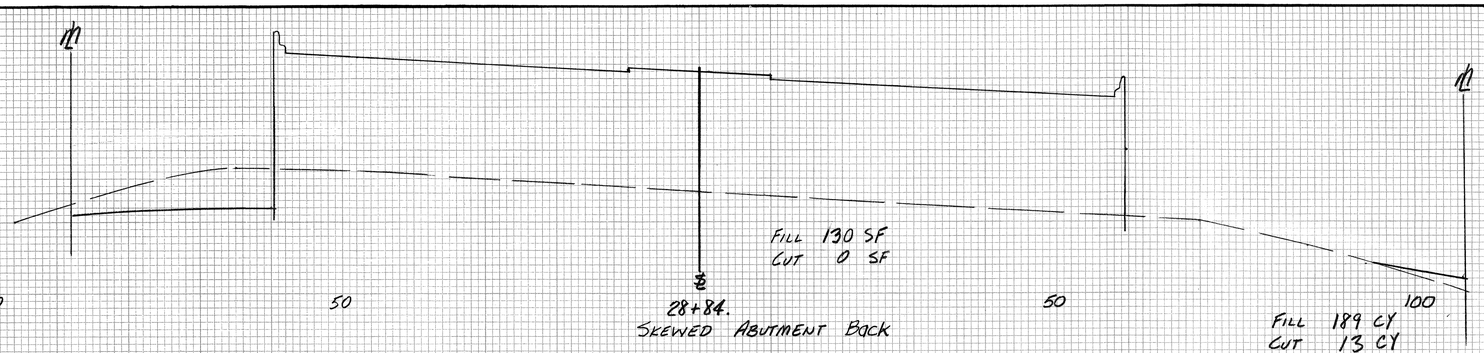
INTERSTATE ROUTE H-1
PROJECT NO I-HI-1(90):13

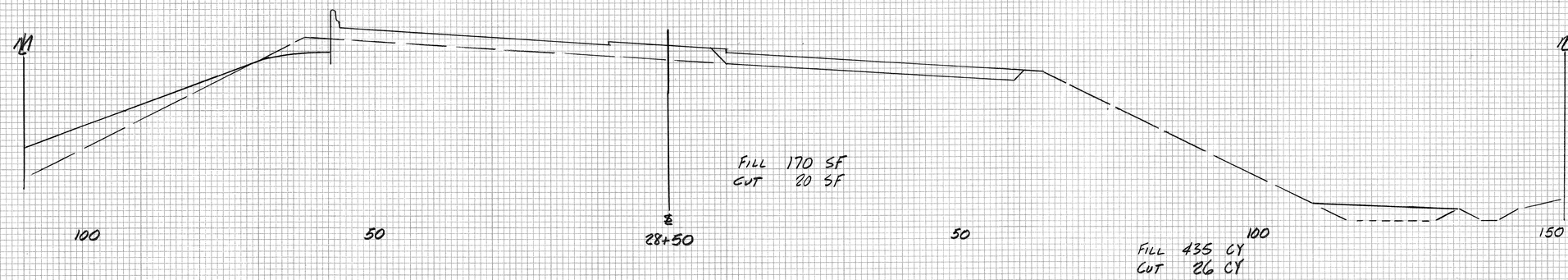
SCALE: AS SHOWN DATE: DEC. 24, 1971

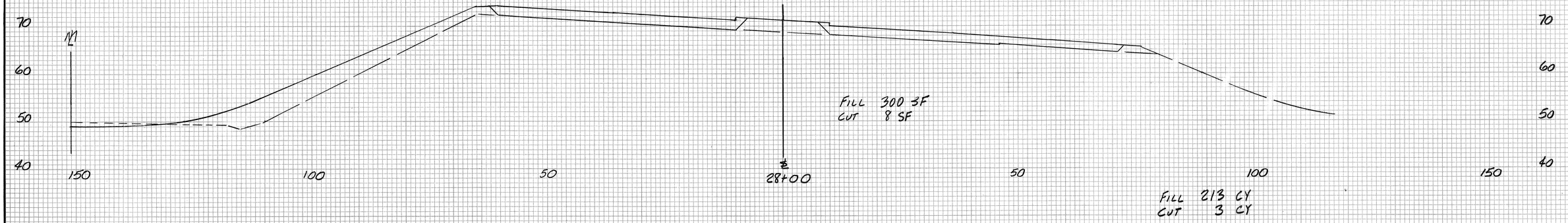
SHEET No. 1X OF SHEETS

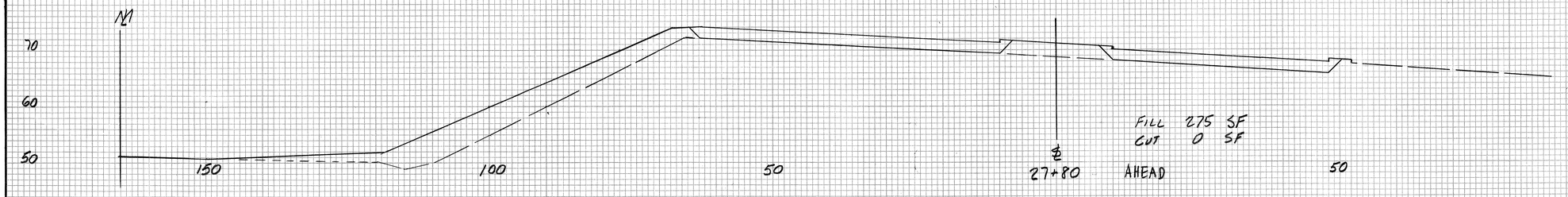
157

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	158	202









RELOCATED HALAWA HEIGHTS ROAD

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J. Andrew Schuchardt

J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

SCALE: HORIZ. 1"=10'
VERT. 1"=10'

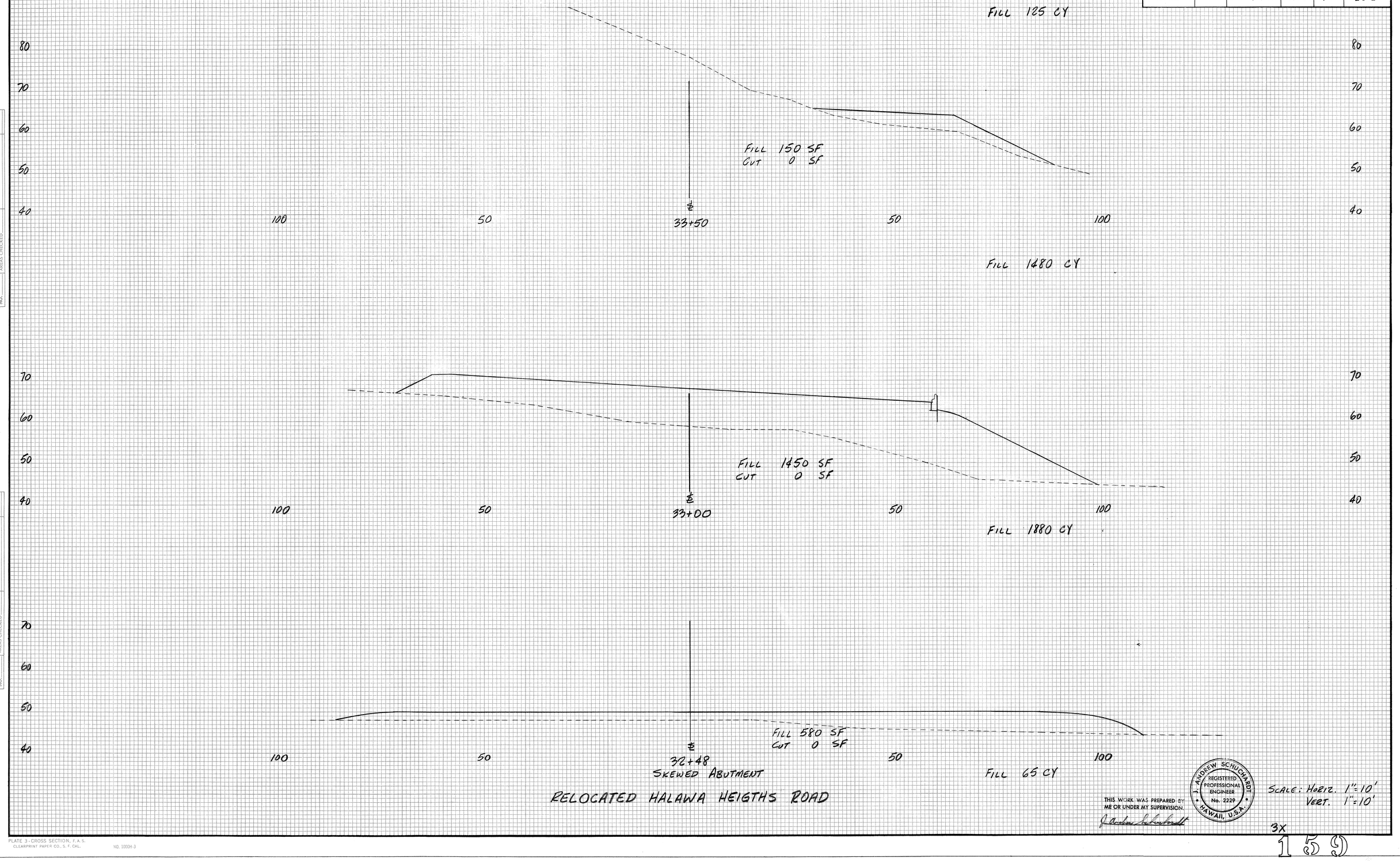
FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
DATE
BY

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

PLATE 3-CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

2X
155

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	159	202



RELOCATED HALAWA HEIGTHS ROAD

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

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

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J. ANDREW SCHUCHARDT — REGISTERED PROFESSIONAL ENGINEER — No. 2229 — HAWAII, U.S.A.

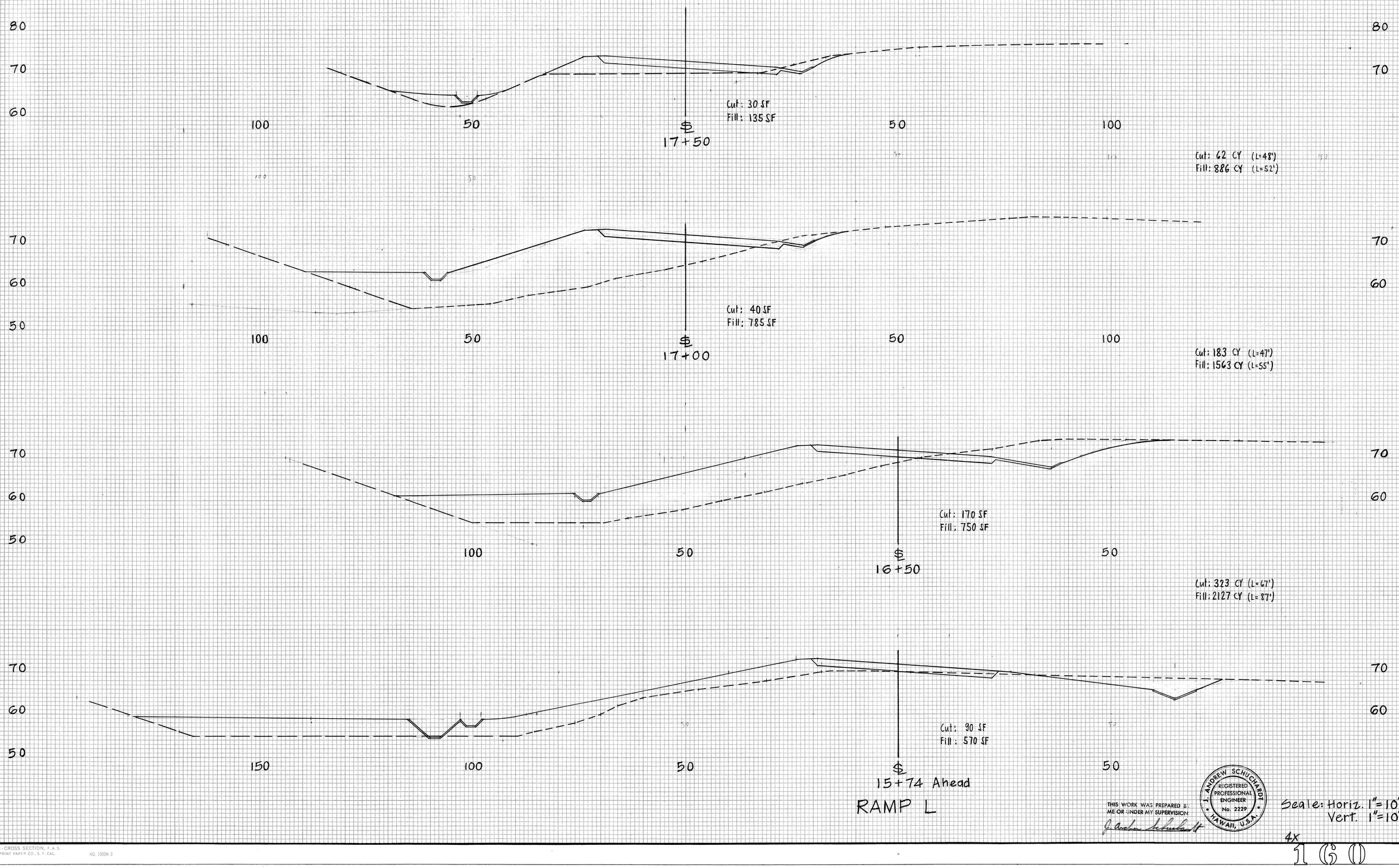
SCALE: HORIZ. 1"=10'
VERT. 1"=10'

3X

159

PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F., CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	160	202



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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

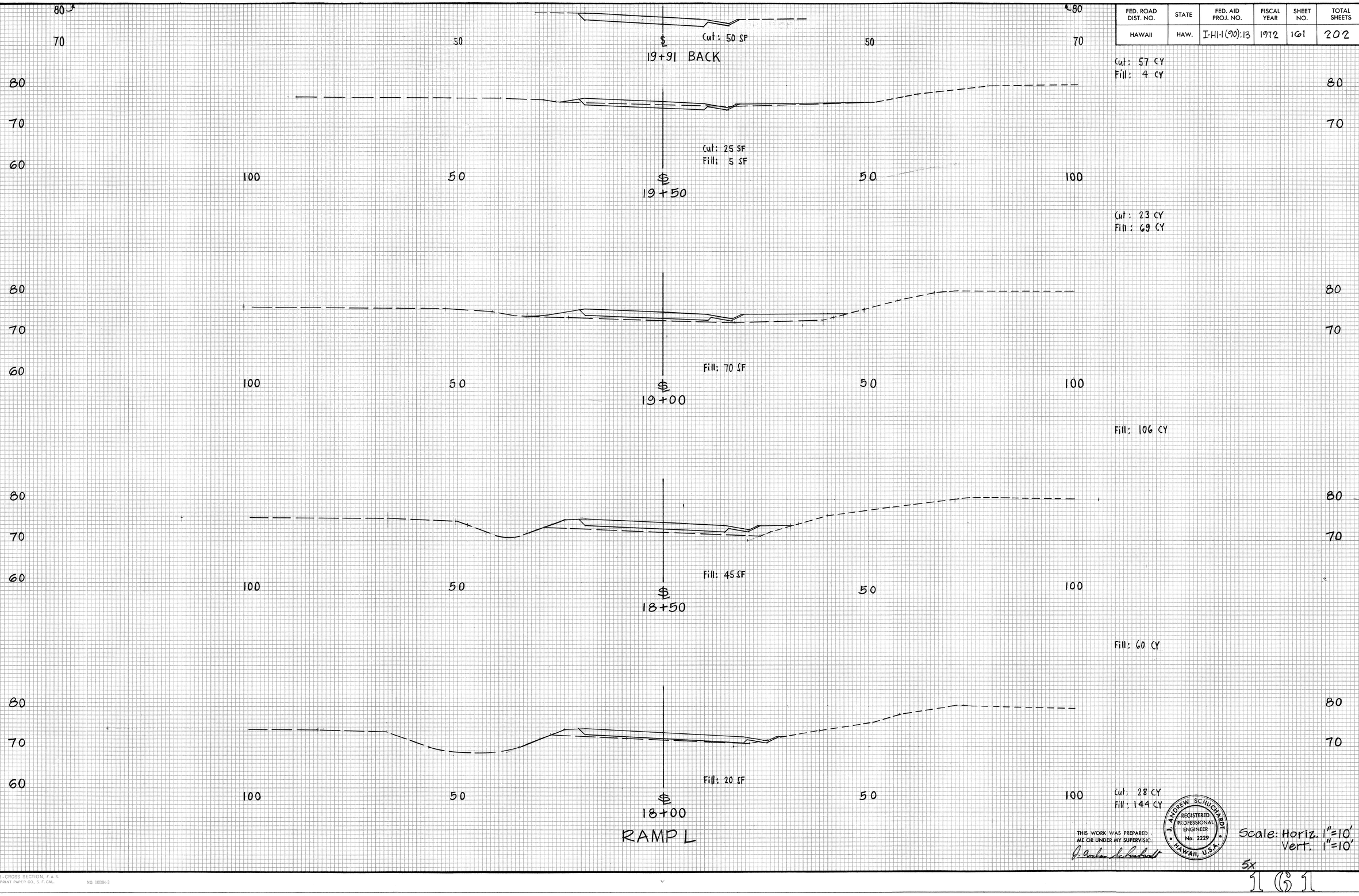
J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

4X 160

PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F., CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	161	202



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
J. Andrew A. Schuchardt

H. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

5x
161

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

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

PLATE 3-CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000N-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90);13	1972	162	202

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

RAMP K

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

J. Andrew Schuchardt

J. ANDREW SCHUCHARDT — REGISTERED PROFESSIONAL ENGINEER — No. 2229 — HAWAII, U.S.A.

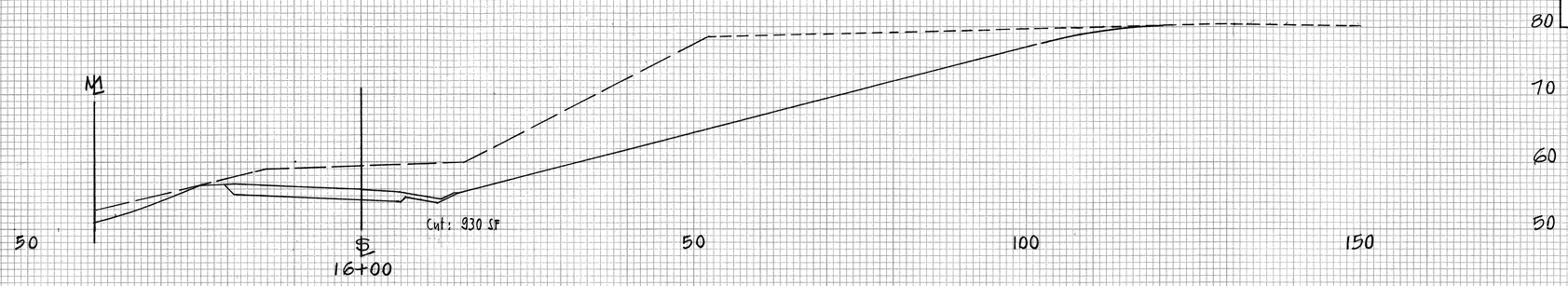
Scale: Horiz. 1"=10'
Vert. 1"=10'

6X

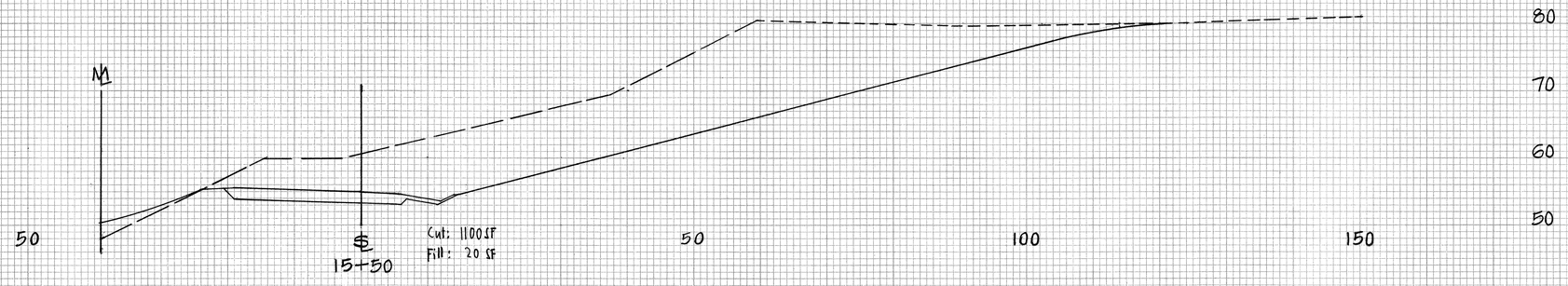
162

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1006H-3

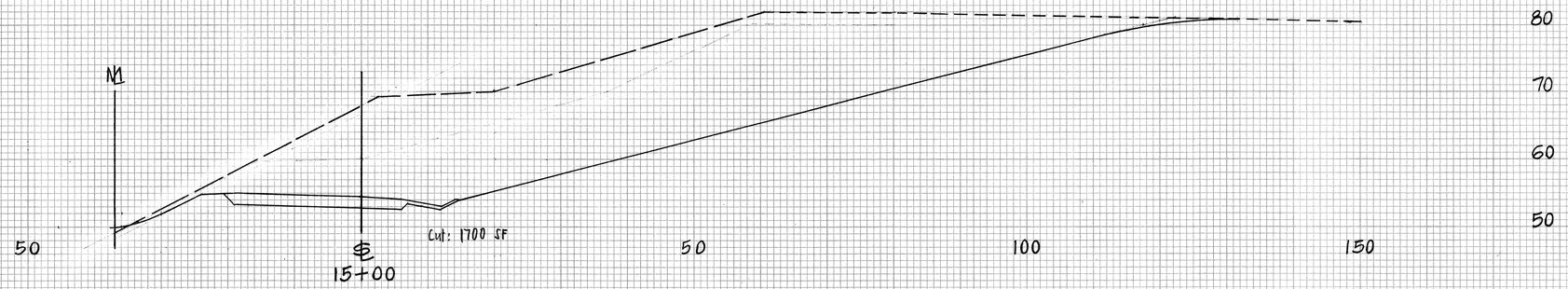
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	163	202



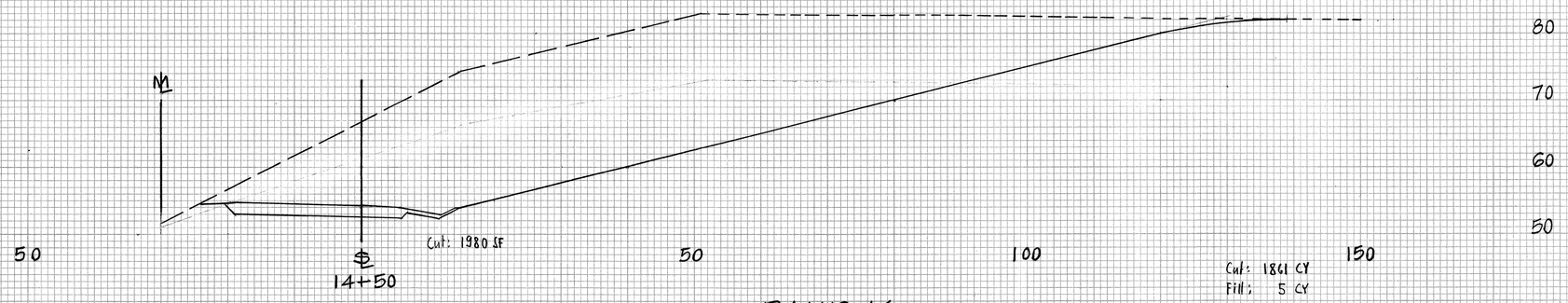
Cut: 1880 CY
Fill: 19 CY



Cut: 2593 CY
Fill: 19 CY



Cut: 3407 CY



Cut: 1861 CY
Fill: 5 CY

RAMP K

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J. Andrew Schuchardt

ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

1 63

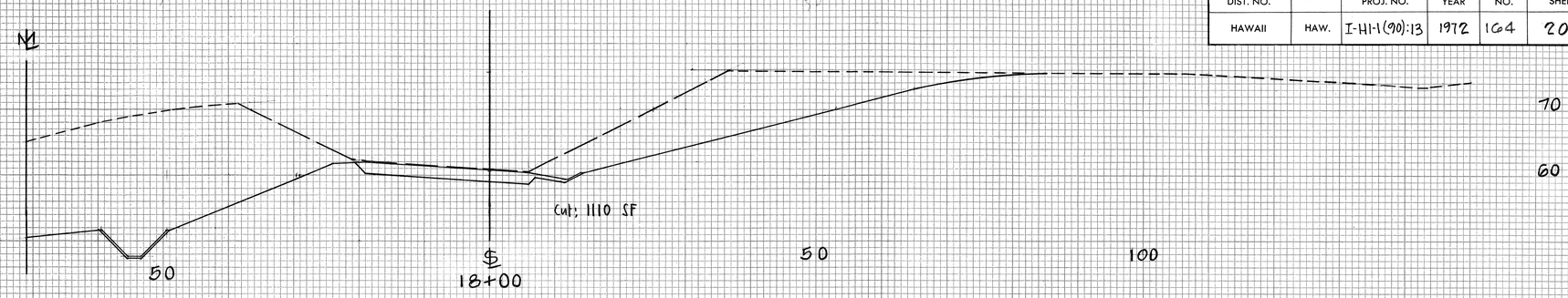
163

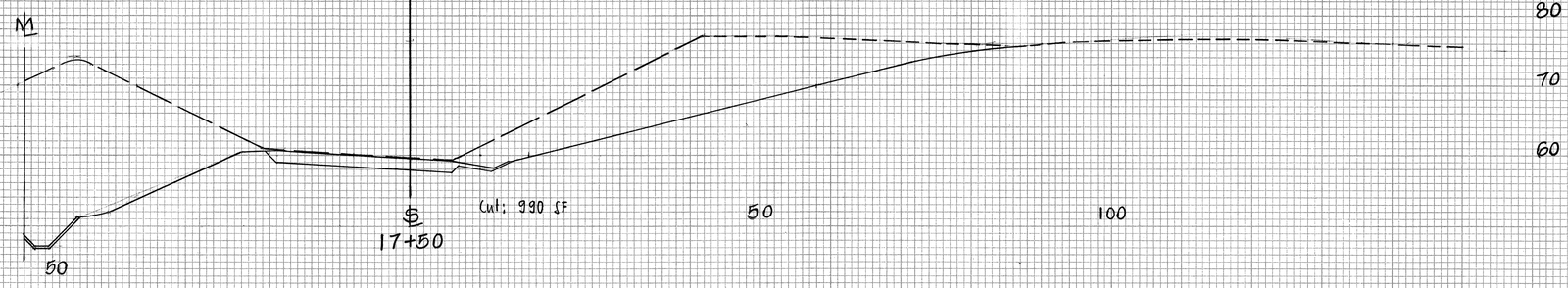
FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

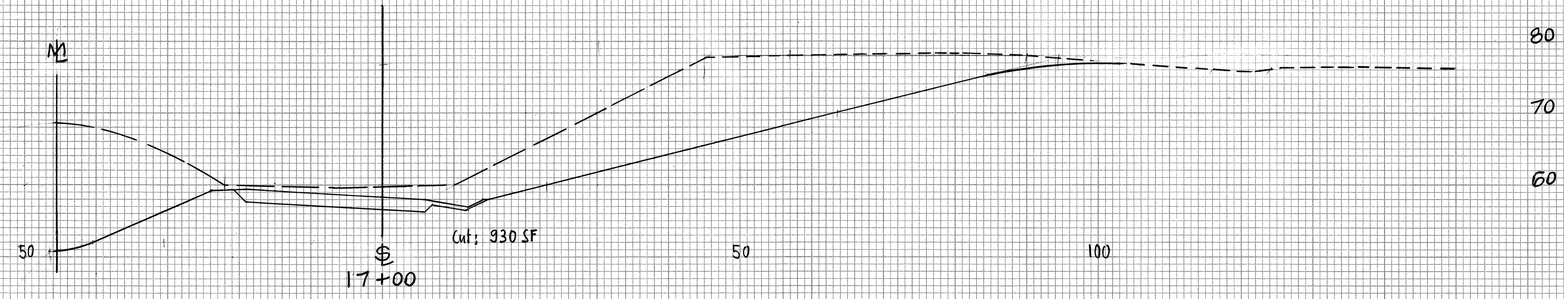
ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

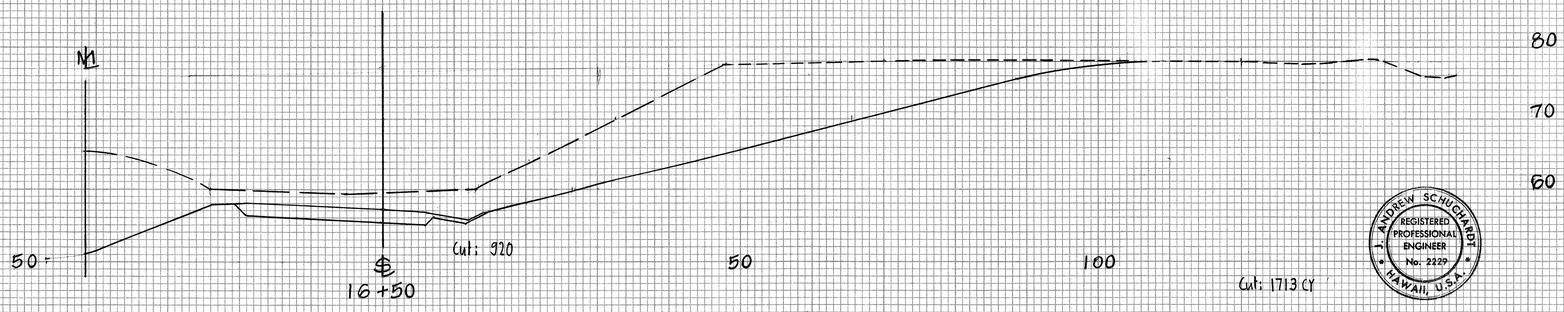
PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	164	202









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J. Andrew Schuchardt

J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

8X

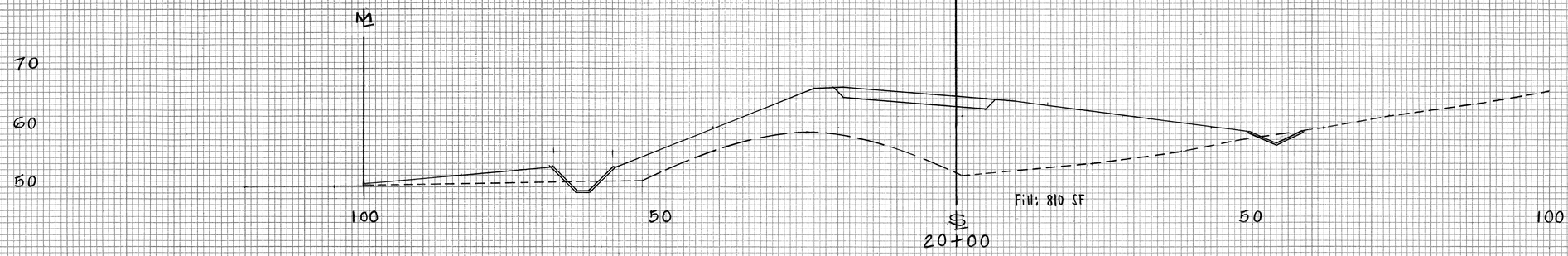
164

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

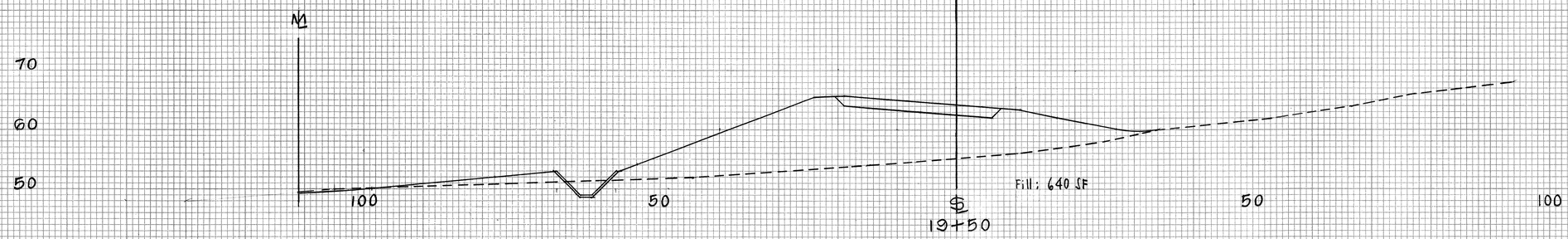
ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F. CAL.
NO. 1000H-3

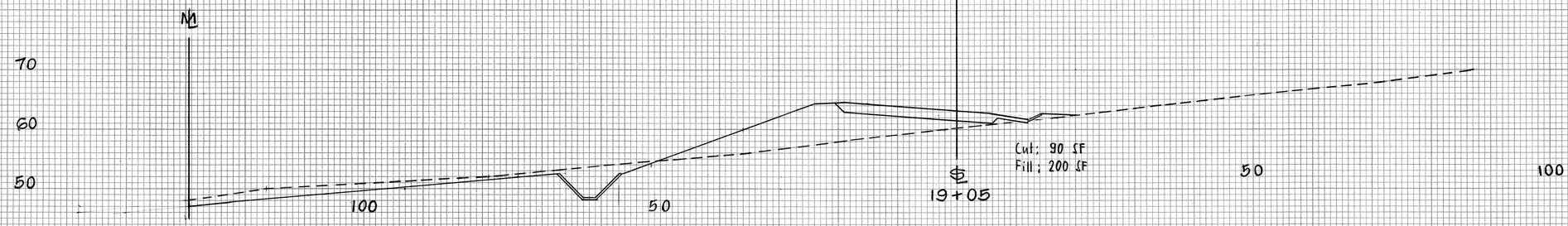
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	165	202



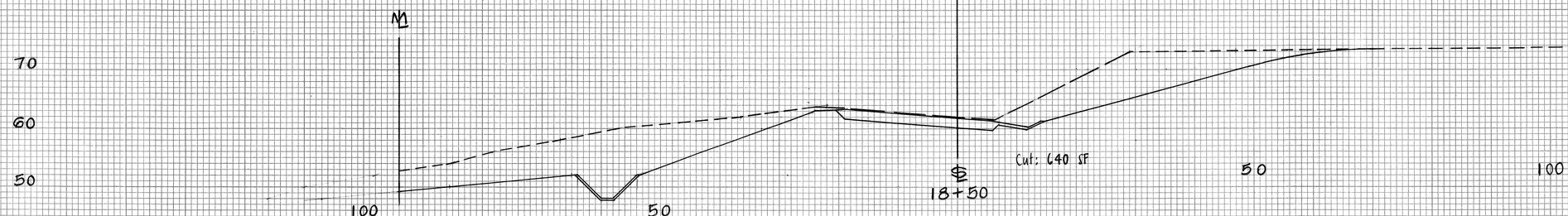
Fill ; 1423 CY(L=53')



Cut: 100 CY(L= 60')
Fill: 762 CY(L=49')



Cut: 811 CY (L=60')
Fill : 215 CY (L=58')



Cut: 1620 CY

RAMP K

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ANDREW SCHICHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

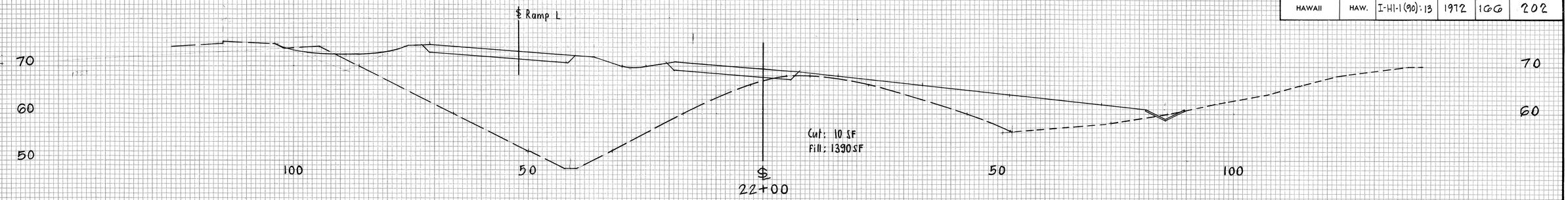
9x 165

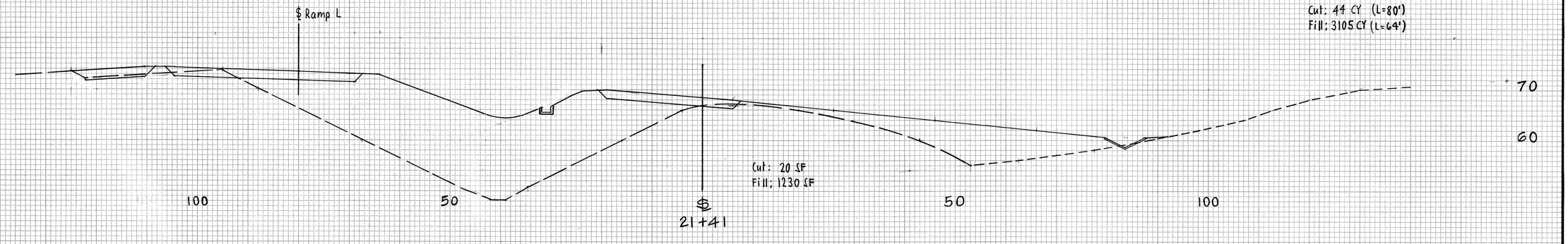
FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS CHECKED, BY, DATE, NOTE BOOK, NO.

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

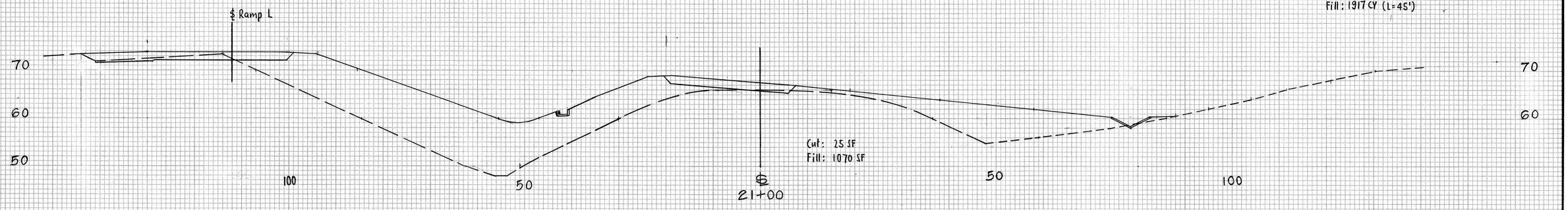
PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	166	202





Cut: 44 CY (L=80')
Fill: 3105 CY (L=64')



Cut: 50 CY (L=60')
Fill: 1917 CY (L=45')

Cut: 67 CY (L=60')
Fill: 1769 CY (L=48')

Cut: 37 CY
Fill: 2082 CY (L=65')

RAMP K

J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

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Scale: Horiz. 1"=10'
Vert. 1"=10'

10X

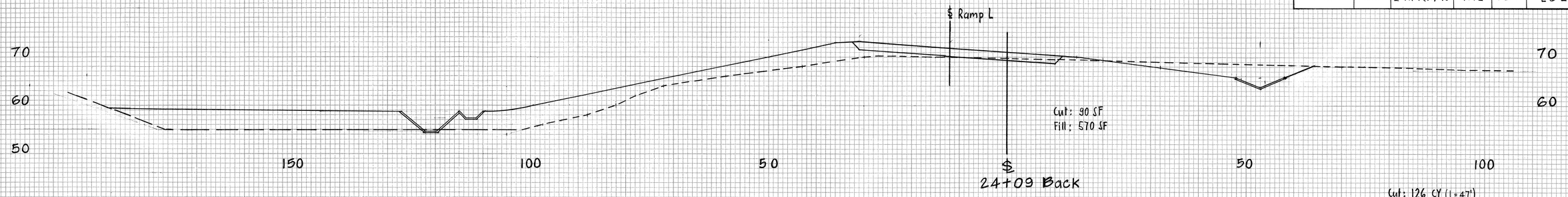
166

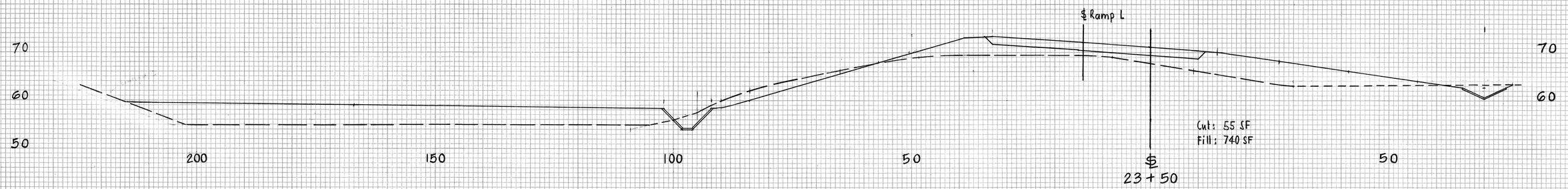
FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

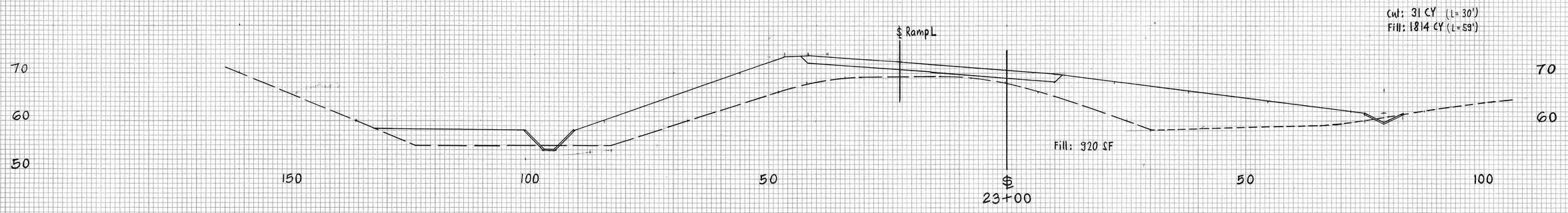
ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

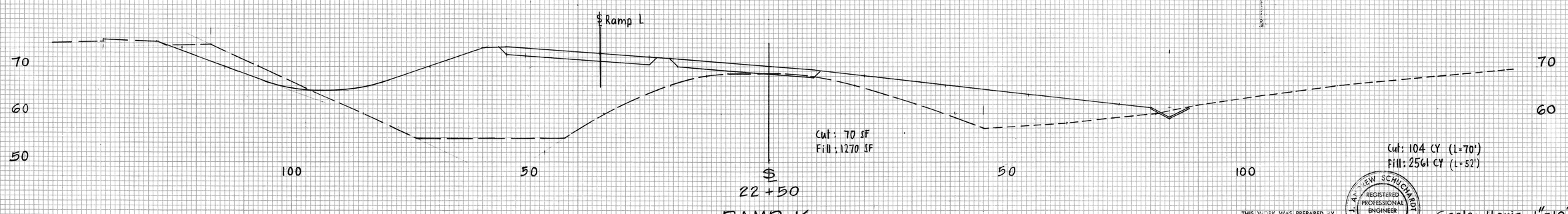
PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	167	202









RAMP K

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

J. Amber Schuchardt

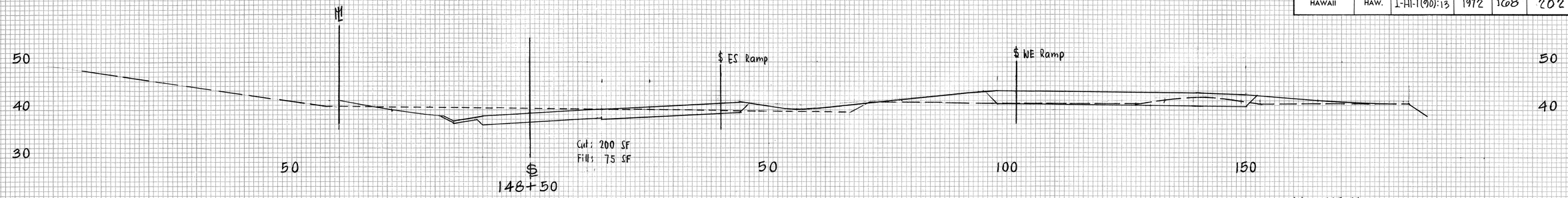
JAMES AMBER SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

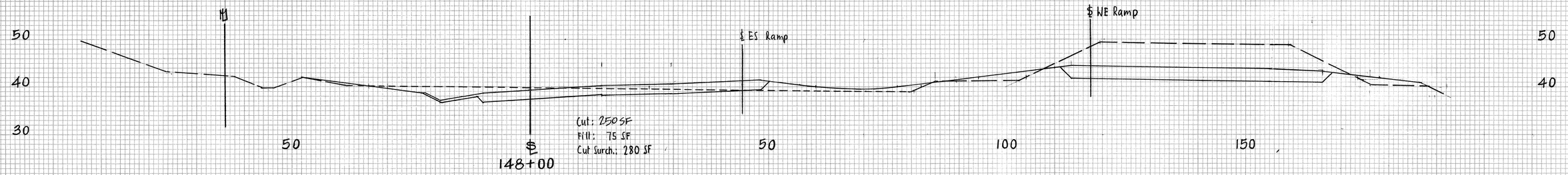
11 x 167

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F., CAL. NO. 1000H-3

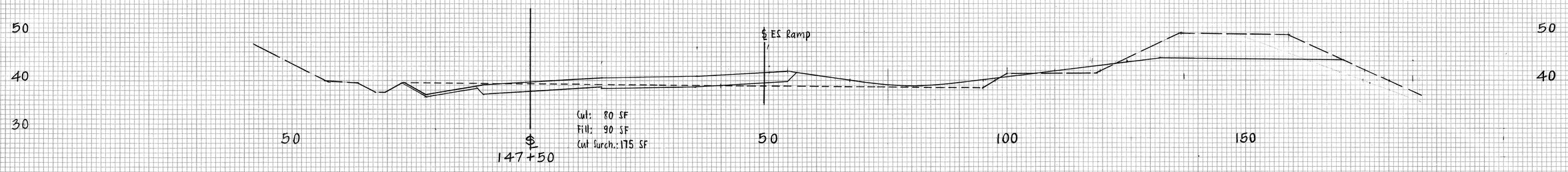
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	168	202



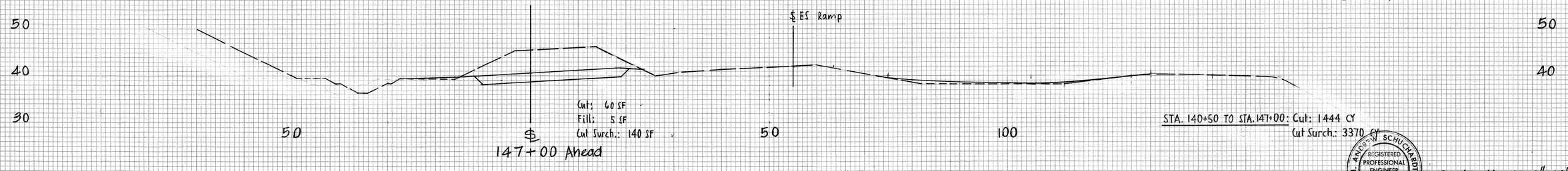
Cut: 417 CY
Fill; 139 CY
Cut Surch.: 259 CY



Cut: 306 CY
Fill: 153 CY
Cut Surch: 421 CY



Cut: 130 CY
Fill: 88 CY
Cut Surch.: 292 CY



STA. 140+50 TO STA. 147+00: Cut: 1444 CY
Cut Surch.: 3370 CY

EW RAMP

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

LT. ANDREW J. SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

12x

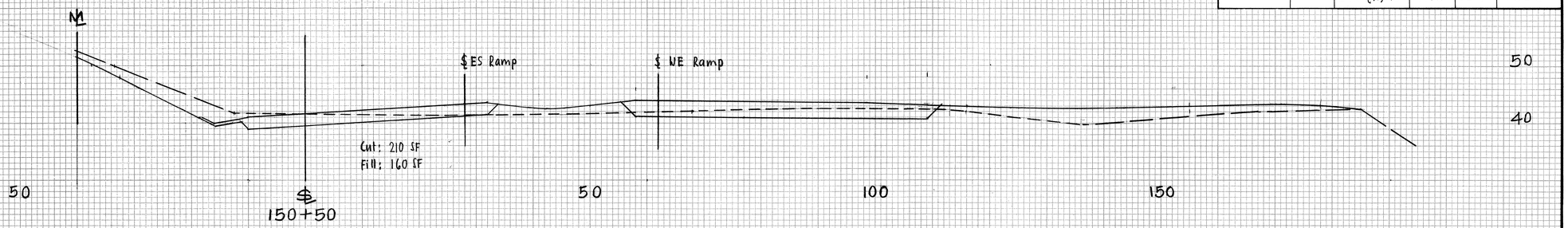
168

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

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

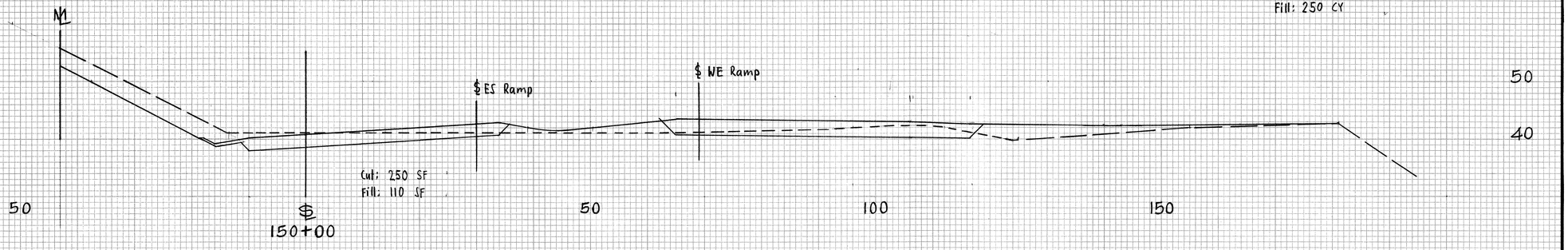
ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	169	202



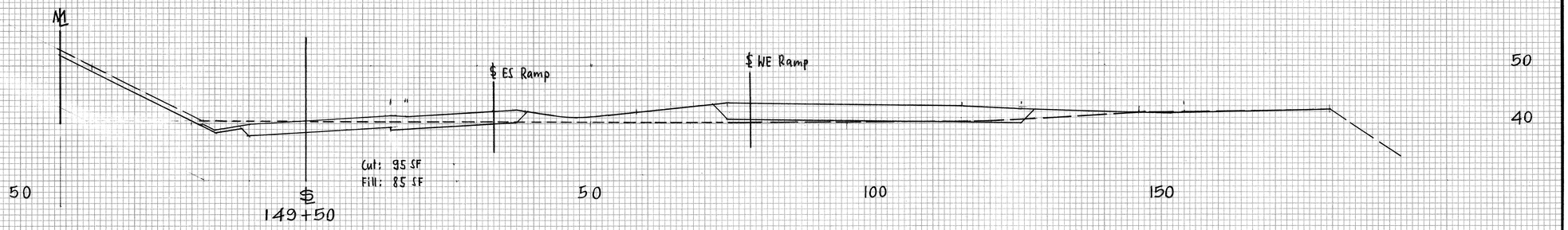
Cut: 210 SF
Fill: 160 SF

Cut: 426 CY
Fill: 250 CY



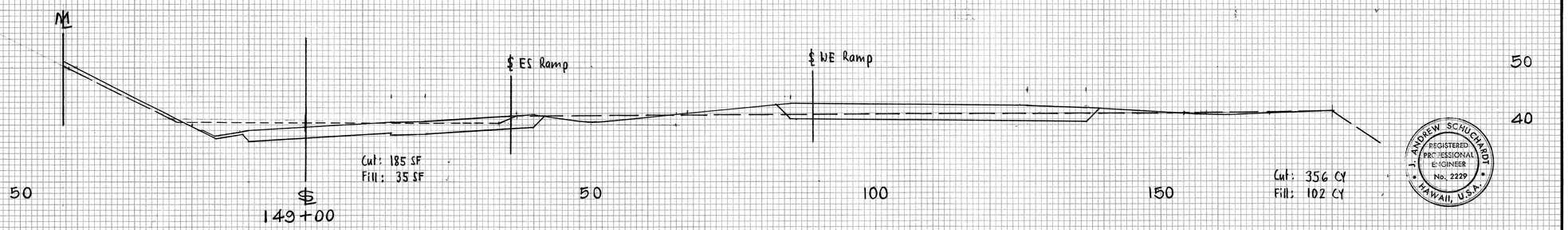
Cut: 250 SF
Fill: 110 SF

Cut: 319 CY
Fill: 181 CY



Cut: 95 SF
Fill: 85 SF

Cut: 259 CY
Fill: 111 CY



Cut: 185 SF
Fill: 35 SF

Cut: 356 CY
Fill: 102 CY

EW RAMP

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
J. Andrew Schuchhardt

T. ANDREW SCHUCHHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

13X

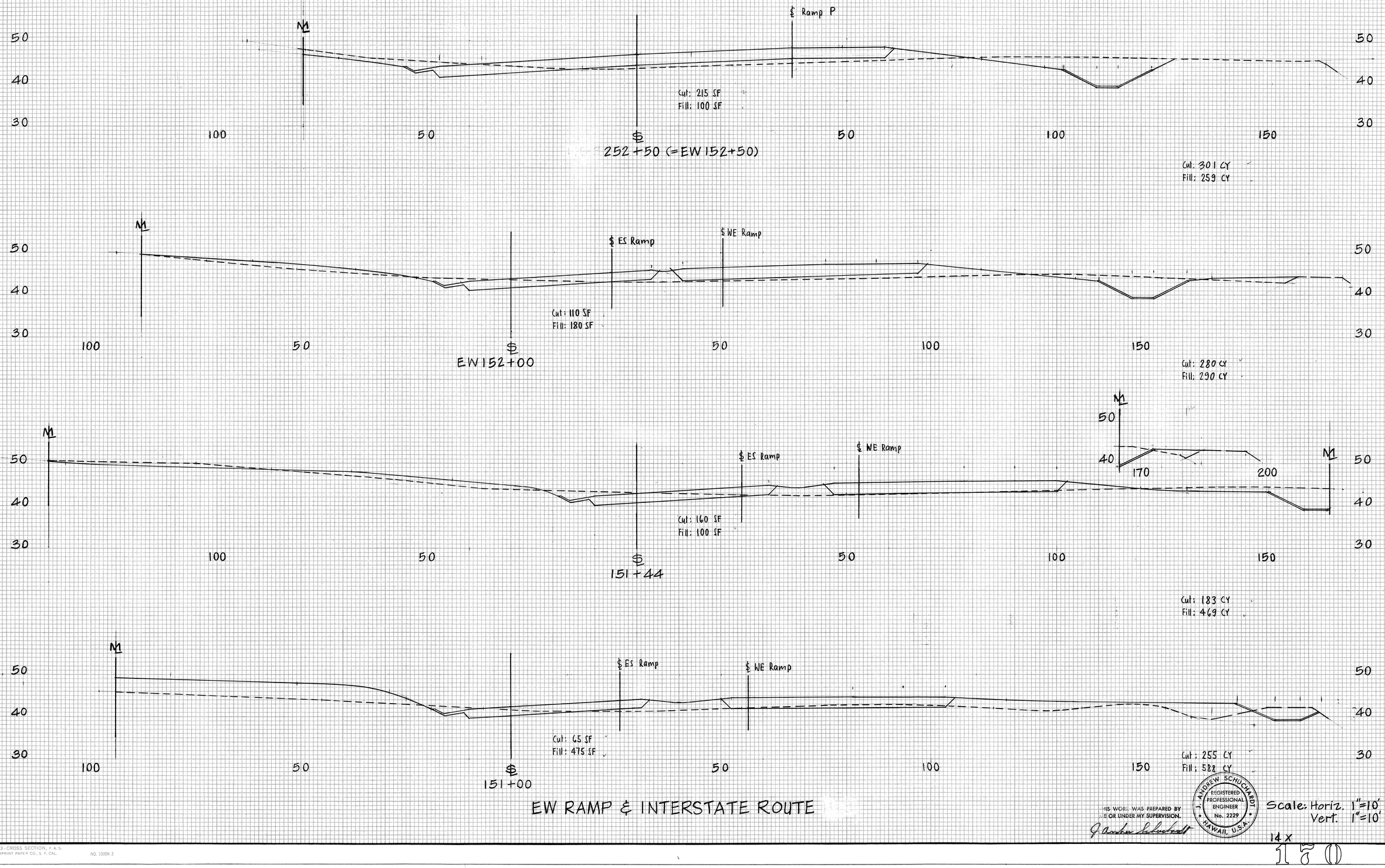
169

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

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	170	202



EW RAMP & INTERSTATE ROUTE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

J. Andrew Schuchardt

J. ANDREW SCHUCHARDT REGISTERED PROFESSIONAL ENGINEER No. 2229 HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

14 X

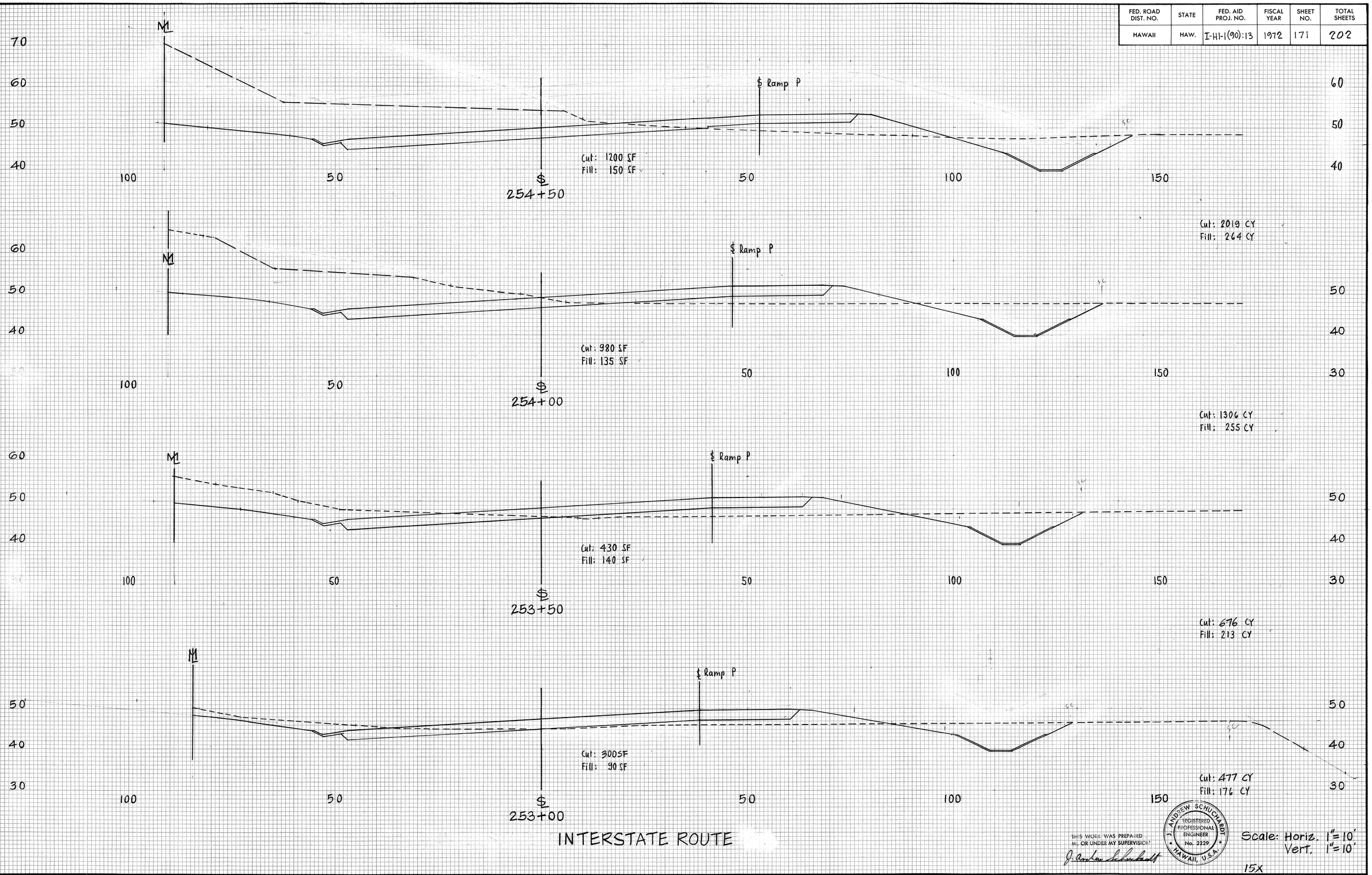
170

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

PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F., CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	171	202



INTERSTATE ROUTE [redacted]

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
J. Andrew Schuchardt

J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

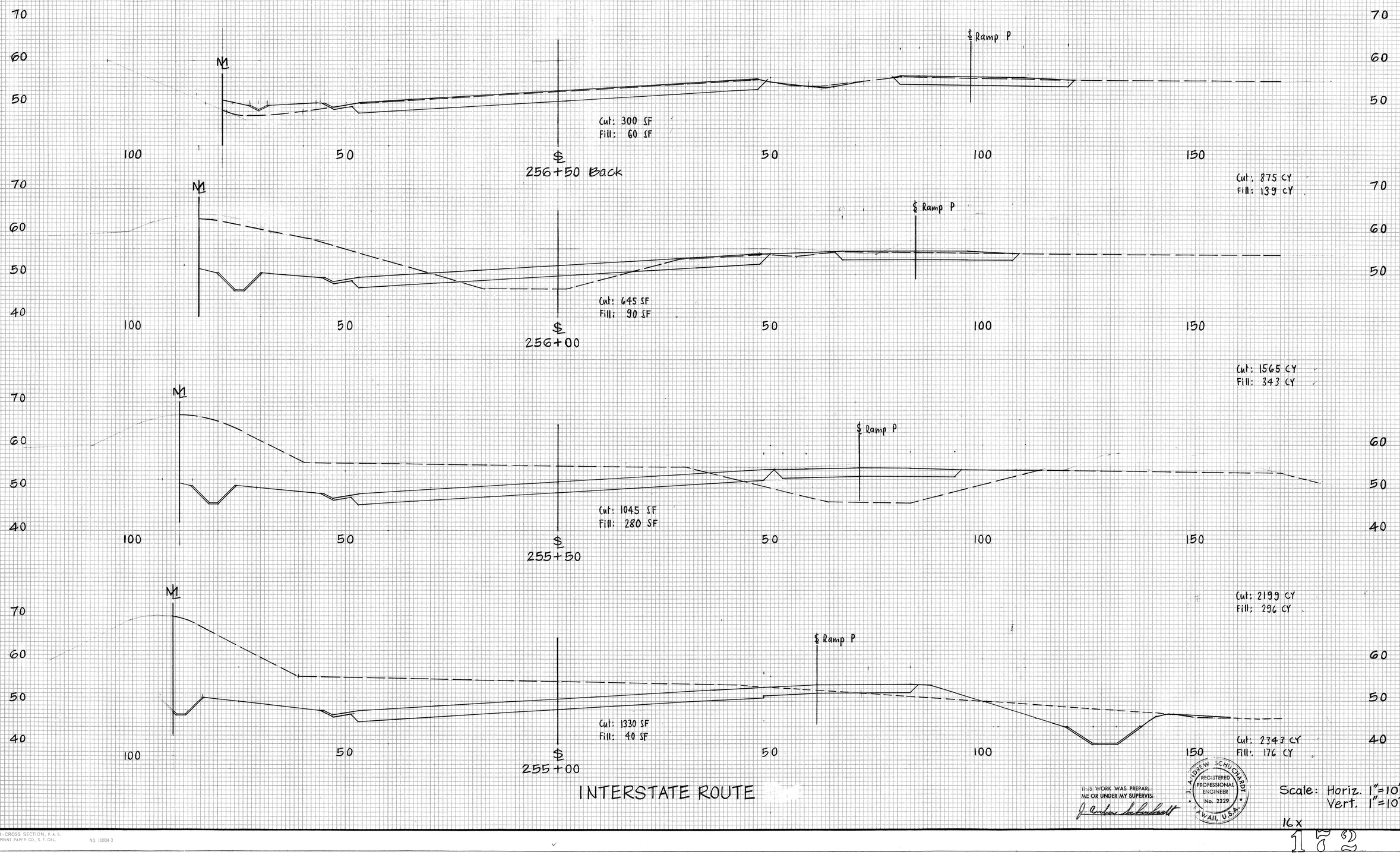
Scale: Horiz. 1"=10'
Vert. 1"=10'

15x

171

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL.
NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	172	202



INTERSTATE ROUTE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
J. Andrew Schuchardt

J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

16x

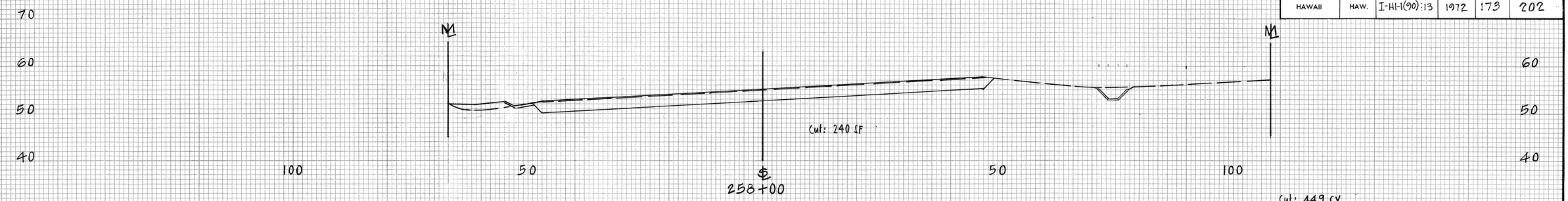
172

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

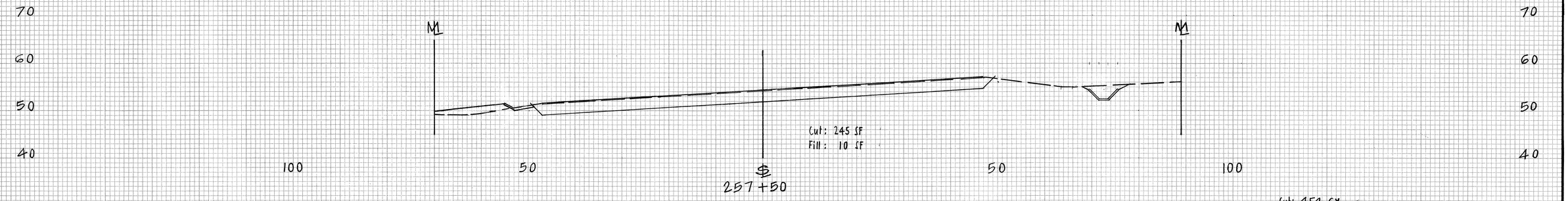
ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS CHECKED — BY — DATE — NOTE BOOK — NO.

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL.
NO. 1000H-3

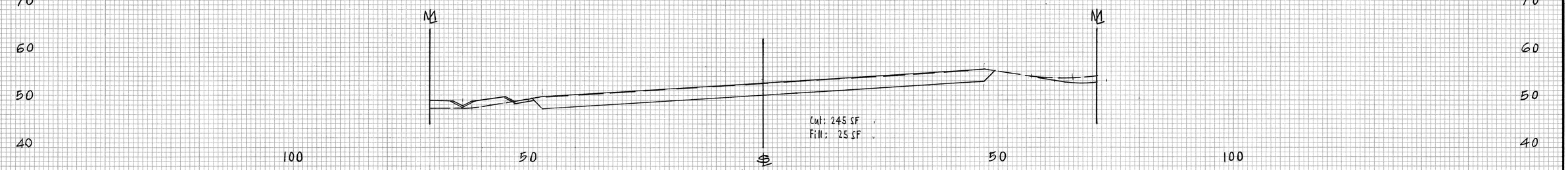
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	173	202



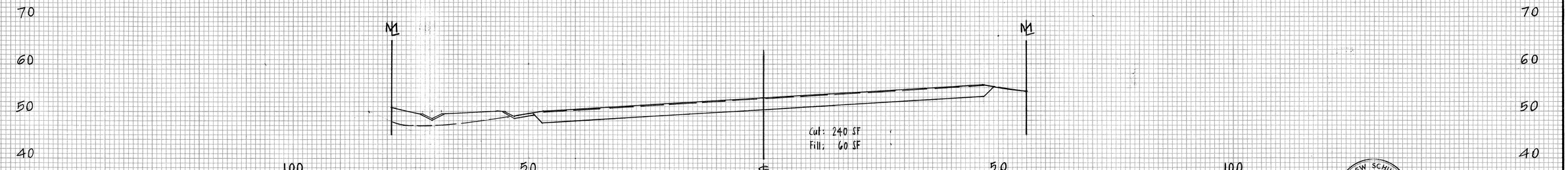
Cut: 449 CY
Fill: 9 CY



Cut: 454 CY
Fill: 32 CY



Cut: 449 CY
Fill: 79 CY



INTERSTATE ROUTE [redacted]

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

17x

173

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

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

PLATE 3-CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

173

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	174	202

260+00 back
58.1

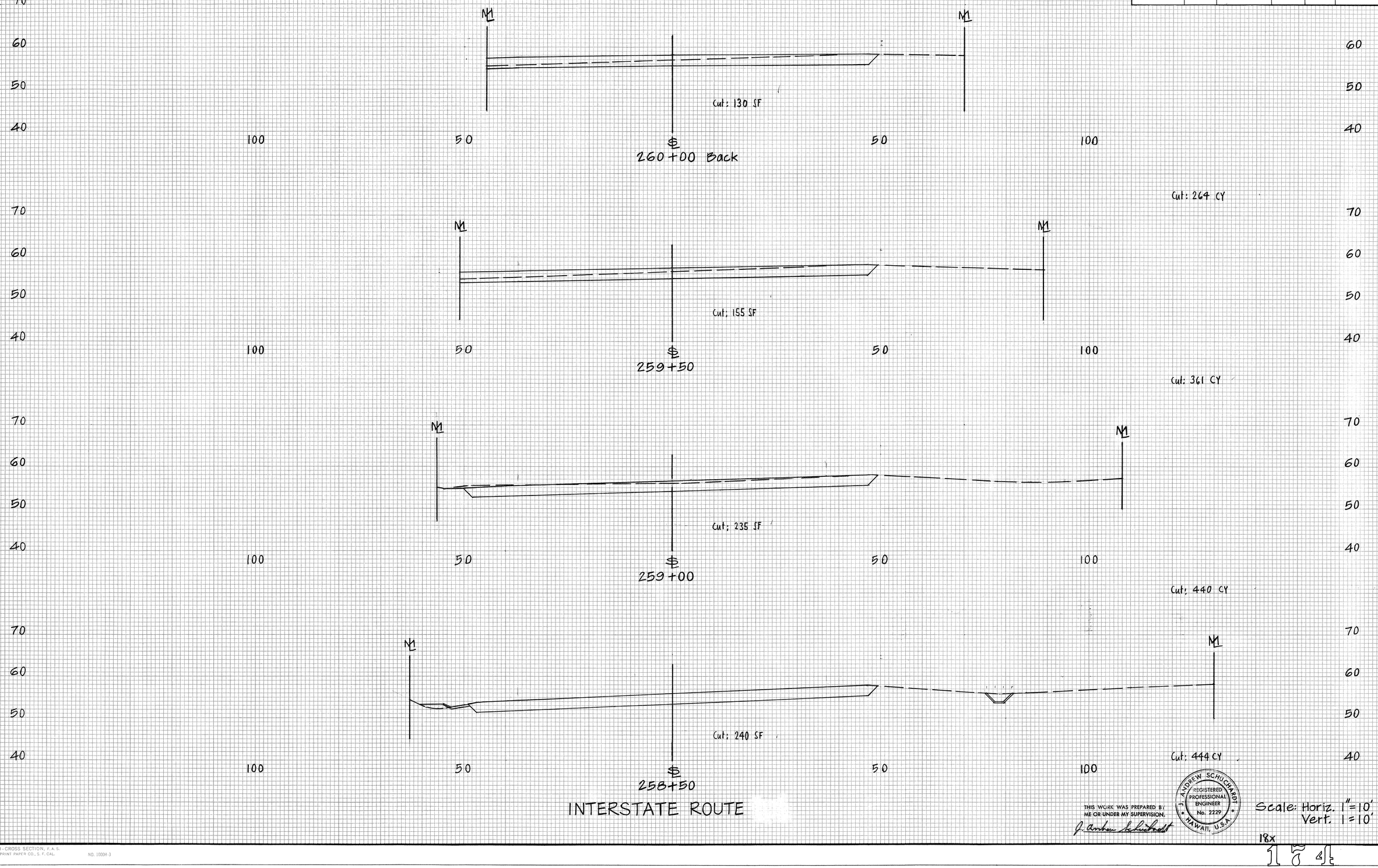
259+50
57.4
10'E

259+00
56.6
10'E

258+50
55.7
10'E

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

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



INTERSTATE ROUTE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

ANDREW SCHUCHARDT — REGISTERED PROFESSIONAL ENGINEER — No. 2229 — HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1=10'

18x

PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

174

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	175	202

INTERSTATE ROUTE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

J. Andre V. Schuchardt

J. ANDRE V. SCHUCHARDT REGISTERED PROFESSIONAL ENGINEER No. 2229 HAWAII, U.S.A.

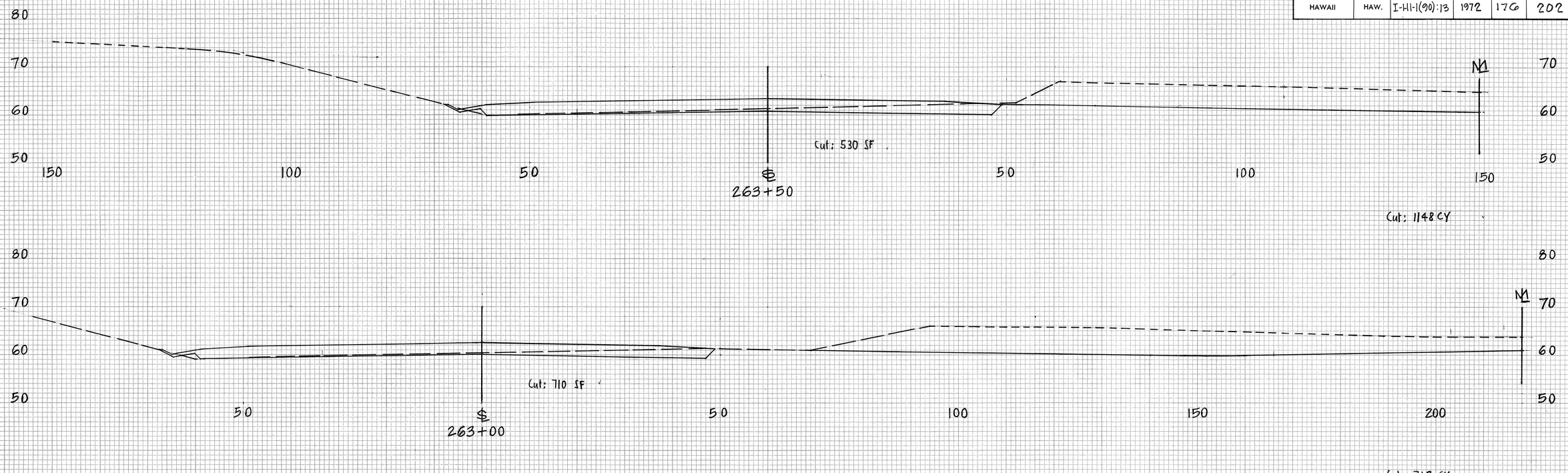
Scale: Horiz. 1"=10'
Vert. 1"=10'

19 x 175

175

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F., CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	176	202



INTERSTATE ROUTE [redacted]

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

J. ANDREW SCHUCHARDT REGISTERED PROFESSIONAL ENGINEER No. 2229 HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

20x

176

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

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

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F., CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	177	202

265+38
66.2

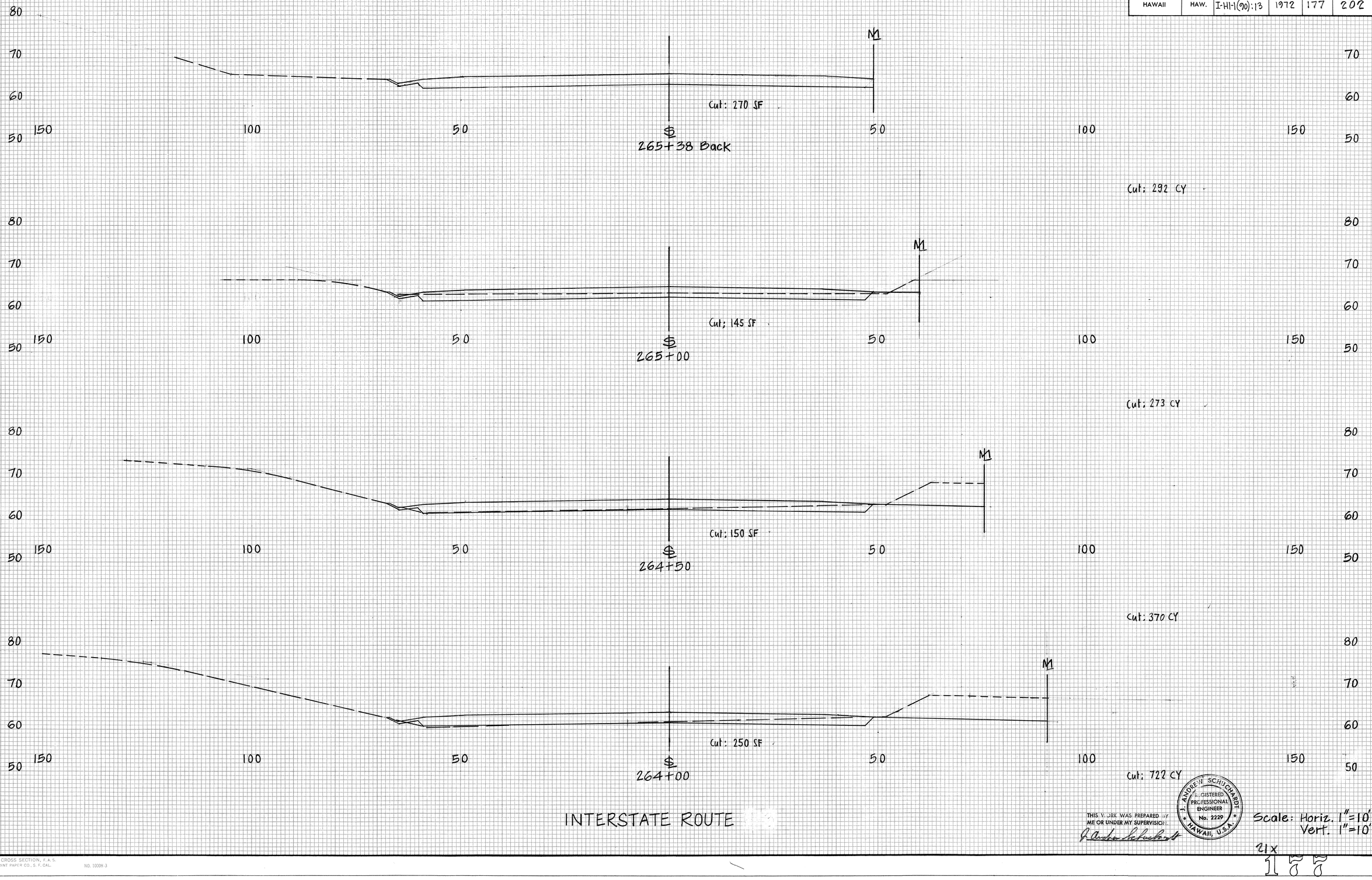
264+00
65.1

264+50
64.9

264+00
64.1

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

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



INTERSTATE ROUTE H-1

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Andrew Schuchardt

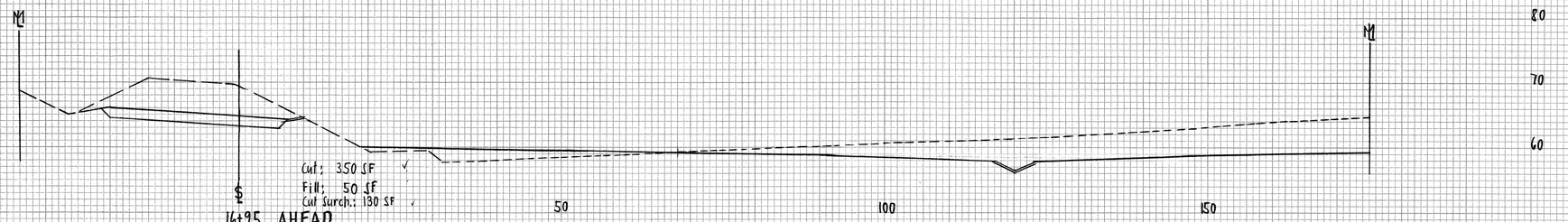
H. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

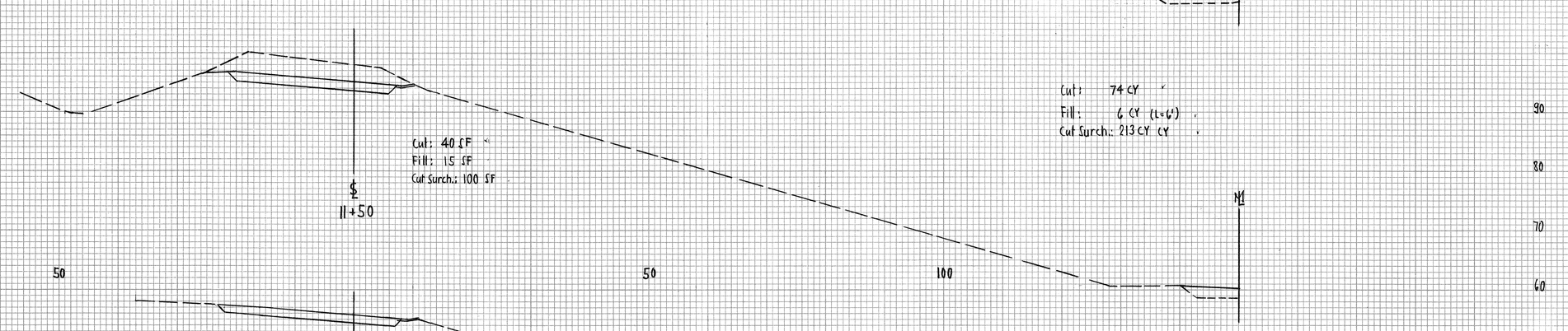
Scale: Horiz. 1"=10'
Vert. 1"=10'

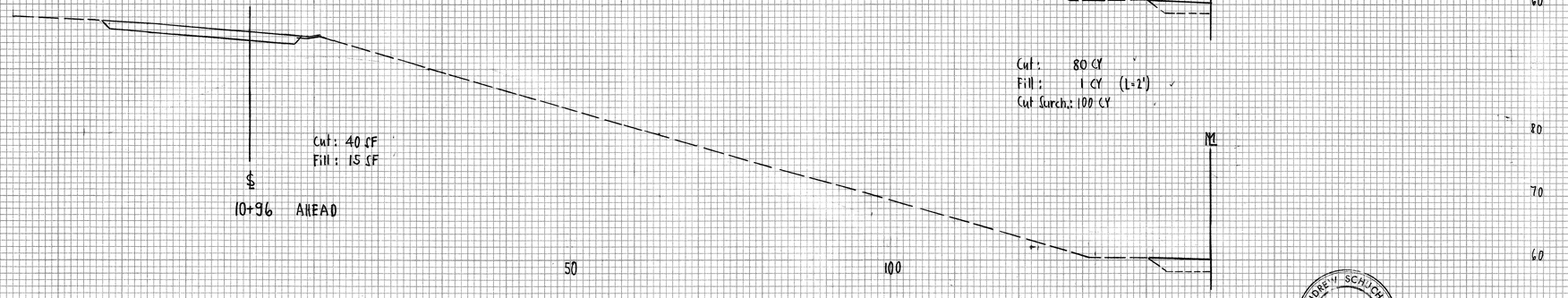
21x

PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F., CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	178	202







RAMP O

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Jandre Schichardt

ANDRE' J. SCHICHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

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

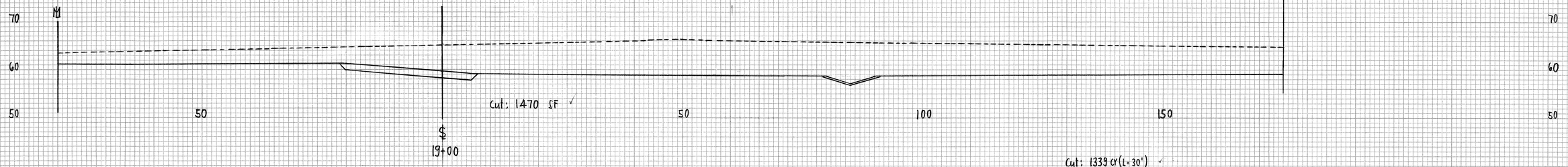
FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

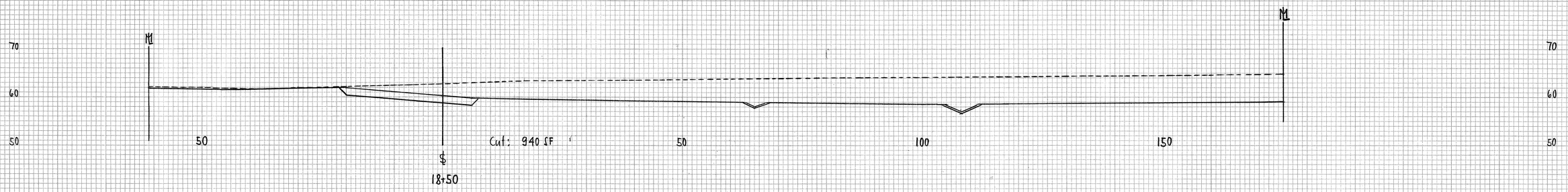
PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

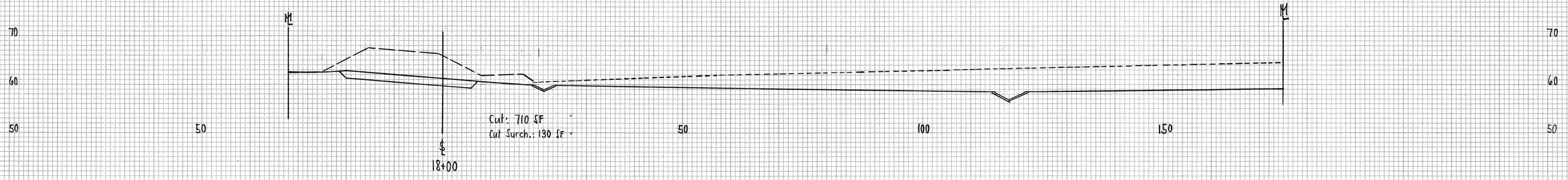
22x 175

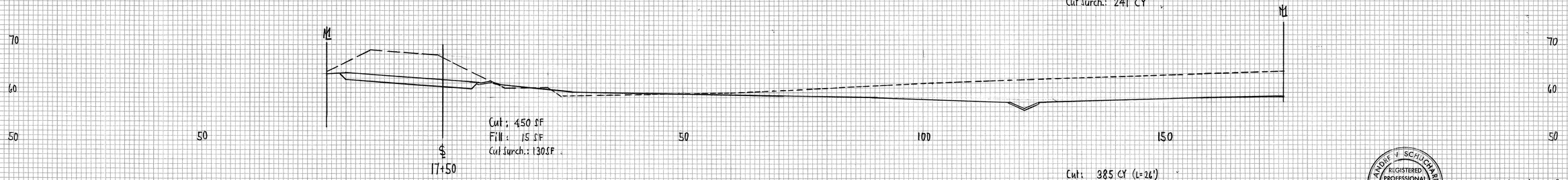
178

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	179	202









RAMP O

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
J. Andre Schuchardt

J. ANDRE SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1" = 10
Vert. 1" = 10

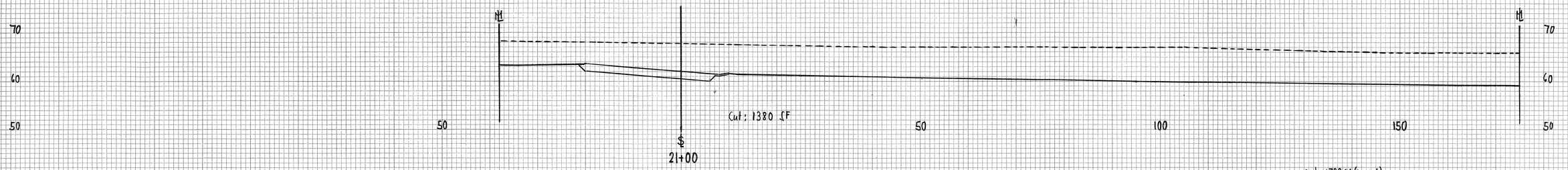
23 x 179

PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

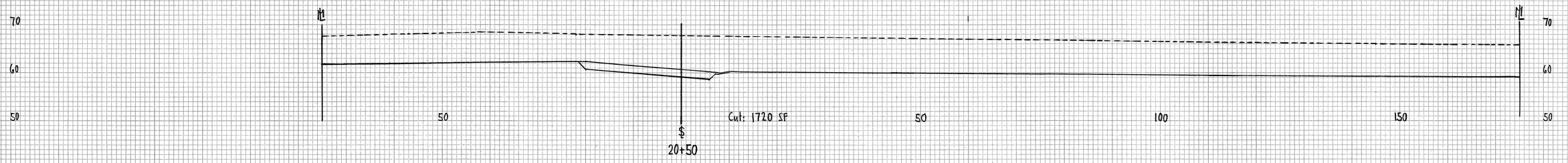
179

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90);13	1972	180	202

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



Cut: 1722 CY (L=30')



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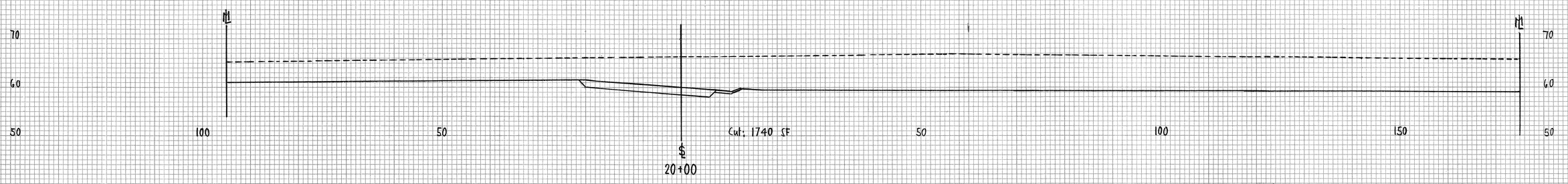
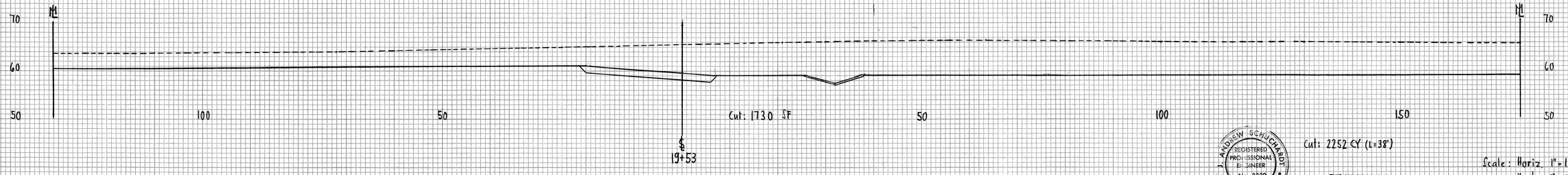


Cut: 2185 CY (L=34')



RAMP O

Cut: 2252 CY (L=38')

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

PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

JAMES W. SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1" = 10'
Vert. 1' = 10'

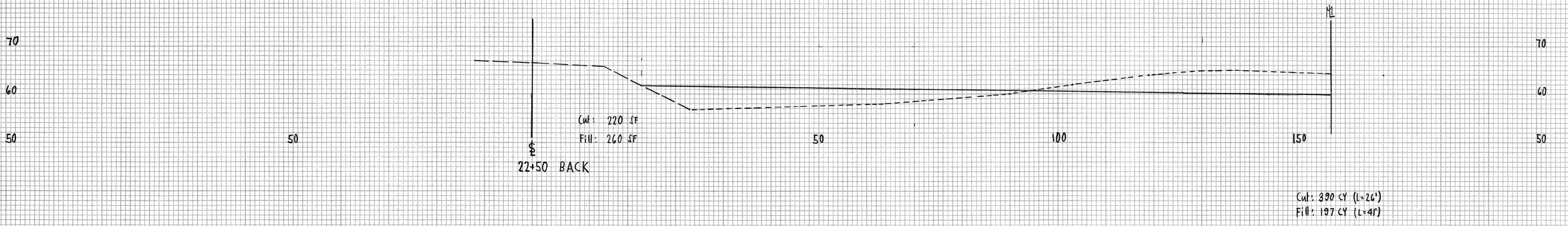
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION:
James Schuchardt

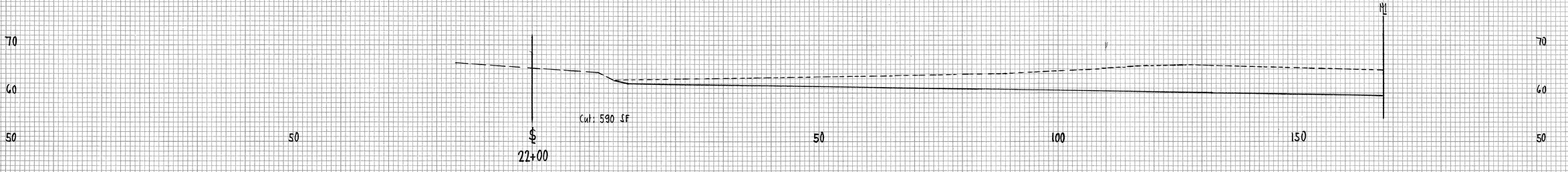
24×

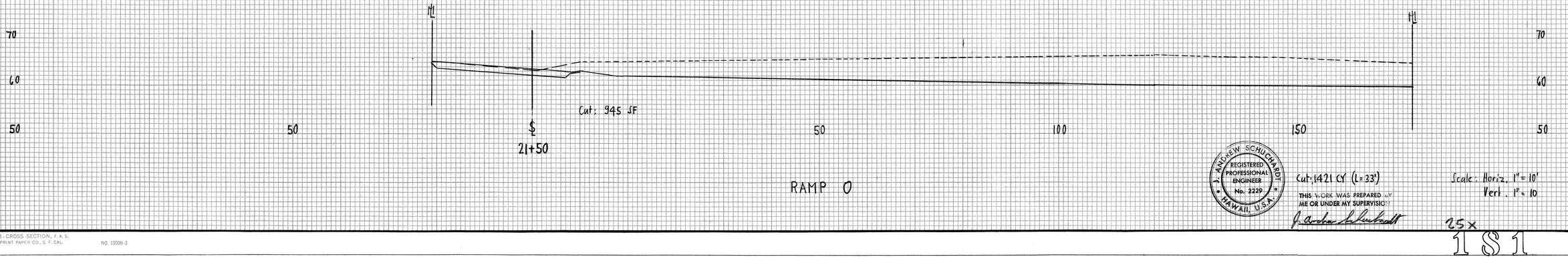
180

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	181	202

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

J. ANDREW SCHUCHARDT REGISTERED PROFESSIONAL ENGINEER No. 2229 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

J. Andrew Schuchardt

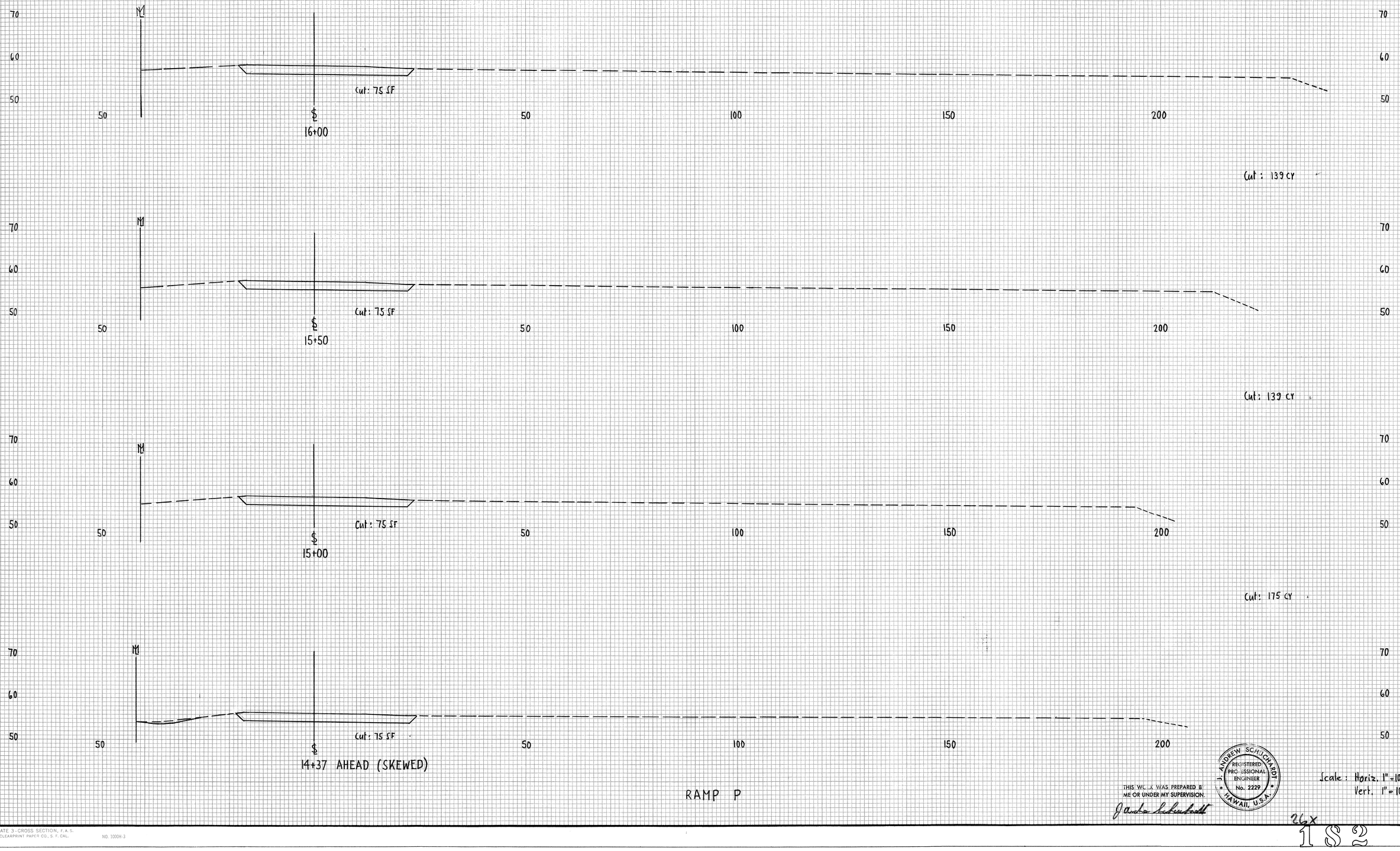
Scale: Horiz. 1" = 10'
Vert. 1" = 10

25×

181

PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	182	202



RAMP P

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1" = 10'
Vert. 1" = 10'

26X
182

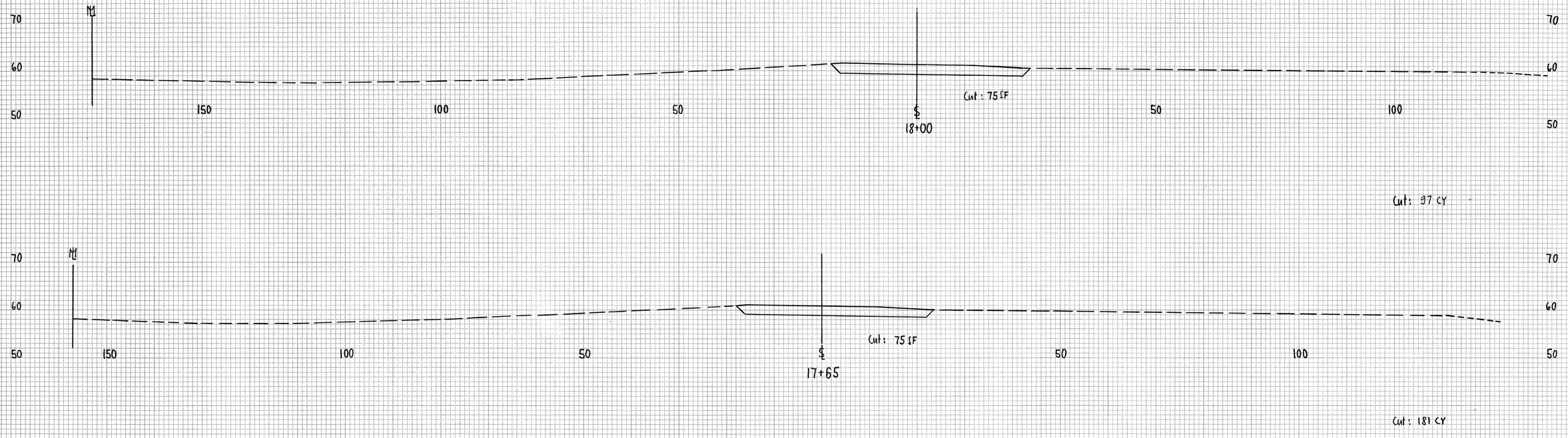
FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
TRACED
AREAS CHECKED
BY
DATE

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

PLATE 3-CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL.
NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	183	202

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



RAMP P

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

J. ANDREW SCHUCHART
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

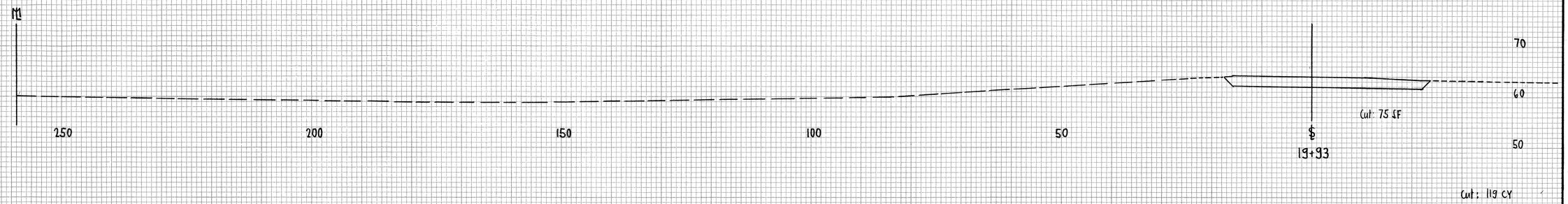
Scale: Horiz. 1" = 10'
Vert. 1" = 10'

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

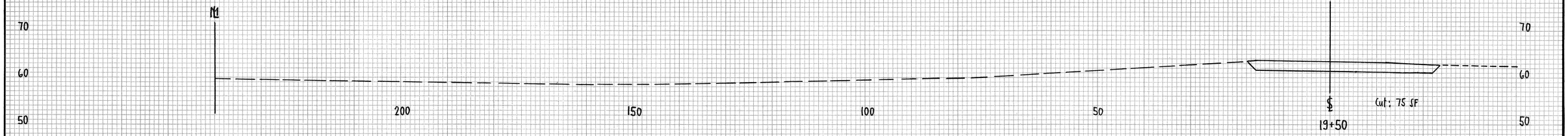
PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL.
NO. 1000H-3

27 x 1 S 3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	184	202



Cut: 119 CY



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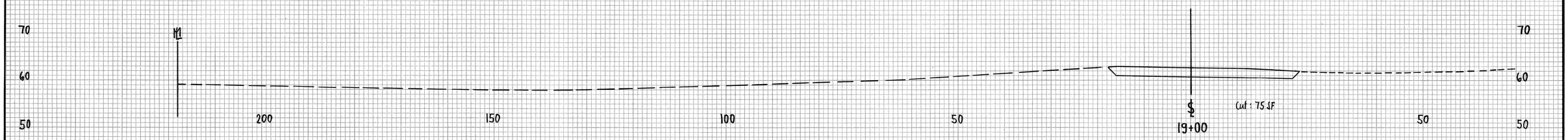

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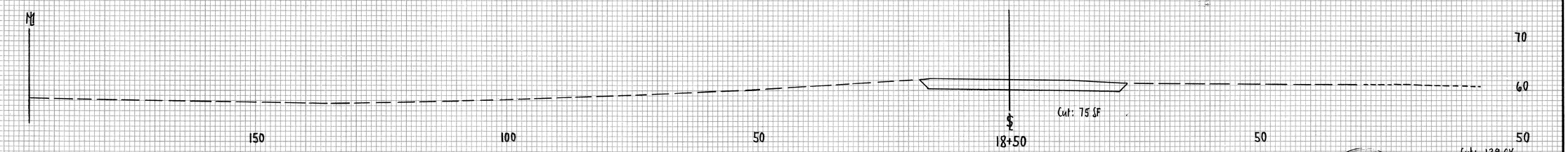

Cut: 139 CY

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J. ANDREW SCHUCHART
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

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J. Andrew Schuchart

Scale: Horiz. 1" = 10'
Vert. 1" = 10'

28 X

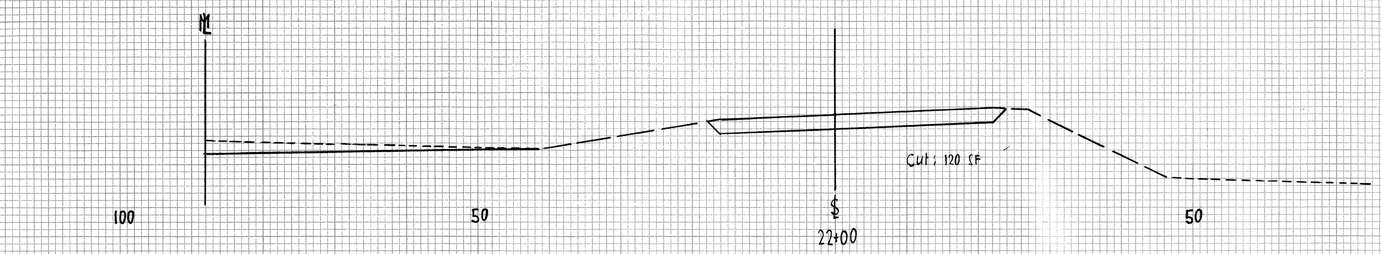
1 S 4

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

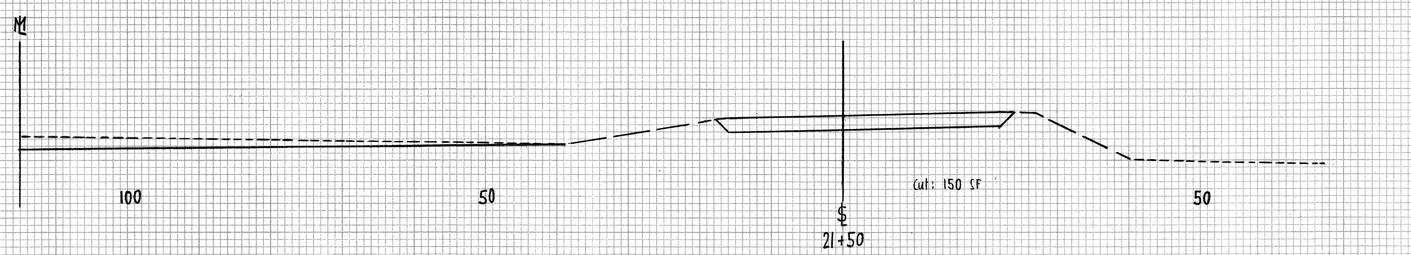
ORIGINAL SURVEY — SURVEYED, PLOTTED, NOTE BOOK, TEMPLATE, AREAS, AREAS CHECKED, NO., BY, DATE

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F., CAL. NO. 1000H-3

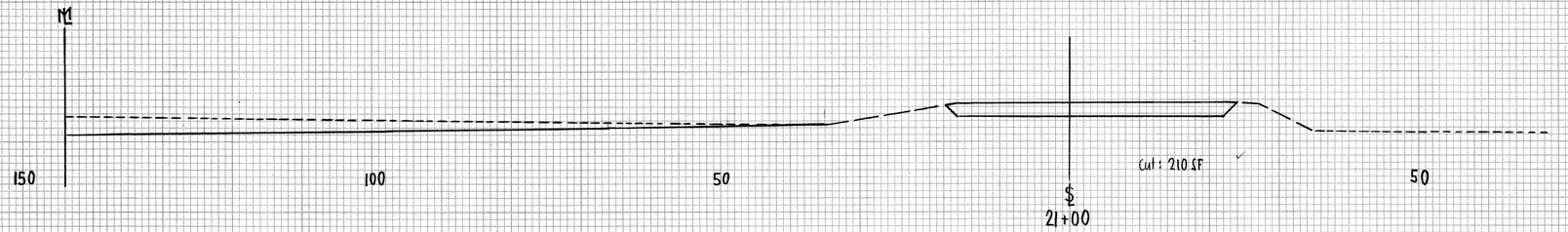
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	185	202



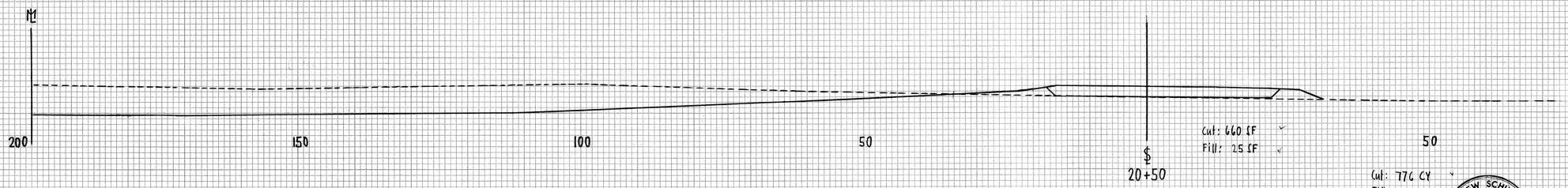
Cut : 250 CY



Cut: 333 CY



Cut: 806 CY
Fill: 23 CY



Cut: 776 CY
Fill: 26 CY

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J. Andrew Schuchardt

J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

29X

185

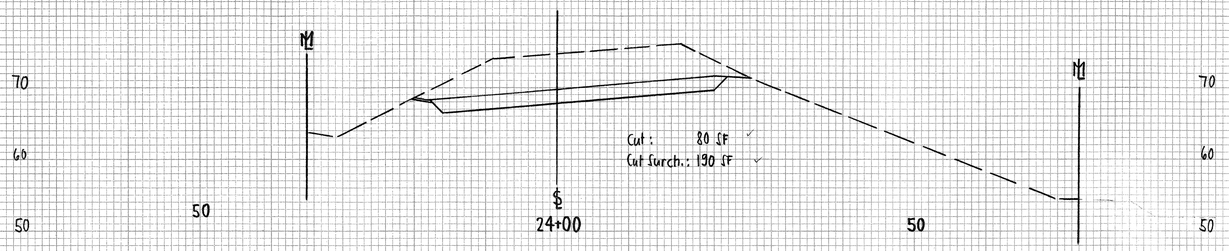
FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

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

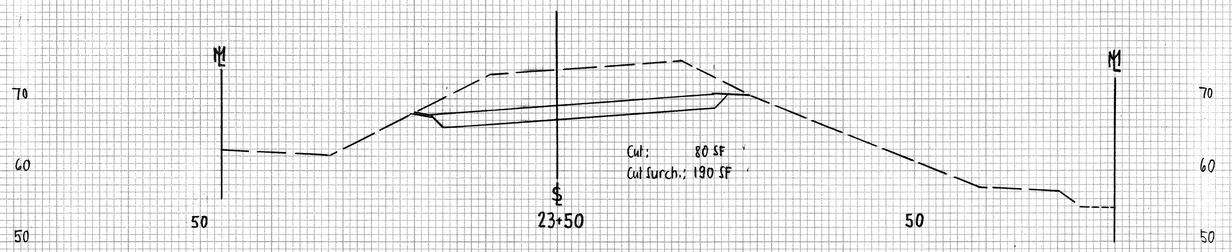
PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	186	202

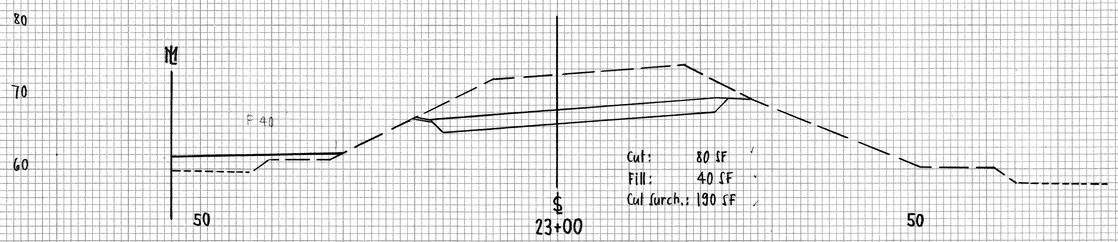
FINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE



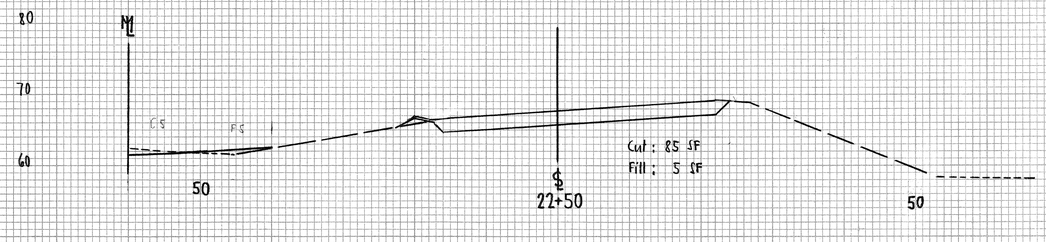
Cut: 148 CY
Cut Surch.: 352 CY



Cut: 148 CY
Fill: 37 CY
Cut Surch.: 352 CY



Cut: 153 CY
Fill: 42 CY
Cut Surch.: 176 CY



RAMP P

Cut: 190 CY
Fill: 5 CY

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J. Andrew Schuchardt

J. ANDREW SCHUCHARDT REGISTERED PROFESSIONAL ENGINEER No. 2229 HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

30x 156

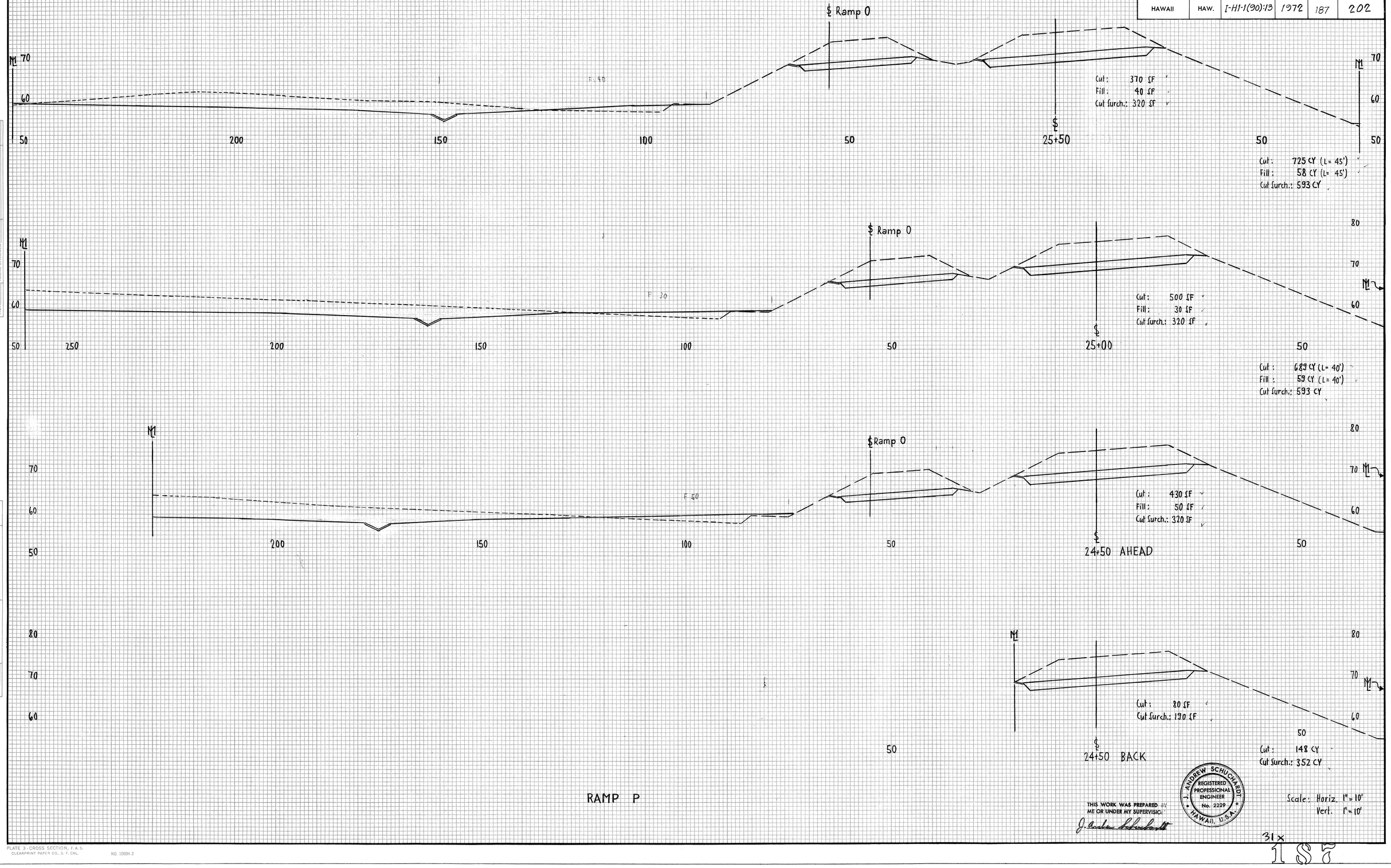
ORIGINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	187	202

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

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



RAMP P

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J. Andrew Schuchardt

ANDREW SCHUCHARDT — REGISTERED PROFESSIONAL ENGINEER — No. 2229 — HAWAII, U.S.A.

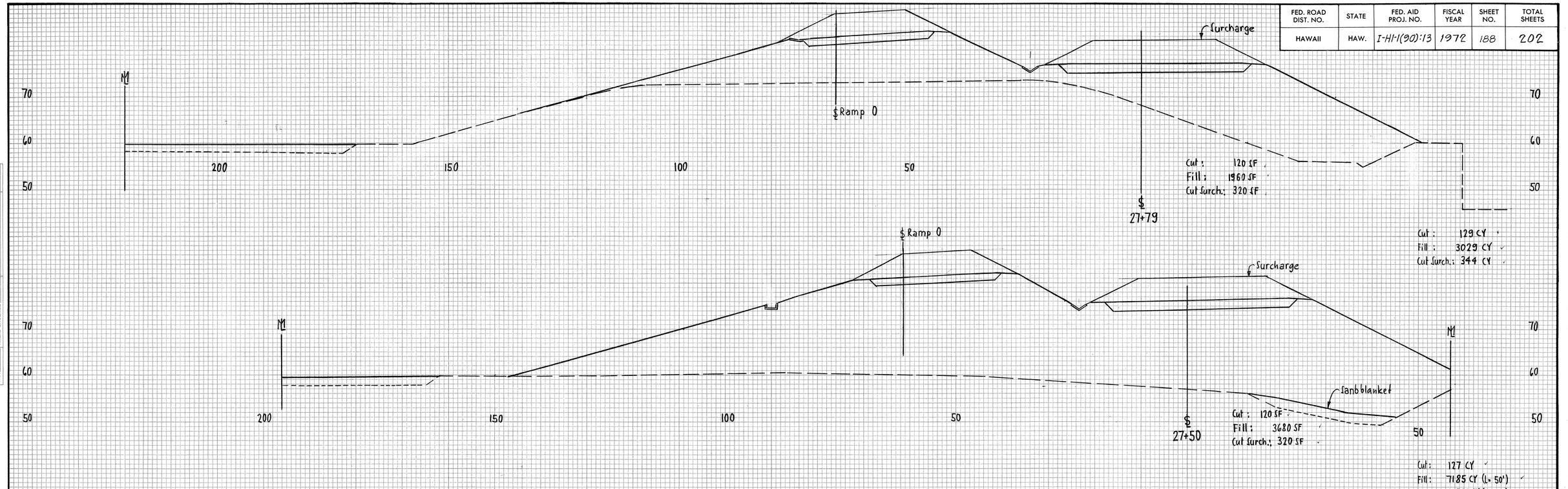
Scale: Horiz. 1" = 10'
Vert. 1" = 10'

31x 157

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	188	202

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



RAMP P

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J. Andrew Schuckardt

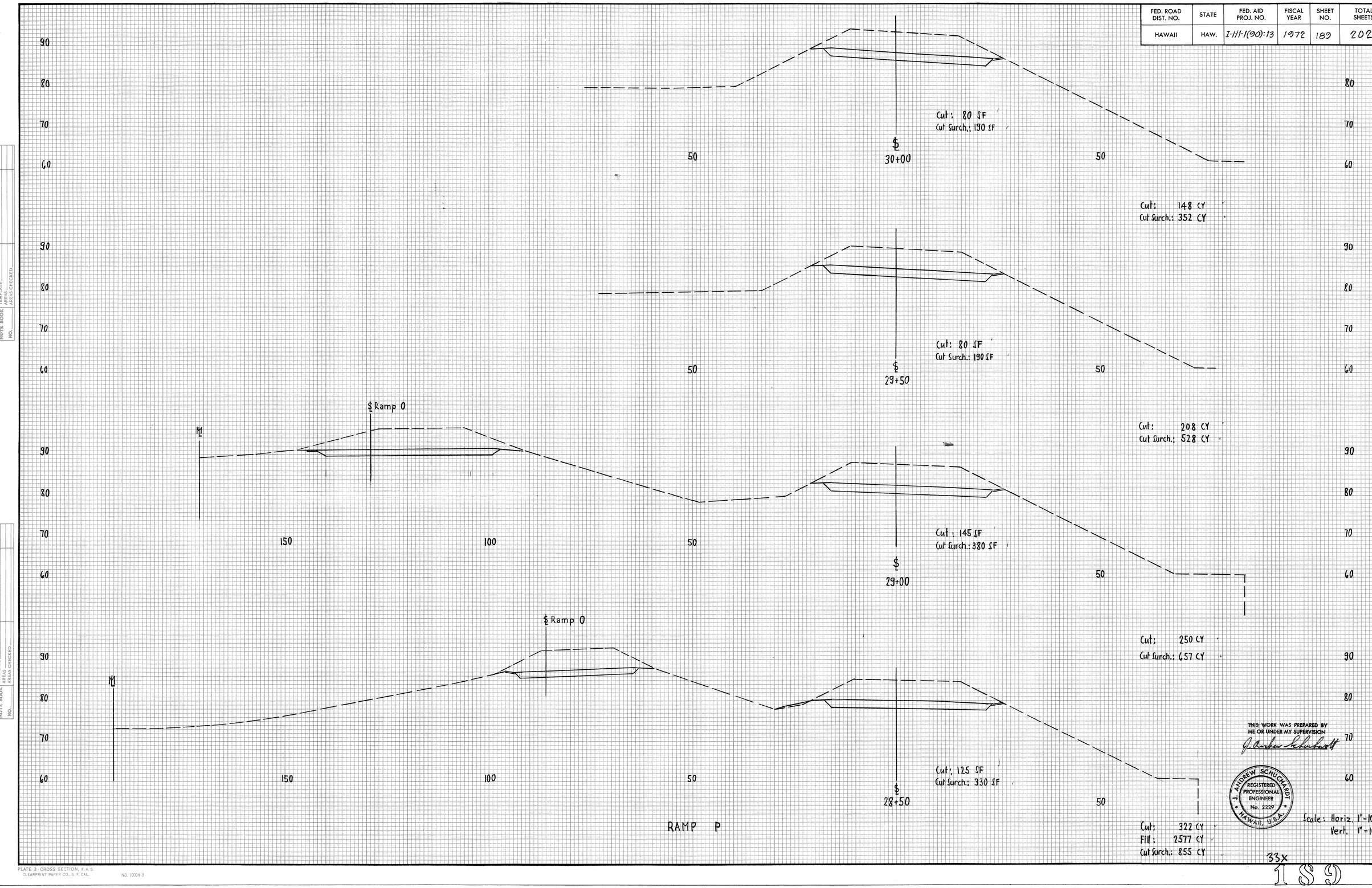
J. ANDREW SCHUCKARDT — REGISTERED PROFESSIONAL ENGINEER — No. 2229 — HAWAII, U.S.A.

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

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

32x 188

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	189	202



RAMP P

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J. Andrew Schlichardt

J. ANDREW SCHLICHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10

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

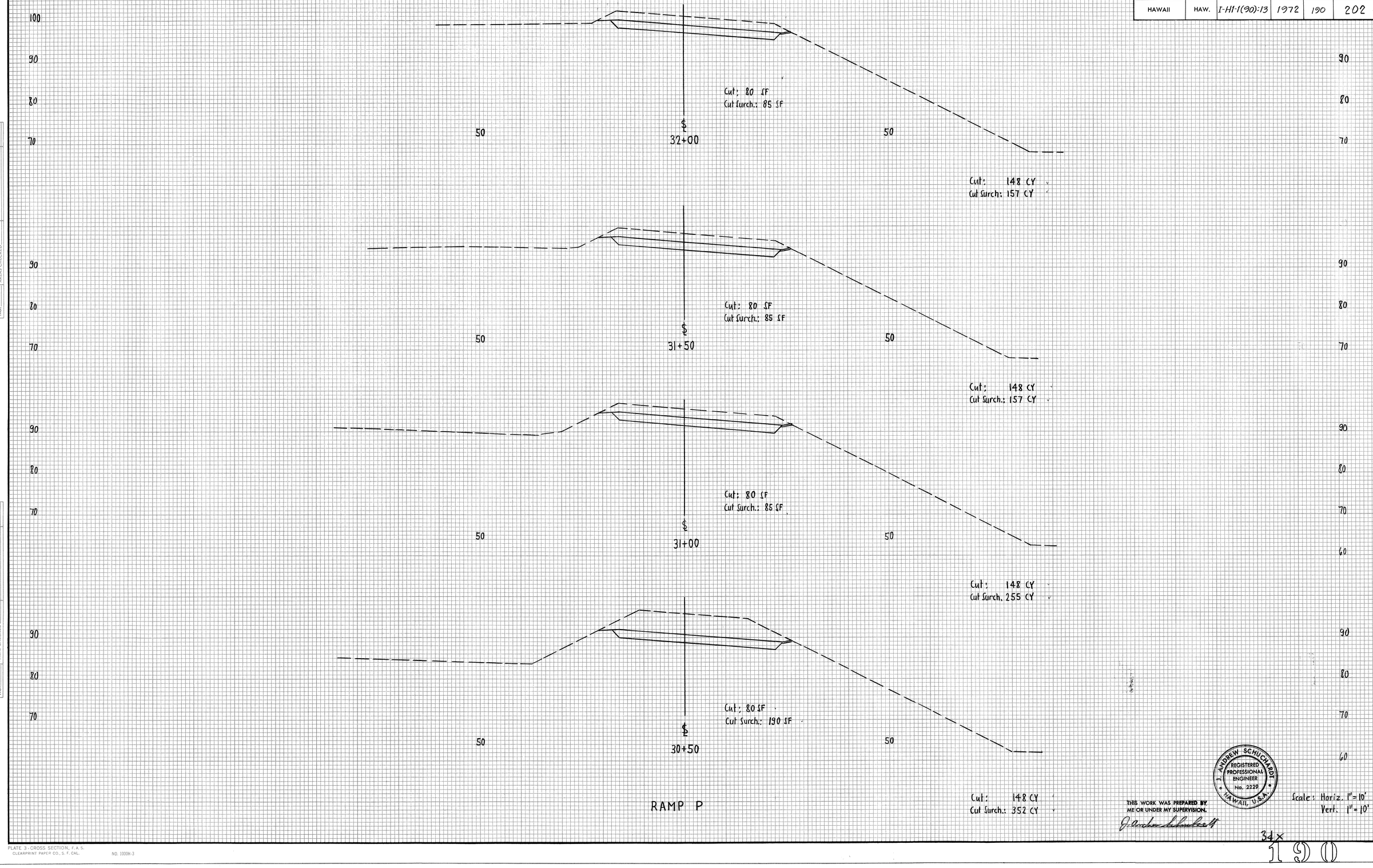
ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

33X

189

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	190	202



RAMP P

ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

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Jandrew Schuchardt

Scale: Horiz. 1" = 10'
Vert. 1" = 10'

34x

190

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

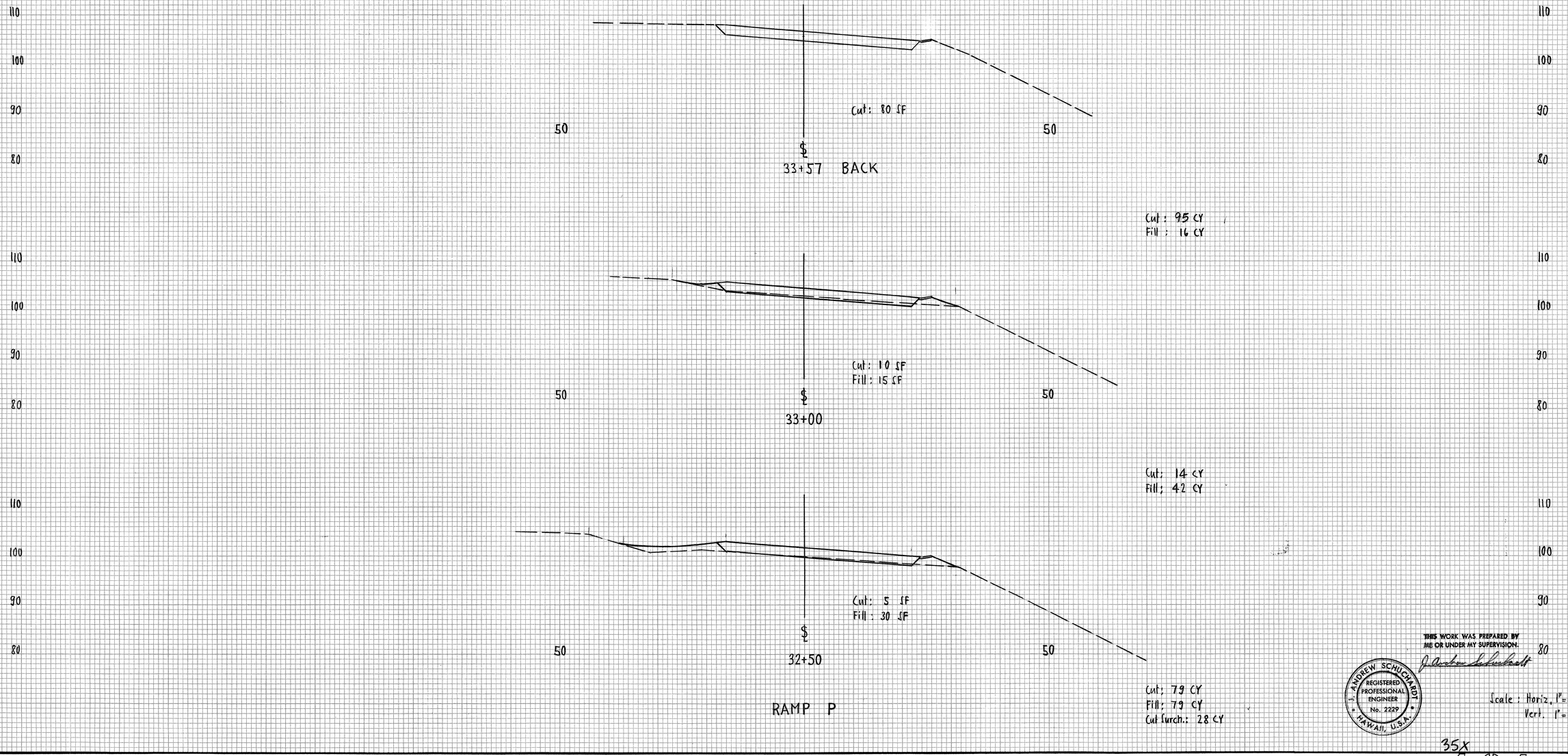
ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	191	202

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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION:
J. Andrew Schuchardt

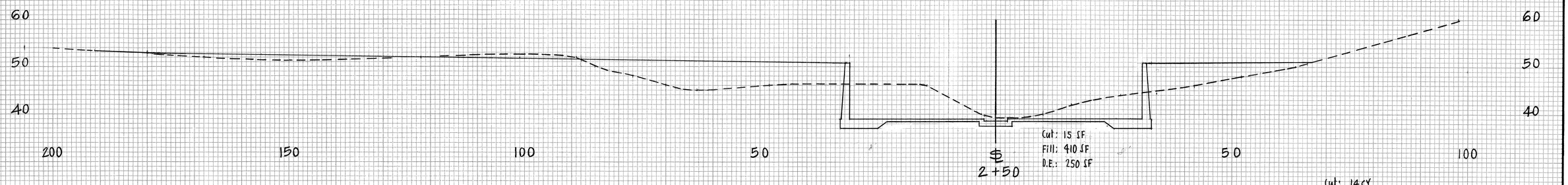
J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

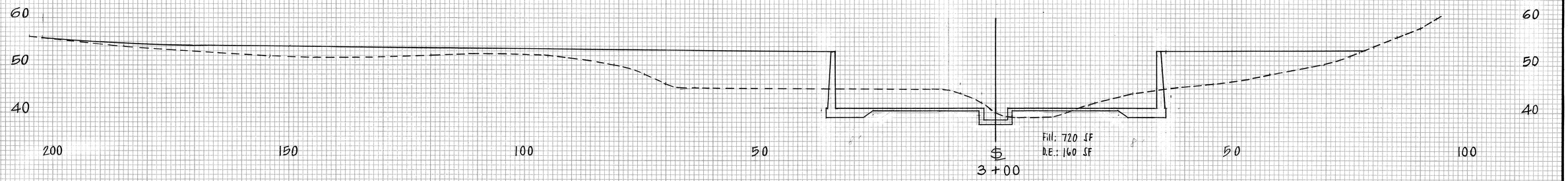
Scale: Horiz. 1"=10'
Vert. 1"=10

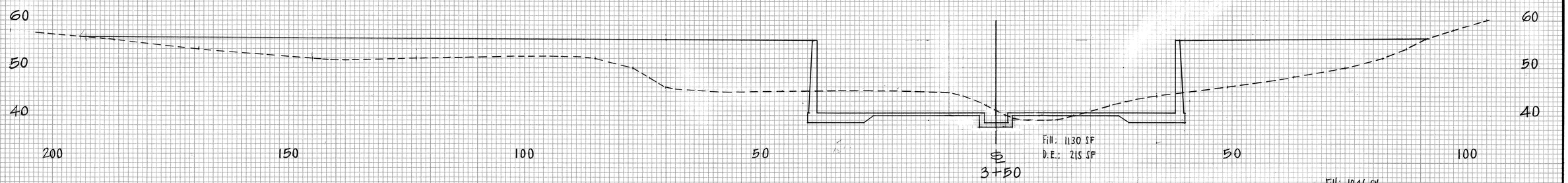
35X
191

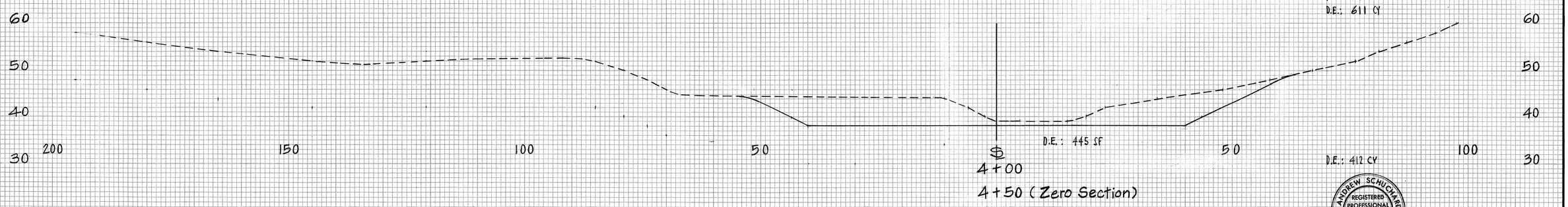
PLATE 3 - CROSS SECTION, F. A. S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	192	202









4+50 (Zero Section)

HALAWA STREAM

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J Andrew Schuchardt

ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

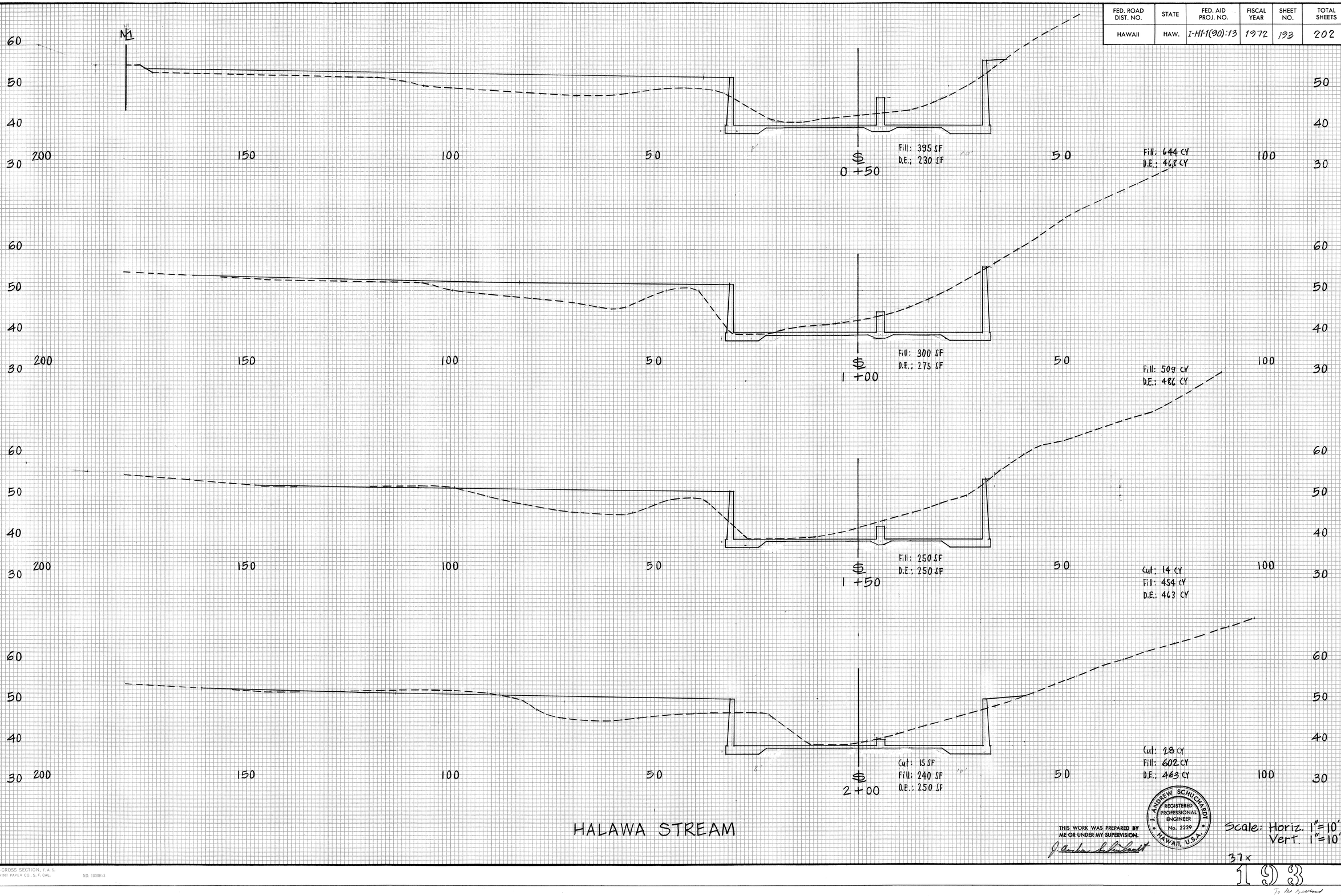
36x
192

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

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

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL.
NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	193	202



HALAWA STREAM

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

ANDREW SCHUCHARDT REGISTERED PROFESSIONAL ENGINEER No. 2229 HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

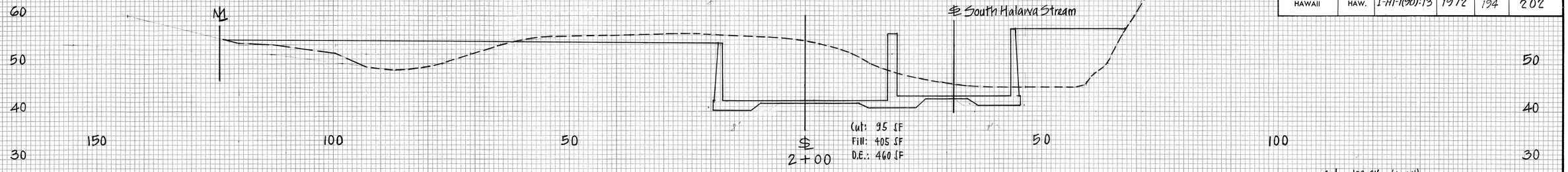
FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE AREAS, AREAS CHECKED — NOTE BOOK NO. — BY — DATE

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

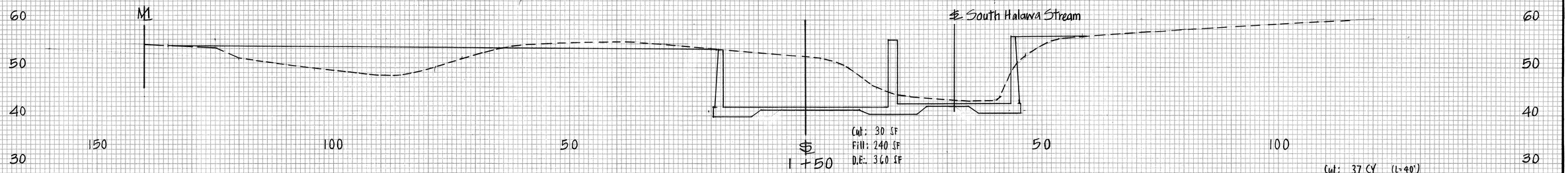
PLATE 3-CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. NO. 1000H-3

37×
193

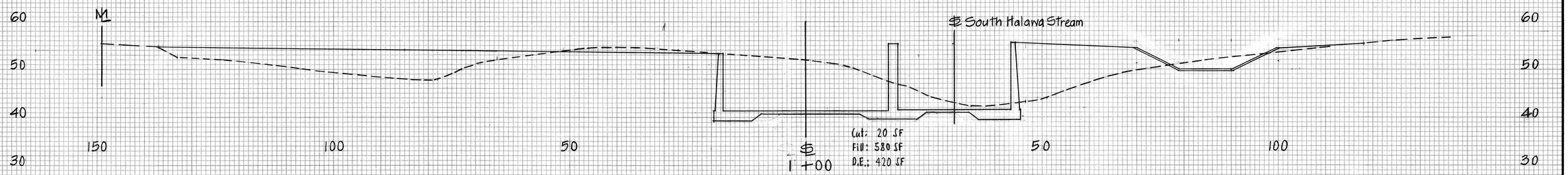
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	194	202



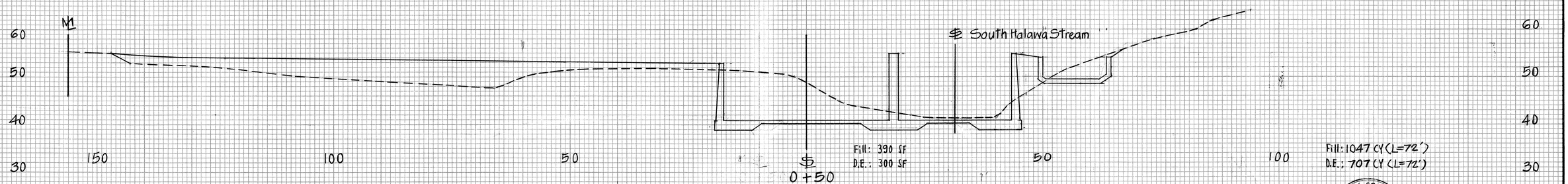
Cut: 102 CY (L=44')
Fill: 478 CY (L=40')
D.E.: 759 CY



Cut: 37 CY (L=40')
Fill: 607 CY (L=40')
D.E.: 722 CY



Cut: 17 CY (L=45')
Fill: 772 CY (L=43')
D.E.: 667 CY



Fill: 1047 CY (L=72')
D.E.: 707 CY (L=72')

NORTH HALAWA STREAM

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J. Andrew Schuchardt

J. ANDREW SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

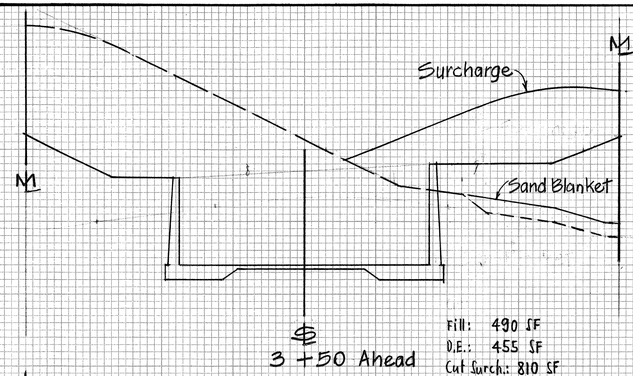
38 x 194

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

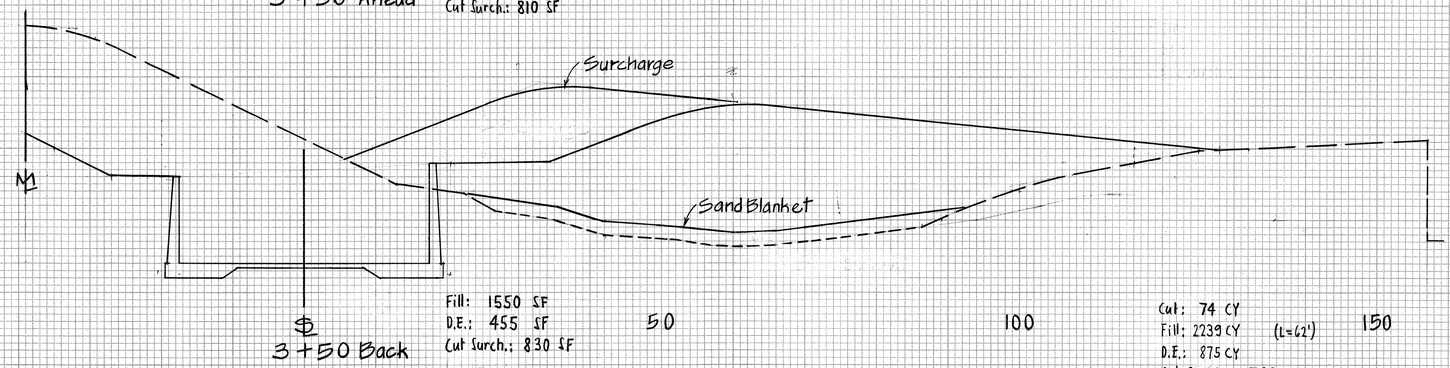
ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL. No. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	195	202

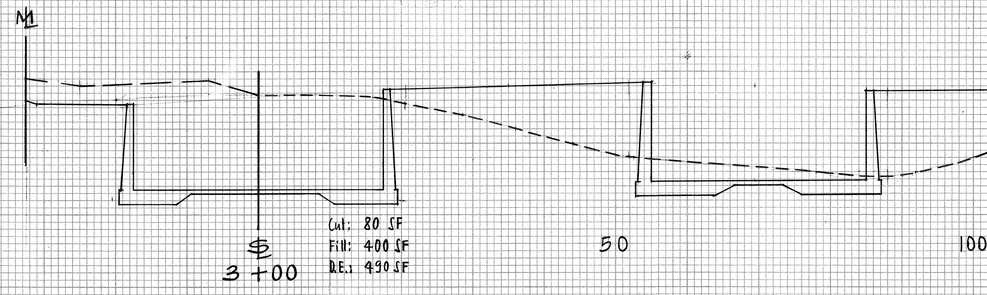


Fill: 490 SF
D.E.: 455 SF
Cut Surch.: 810 SF



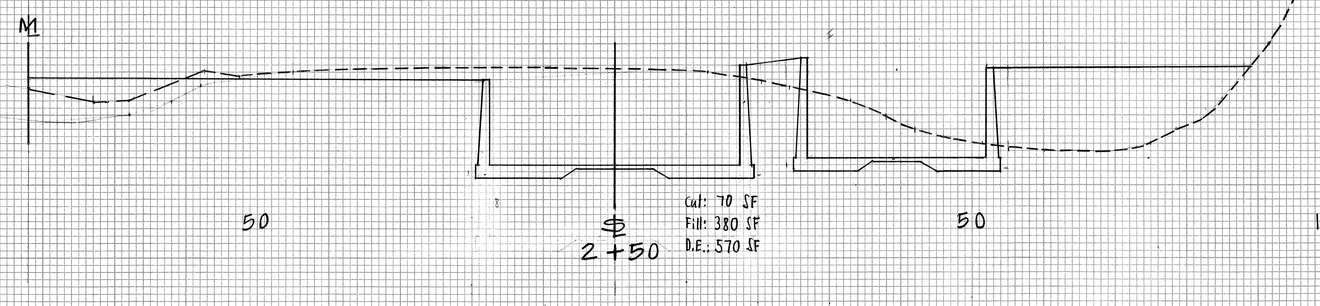
Fill: 1550 SF
D.E.: 455 SF
Cut Surch.: 830 SF

Cut: 74 CY
Fill: 2239 CY (L=62')
D.E.: 875 CY
Cut Surch.: 769 CY



Cut: 80 SF
Fill: 400 SF
D.E.: 490 SF

Cut: 125 CY (L=45')
Fill: 867 CY (L=60')
D.E.: 981 CY



Cut: 70 SF
Fill: 380 SF
D.E.: 570 SF

Cut: 131 CY (L=43')
Fill: 727 CY
D.E.: 954 CY

NORTH HALAWA STREAM

WAYNE W. SCHUCHARDT
REGISTERED PROFESSIONAL ENGINEER
No. 2229
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Scale: Horiz. 1"=10'
Vert. 1"=10'

39 x 195

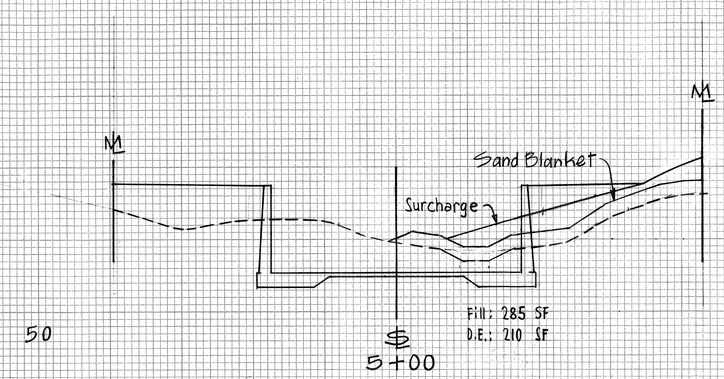
FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

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

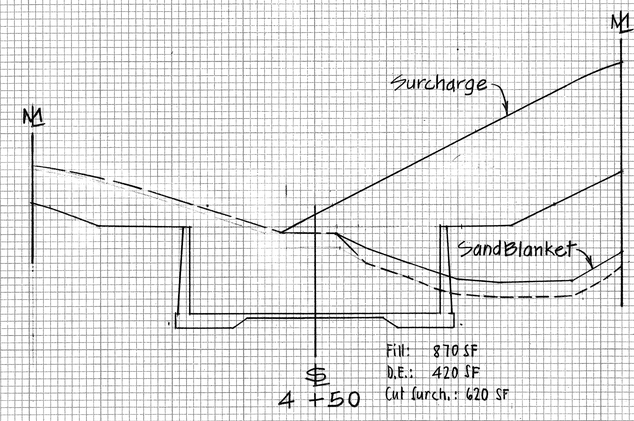
PLATE 3-CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F. CAL.
NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	196	202

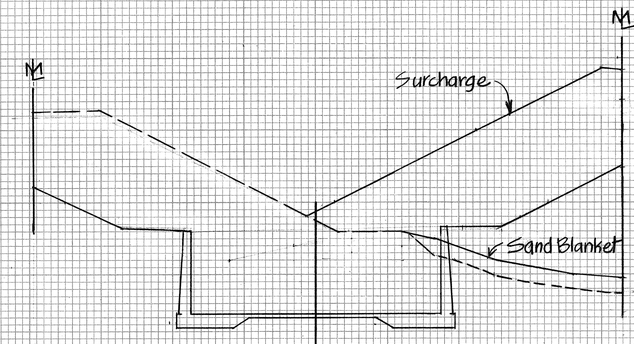
FINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE



Fill: 1069 CY
D.E.: 583 CY
Cut Surch.: 574 CY

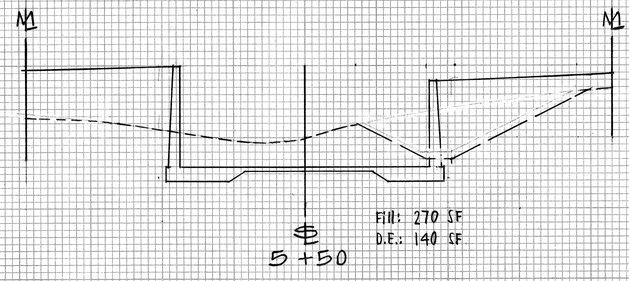


Fill: 1509 CY
D.E.: 769 CY
Cut Surch.: 1380 CY



Fill: 1157 CY
D.E.: 801 CY
Cut Surch.: 1556 CY

Fill: 648 CY
D.E.: 356 CY



Fill: 514 CY
D.E.: 324 CY

NORTH HALAWA STREAM

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
J. Andrew Schuchardt

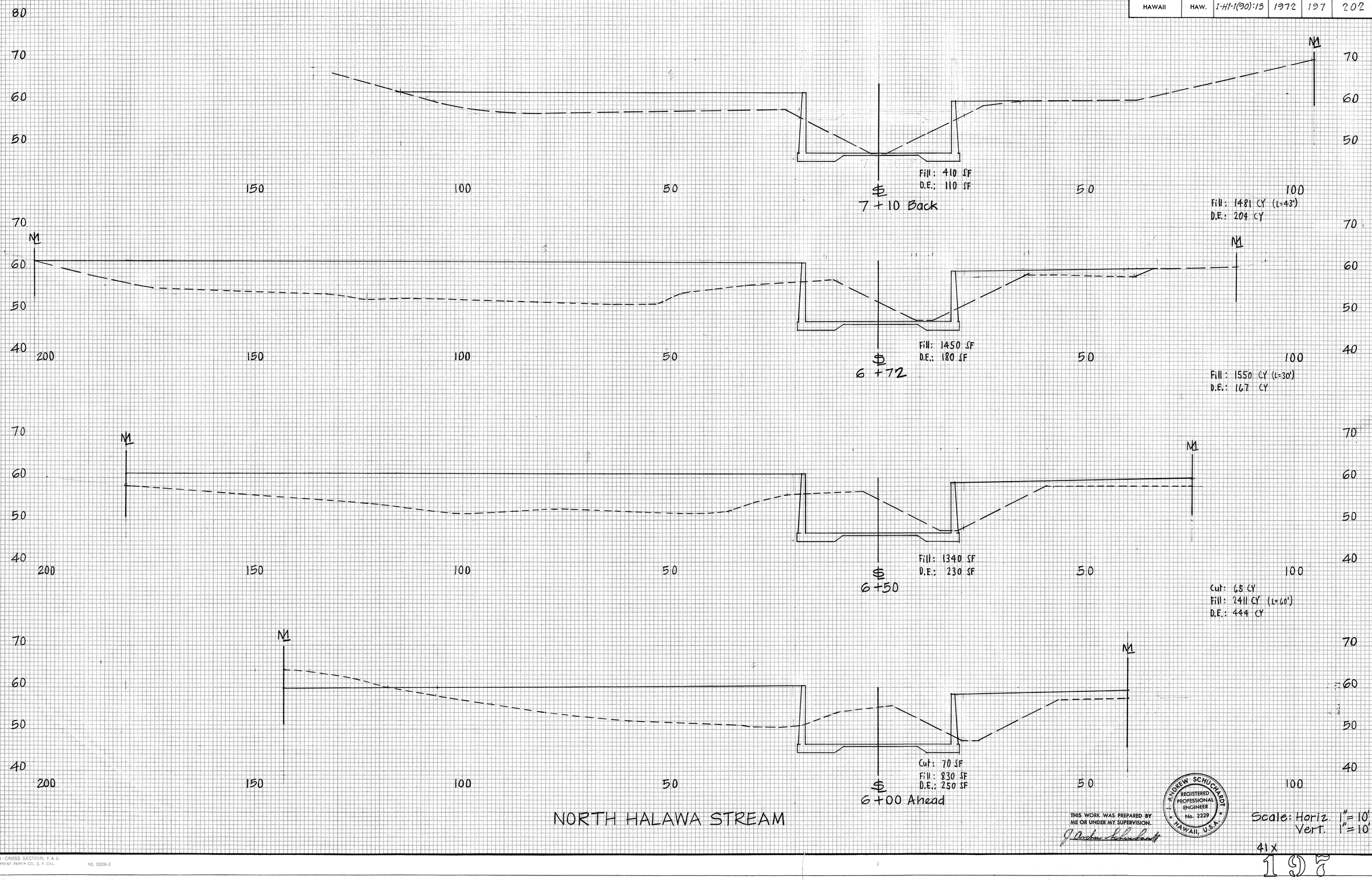
ANDREW SCHUCHARDT — REGISTERED PROFESSIONAL ENGINEER — No. 2229 — HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'
40X

196

PLATE 3 - CROSS SECTION, F.A.S. — CLEARPRINT PAPER CO., S. F. CAL. — NO. 1000H-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(90):13	1972	197	202



NORTH HALAWA STREAM

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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
J. Andrew Schuchardt

ANDREW SCHUCHARDT — REGISTERED PROFESSIONAL ENGINEER — No. 2229 — HAWAII, U.S.A.

Scale: Horiz. 1"=10'
Vert. 1"=10'

41 X

197

PLATE 3 - CROSS SECTION, F.A.S.
CLEARPRINT PAPER CO., S. F., CAL. NO. 1000H-3