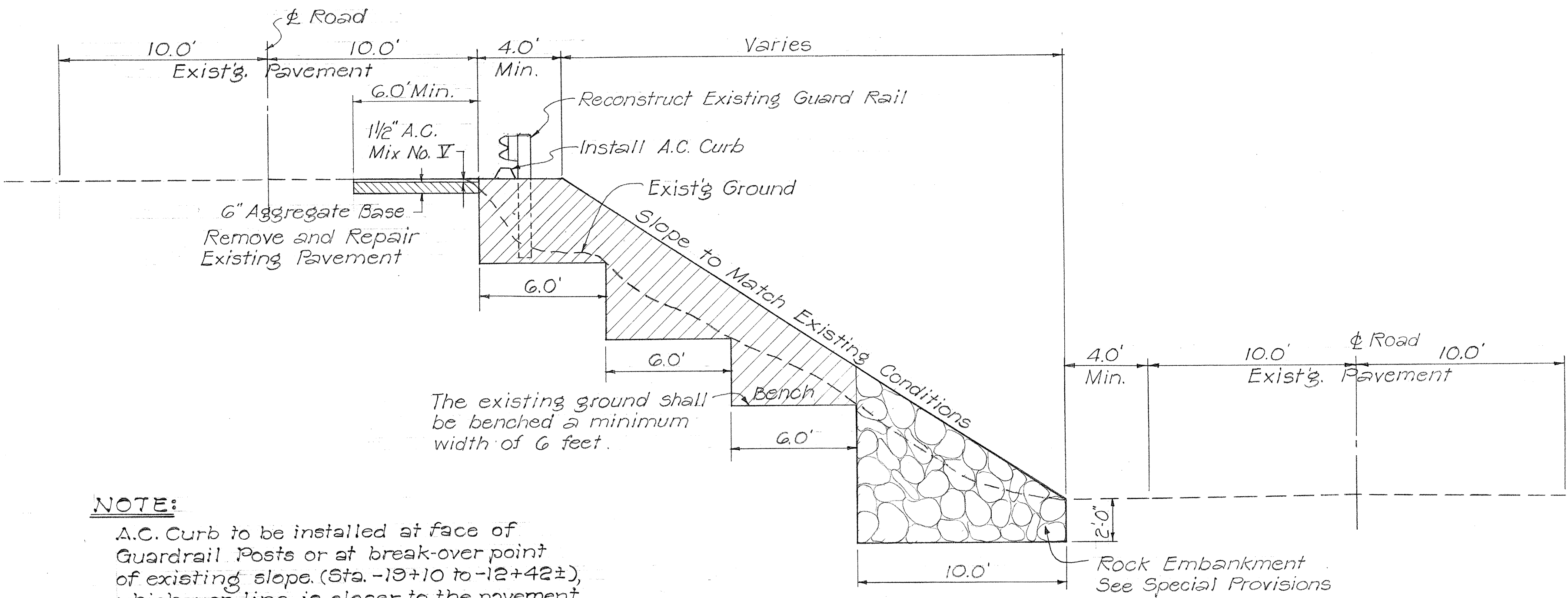
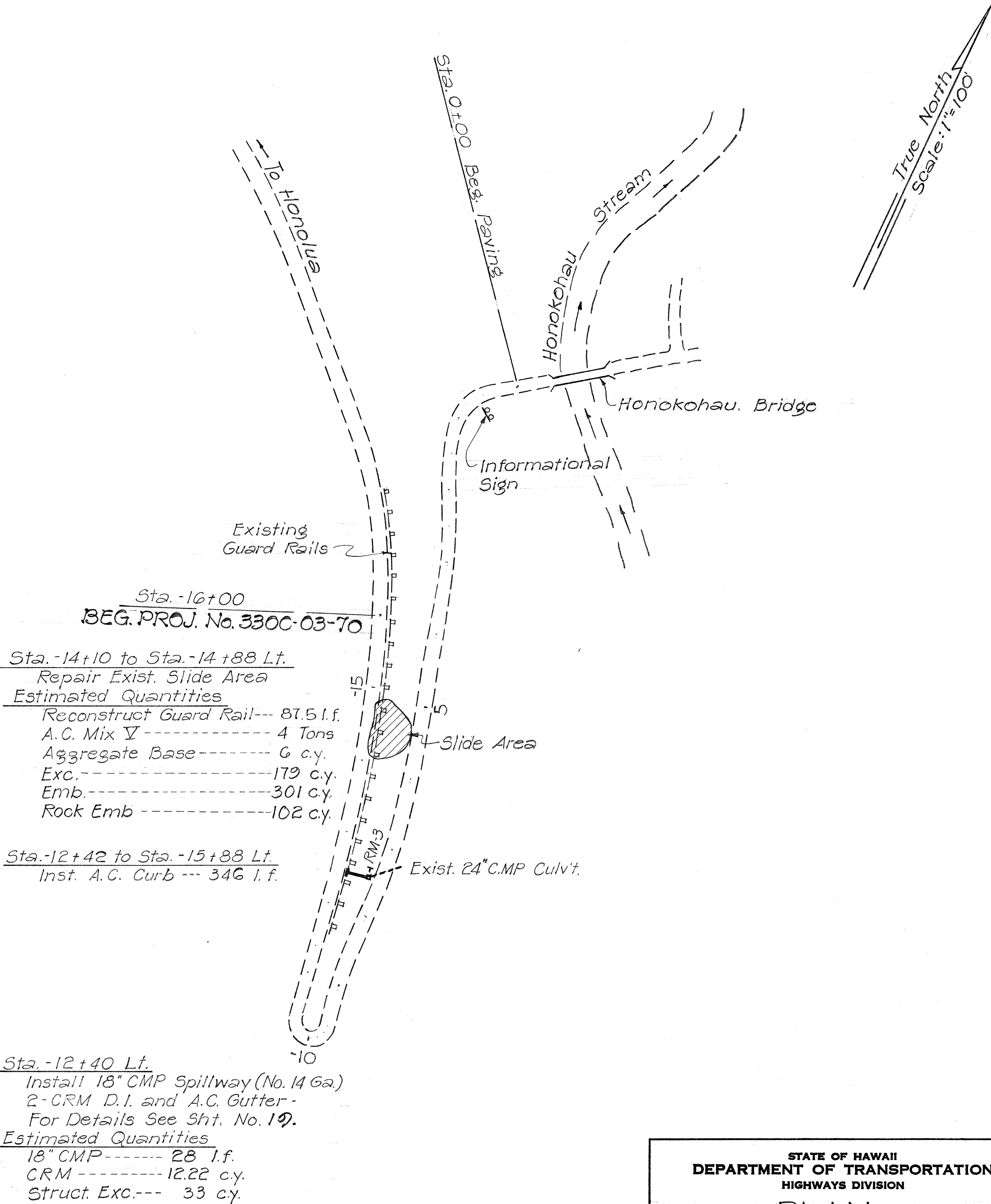


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	330C-03-70	1970	3	30



NOTE:
A.C. Curb to be installed at face of Guardrail Posts or at break-over point of existing slope. (Sta. -19+10 to -12+42±), whichever line is closer to the pavement.

TYPICAL SECTION SLIDE AREA
STA. -14+10 TO -14+88
Scale: 1/4" = 1'-0"



Sta. -16+00
BEG. PROJ. No. 330C-03-70
Sta. -14+10 to Sta. -14+88 Lt.
Repair Exist. Slide Area
Estimated Quantities
Reconstruct Guard Rail--- 87.5 l.f.
A.C. Mix V----- 4 Tons
Aggregate Base----- 6 c.y.
Exc.----- 179 c.y.
Emb.----- 301 c.y.
Rock Emb----- 102 c.y.

Sta. -12+42 to Sta. -15+88 Lt.
Inst. A.C. Curb --- 346 l.f.

Sta. -12+40 Lt.
Install 18" CMP Spillway (No. 14 6a)
2-CRM D.I. and A.C. Gutter -
For Details See Sht. No. 17.
Estimated Quantities
18" CMP----- 28 l.f.
CRM----- 12.22 c.y.
Struct. Exc.--- 33 c.y.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

SLIDE AREA DETAIL

KAHEKILI HIGHWAY
HONOKOHAU STREAM TO POELUA GULCH
PROJ. No. 330C-03-70
SCALE: AS NOTED

SHEET No. 1 OF 5 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	330C-03-70	1970	4	30

⊕ CURVE DATA #1
 $\Delta = 11^{\circ}-05'-00''$
 $\frac{1}{2}\Delta = 5^{\circ}-32'-30''$
 $R = 425.00'$
 $T = 41.23'$
 $L = 82.21'$
 $E = 2.00'$

⊕ CURVE DATA #4
 $\Delta = 12^{\circ}-00'-00''$
 $\frac{1}{2}\Delta = 6^{\circ}-00'-00''$
 $R = 650.00'$
 $T = 108.77'$
 $L = 215.55'$
 $E = 9.04'$

⊕ CURVE DATA #5
 $\Delta = 83^{\circ}-00'-00''$
 $\frac{1}{2}\Delta = 41^{\circ}-30'-00''$
 $R = 175.00'$
 $T = 154.83'$
 $L = 253.51'$
 $E = 58.66'$

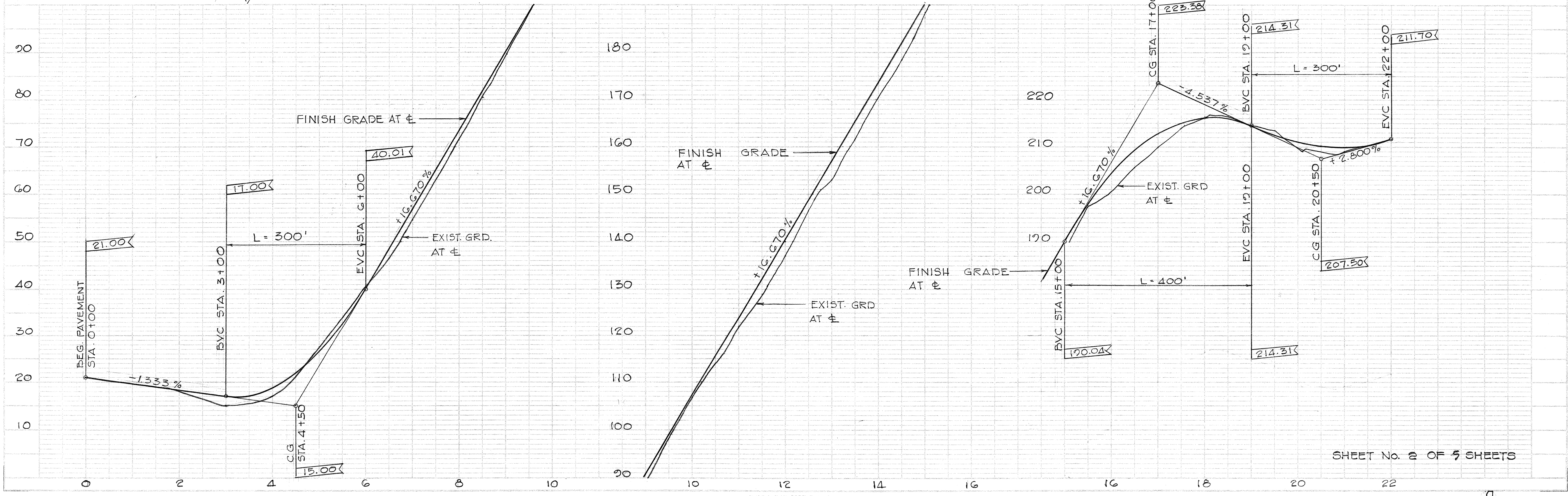
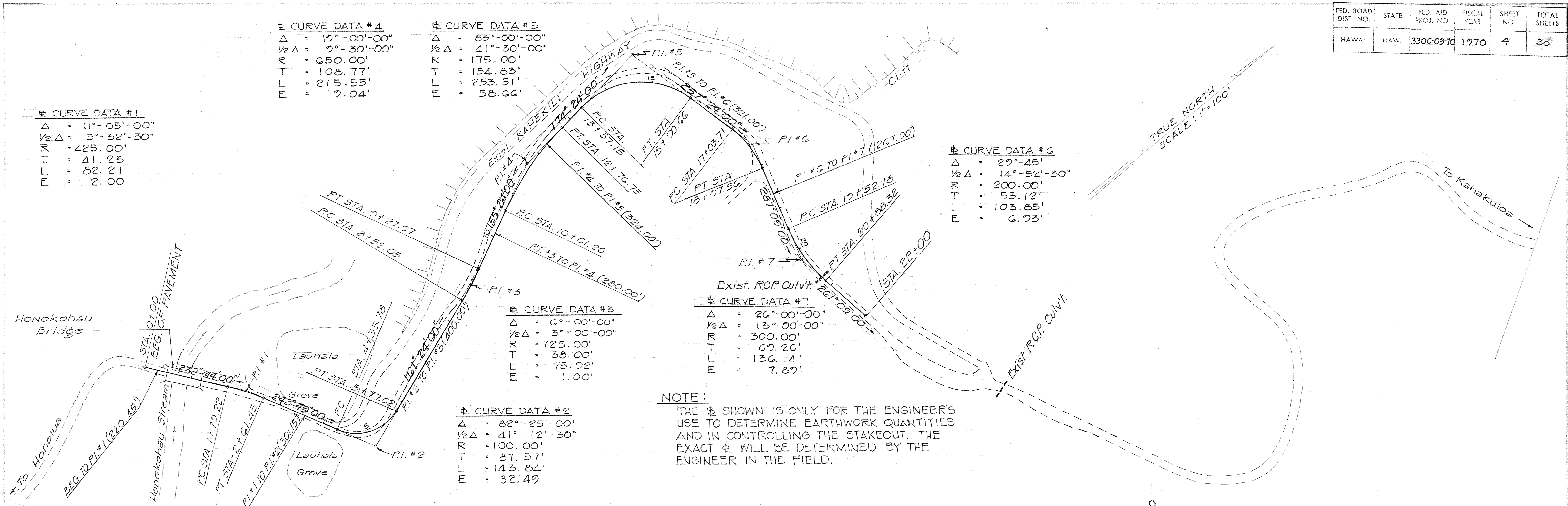
⊕ CURVE DATA #6
 $\Delta = 22^{\circ}-45'$
 $\frac{1}{2}\Delta = 14^{\circ}-52'-30''$
 $R = 200.00'$
 $T = 53.12'$
 $L = 103.85'$
 $E = 6.23'$

⊕ CURVE DATA #3
 $\Delta = 6^{\circ}-00'-00''$
 $\frac{1}{2}\Delta = 3^{\circ}-00'-00''$
 $R = 725.00'$
 $T = 38.00'$
 $L = 75.92'$
 $E = 1.00'$

⊕ CURVE DATA #7
 $\Delta = 20^{\circ}-00'-00''$
 $\frac{1}{2}\Delta = 10^{\circ}-00'-00''$
 $R = 300.00'$
 $T = 67.26'$
 $L = 136.14'$
 $E = 7.89'$

⊕ CURVE DATA #2
 $\Delta = 82^{\circ}-25'-00''$
 $\frac{1}{2}\Delta = 41^{\circ}-12'-30''$
 $R = 100.00'$
 $T = 87.57'$
 $L = 143.84'$
 $E = 32.49'$

NOTE:
 THE ϕ SHOWN IS ONLY FOR THE ENGINEER'S USE TO DETERMINE EARTHWORK QUANTITIES AND IN CONTROLLING THE STAKEOUT. THE EXACT ϕ WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

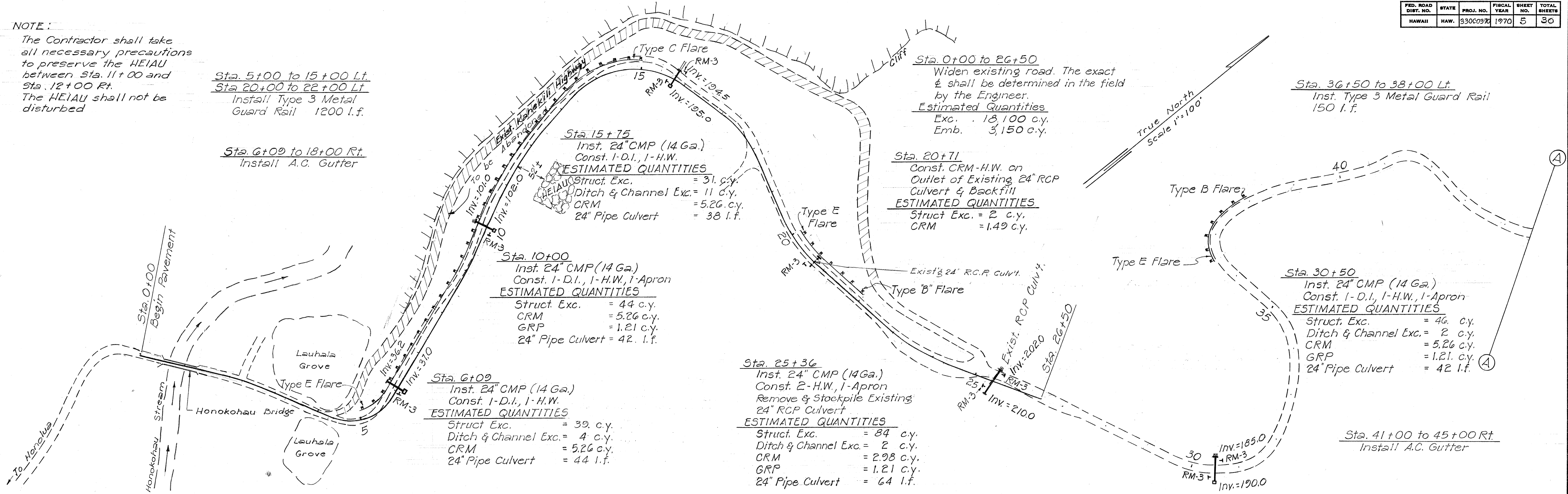


SHEET No. 2 OF 5 SHEETS

NOTE:
The Contractor shall take all necessary precautions to preserve the HEIAU between Sta. 11+00 and Sta. 12+00 Rt.
The HEIAU shall not be disturbed

Sta. 5+00 to 15+00 Lt.
Sta. 20+00 to 22+00 Lt.
Install Type 3 Metal Guard Rail 1200 l.f.

Sta. 6+00 to 18+00 Rt.
Install A.C. Gutter



Sta. 45+00 to 47+00 Lt.
Install Type 3 Metal Guard Rail - 200 l.f.

Sta. 45+50
Inst. 24" CMP (14 Ga.)
Const. I-D.I., I-H.W., I-Apron
ESTIMATED QUANTITIES
Struct. Exc. = 36 c.y.
CRM = 5.26 c.y.
GRP = 1.21 c.y.
24" Pipe Culvert = 42 l.f.

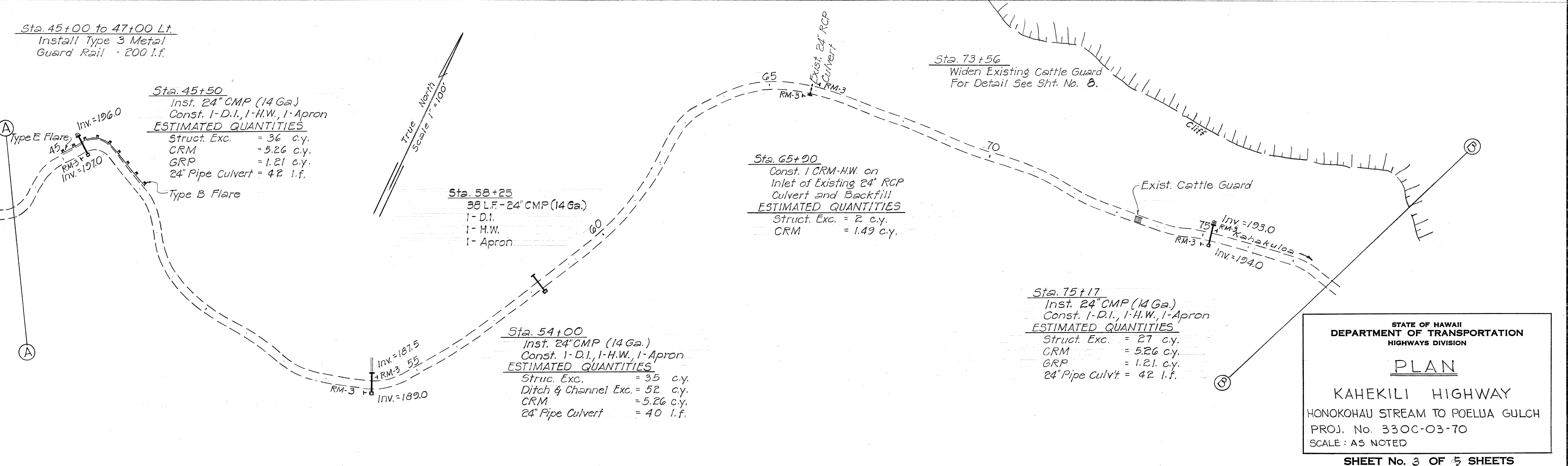
Sta. 58+25
38 L.F. - 24" CMP (14 Ga.)
I-D.I.
I-H.W.
I-Apron

Sta. 54+00
Inst. 24" CMP (14 Ga.)
Const. I-D.I., I-H.W., I-Apron
ESTIMATED QUANTITIES
Struct. Exc. = 35 c.y.
Ditch & Channel Exc. = 52 c.y.
CRM = 5.26 c.y.
24" Pipe Culvert = 40 l.f.

Sta. 65+00
Const. 1 CRM-H.W. on Inlet of Existing 24" RCP Culvert and Backfill
ESTIMATED QUANTITIES
Struct. Exc. = 2 c.y.
CRM = 1.49 c.y.

Sta. 75+17
Inst. 24" CMP (14 Ga.)
Const. I-D.I., I-H.W., I-Apron
ESTIMATED QUANTITIES
Struct. Exc. = 27 c.y.
CRM = 5.26 c.y.
GRP = 1.21 c.y.
24" Pipe Culvert = 42 l.f.

Sta. 73+56
Widen Existing Cattle Guard
For Detail See Sht. No. 8.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

KAHEKILI HIGHWAY
HONOKOHAU STREAM TO POELUA GULCH
PROJ. No. 330C-03-70
SCALE: AS NOTED

SHEET No. 3 OF 5 SHEETS

DATE	
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	330C03-70	1970	6	30

Sta. 82+00
Inst. 24" CMP (14 Ga.)
Const. 2-H.W.
Remove & Stockpile
Existing 24" RCP Culvert.
ESTIMATED QUANTITIES
Struct. Exc. = 64 c.y.
Ditch & Channel Exc. = 2 c.y.
CRM = 2.98 c.y.
24" Pipe Culv't. = 60 l.f.

Sta. 90+10
60 L.F. - 24" CMP (14 Ga.)
1-D.I.
1-H.W.
1-Apron

Sta. 78+86
Const CRM-H.W. on
Inlet of Existing 24" RCP
Culvert and Backfill
ESTIMATED QUANTITIES
Struct. Exc. = 2 c.y.
CRM = 1.49 c.y.

Sta. 94+26
Inst. 24" CMP (14 Ga.)
Const. 2-H.W., 1-Apron
Remove & Stockpile
Existing 24" RCP Culvert
ESTIMATED QUANTITIES
Struct. Exc. = 113 c.y.
Ditch & Chann. Exc. = 8 c.y.
CRM = 2.98 c.y.
GRP = 1.21 c.y.
24" Pipe Culv't. = 76 l.f.

Sta. 107+85
40 L.F. - 24" CMP (14 Ga.)
1-D.I.
1-H.W.
1-Apron

Sta. 118+00
Inst. 24" CMP (14 Ga.)
Const. 2-H.W.
ESTIMATED QUANTITIES
Struct. Exc. = 28 c.y.
Ditch & Channel Exc. = 20 c.y.
CRM = 2.98 c.y.
24" Pipe Culvert = 44 l.f.

Sta. 106+70
Inst. 24" CMP (14 Ga.)
Const. 2-H.W.
ESTIMATED QUANTITIES
Struct. Exc. = 56 c.y.
Ditch & Channel Exc. = 64 c.y.
CRM = 2.98 c.y.
24" Pipe Culvert = 60 l.f.

Sta. 125+00
Inst. 24" CMP (14 Ga.)
Const. 1-D.I., 1-H.W., 1-Apron
ESTIMATED QUANTITIES
Struct. Exc. = 69 c.y.
CRM = 5.26 c.y.
GRP = 1.21 c.y.
24" Pipe Culv't. = 92 l.f.

Sta. 159+00 to 161+00 Lt.
Install Type 3 Metal
Guard Rail - 200 l.f.

Sta. 120+00 to 128+00 Lt.
Install Type 3 Metal
Guard Rail - 800 l.f.

Sta. 141+00 to 144+00 Lt.
Install Type 3 Metal
Guard Rail - 300 l.f.

Sta. 131+25
Inst. 24" CMP (14 Ga.)
Const. 1-D.I., 1-H.W.
ESTIMATED QUANTITIES
Struct. Exc. = 55 c.y.
Ditch & Channel Exc. = 7 c.y.
CRM = 5.26 c.y.
24" Pipe Culv't. = 56 l.f.

Sta. 156+11
Inst. 60" CMP (12 Ga.)
Const. 2-H.W.
Remove & Stockpile Existing
24" RCP Culvert
ESTIMATED QUANTITIES
Struct. Exc. = 190 c.y.
Ditch & Channel Exc. = 14 c.y.
CRM = 37.0 c.y.
GRP = 4.5 c.y.
60" Pipe Culvert = 60 l.f.

NOTE:
The wooden bridge at Sta. 136+83
shall be strengthened as required by
the Contractor to prevent any damage.
All costs to prevent and to repair any
damage due to his operations shall be
borne by him.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

KAHEKILI HIGHWAY

HONOKOHAIU STREAM TO POELUA GULCH

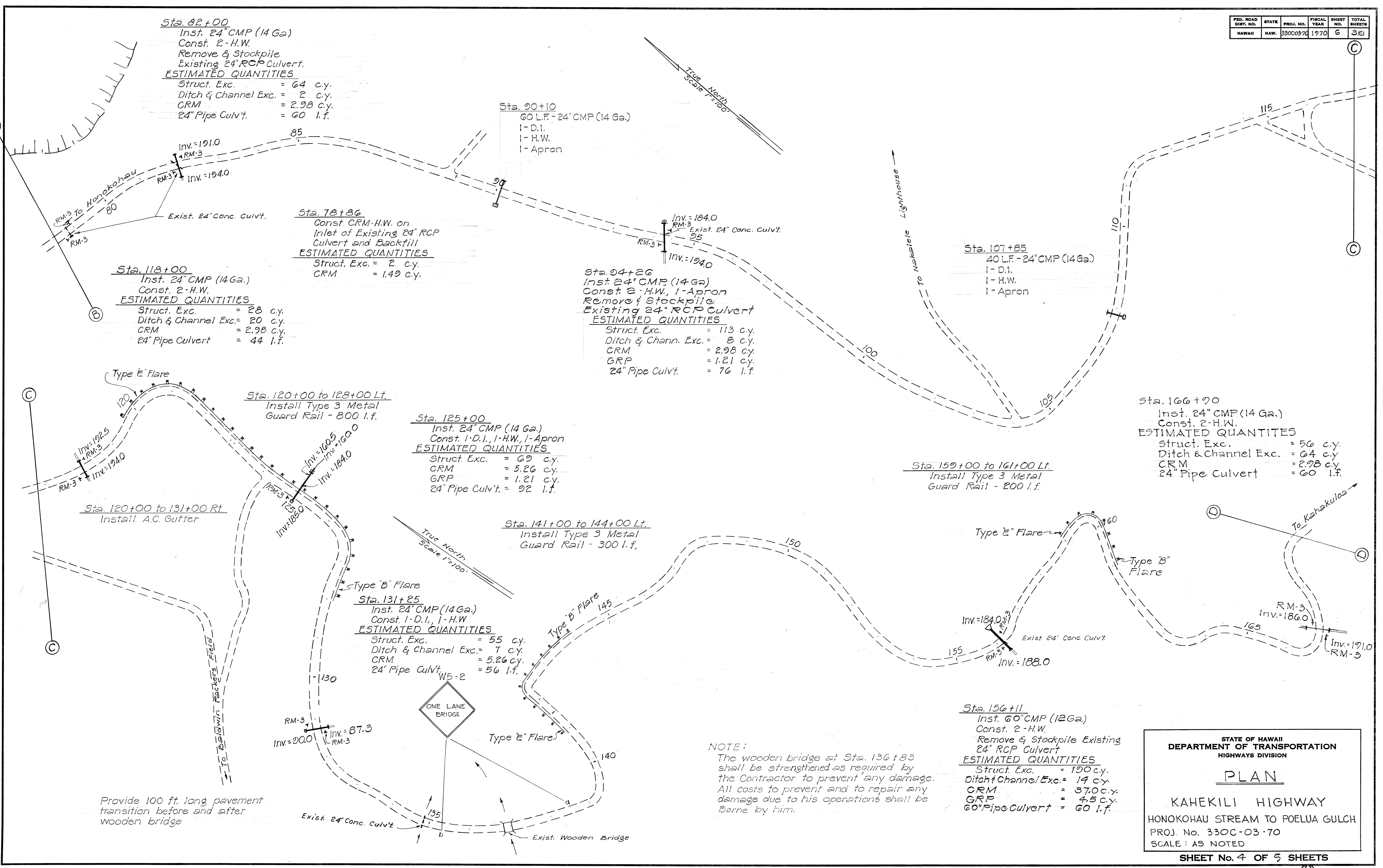
PROJ. NO. 330C-03-70

SCALE: AS NOTED

SHEET No. 4 OF 5 SHEETS

Provide 100 ft. long pavement
transition before and after
wooden bridge

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTES	
NO.	



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	330C-03-70	1970	7	30

Sta. 170+35

Inst. 24" CMP Culv't. (14" Ga.)
Const. 2-H.W., 1-Apron

ESTIMATED QUANTITIES

Struct. Exc. = 69 c.y.
Ditch & Chann. Exc. = 30 c.y.
CRM = 2.98 c.y.
GRP = 1.21 c.y.
24" Pipe Culv't. = 88 l.f.

Inv. = 188.0
RM-3
Inv. = 173.0
RM-3
Inv. = 190.0
RM-3
Inv. = 172.8
170

← To Honokohau

Sta. 177+60

Install Cattle Guard
For Detail See Sht No. 8.

Sta. 178+38

Inst. 24" CMP Culv't. (14 Ga.)
Const. 1-D.I., 1-H.W., 1-Apron

ESTIMATED QUANTITIES

Struct. Exc. = 111 c.y.
Ditch & Chann. Exc. = 19 c.y.
CRM = 5.26 c.y.
GRP = 1.21 c.y.
24" Pipe Culv't. = 66 l.f.

Sta. 181+00 End of Pavement
End of Project No. 330C-03-70

Informational
Sign

Exist. 24" Conc. Culv't.

To Kahakuloa

Peelua Stream

Existing
2-60" Corr. Galv. Culv't.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

KAHEKILI HIGHWAY
HONOKOHAU STREAM TO POELUA GULCH
PROJ. No. 330C-03-70
SCALE: AS NOTED

SHEET No. 5 OF 5 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	"
TRACED BY	"
ENGINEER	"
QUANTITIES BY	"
CHECKED BY	"
ORIGINAL PLAN	
NOTE BOOK	
No.	