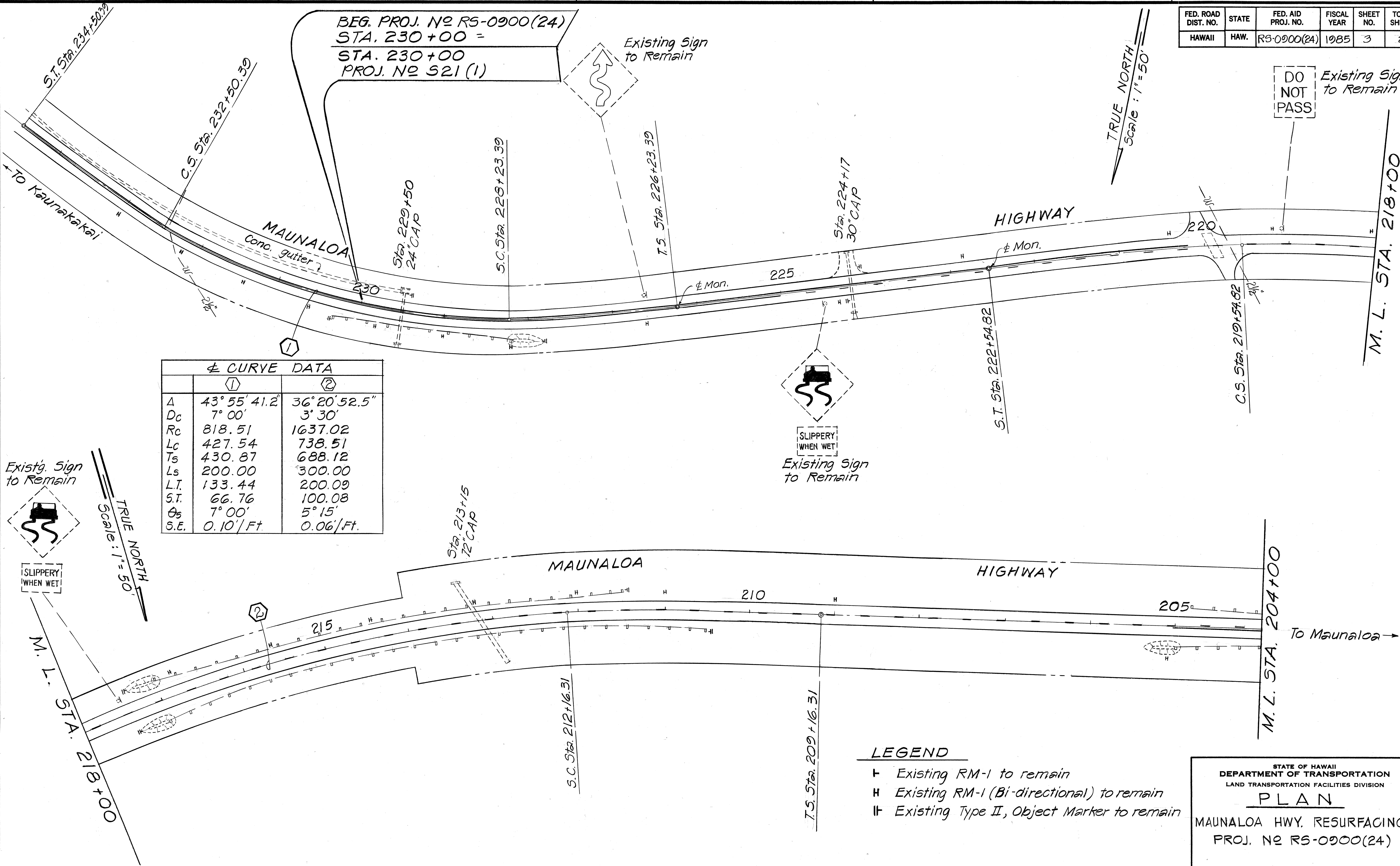


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	R3-0900(24)	1985	3	28



SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
CHECKED BY	
NOTE BOOK	
No.	

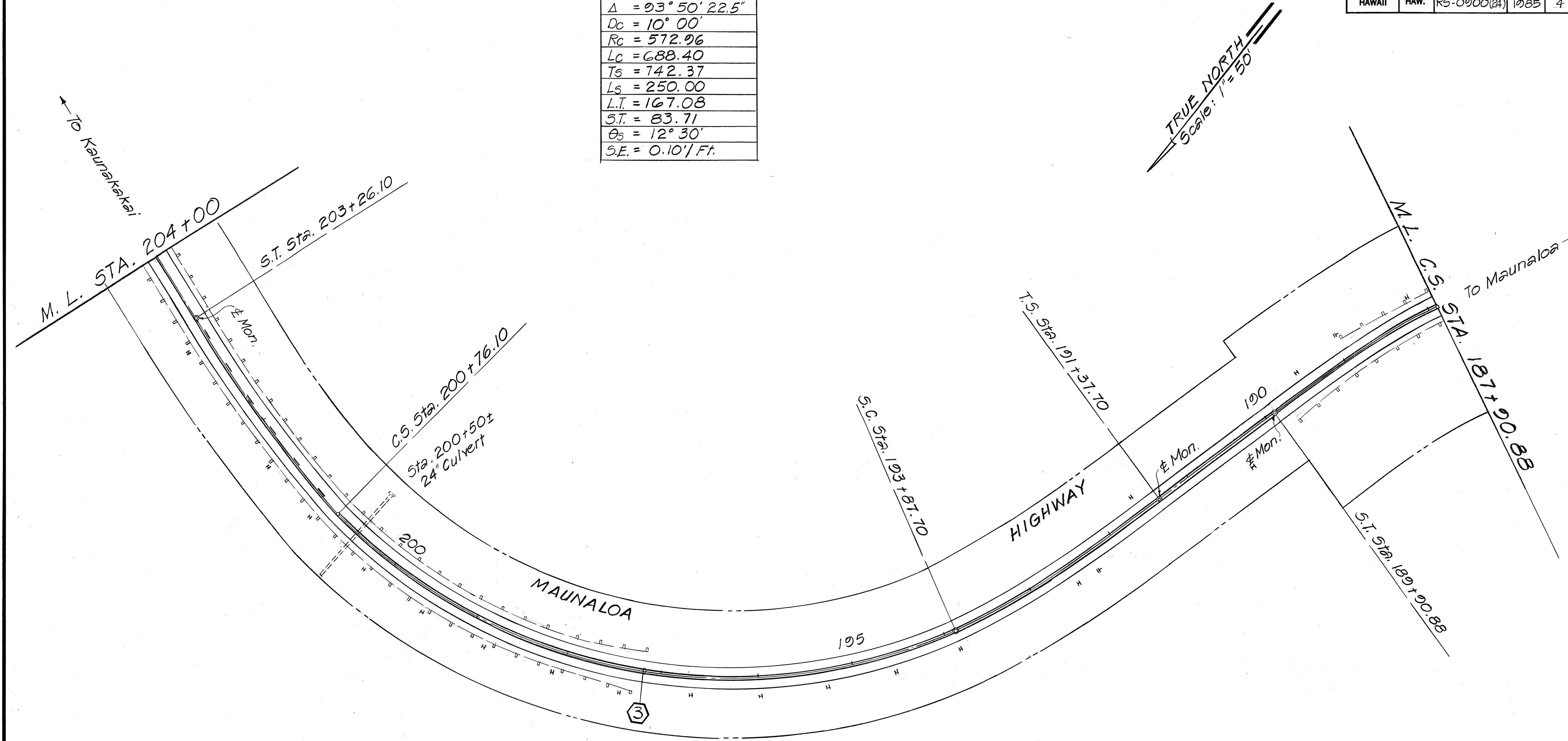
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

PLAN
MAUNALOA HWY. RESURFACING
PROJ. NO R3-0900(24)

SCALE: AS NOTED
DATE: JUN. 1985
SHEET NO. 1 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0900(24)	1985	4	28

± CURVE DATA (3)
$\Delta = 93^{\circ} 50' 22.5''$
$D_c = 10^{\circ} 00'$
$R_c = 572.96$
$L_c = 688.40$
$T_s = 742.37$
$L_s = 250.00$
$L.T. = 167.08$
$S.T. = 83.71$
$\theta_s = 12^{\circ} 30'$
$S.E. = 0.10' / Ft.$



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

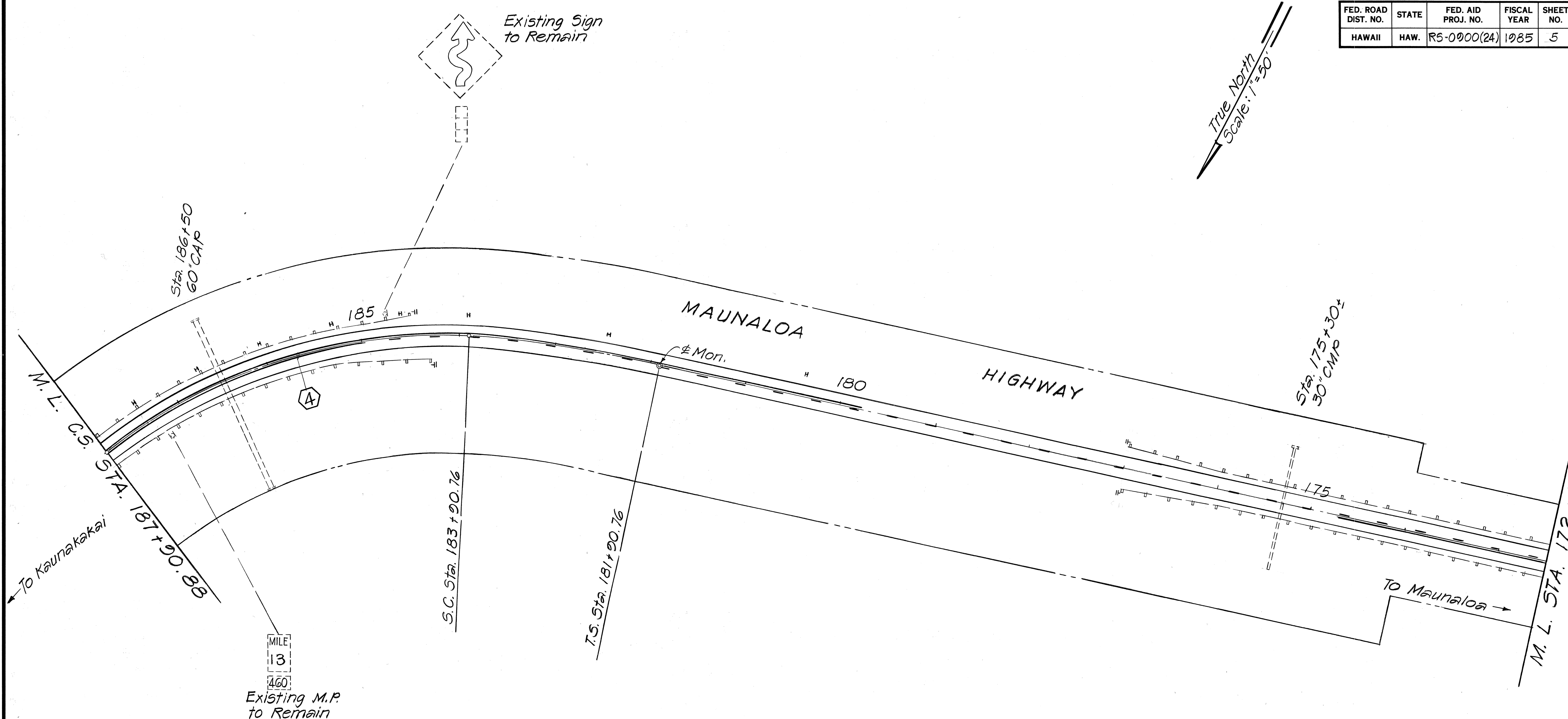
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

PLAN

MAUNALOA HWY. RESURFACING
PROJ. NO RS-0900(24)

SCALE: AS NOTED DATE: JUN. 1985
SHEET NO. 2 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0900(24)	1985	5	28



Δ	60° 00' 41.2"
D _c	10° 00'
R _c	512.96
L _c	400.12
T _s	432.45
L _s	200.00
L.T.	133.55
S.T.	66.86
θ _s	10° 00'
S.E.	0.10/Ft.

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

MAUNALOA HWY. RESURFACING
PROJ. NO RS-0900(24)

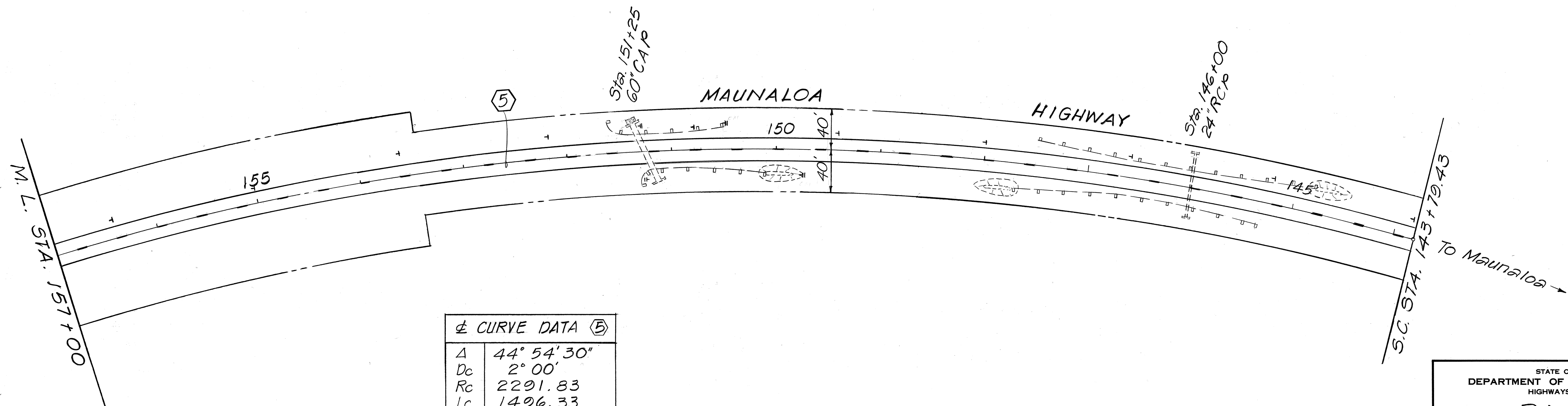
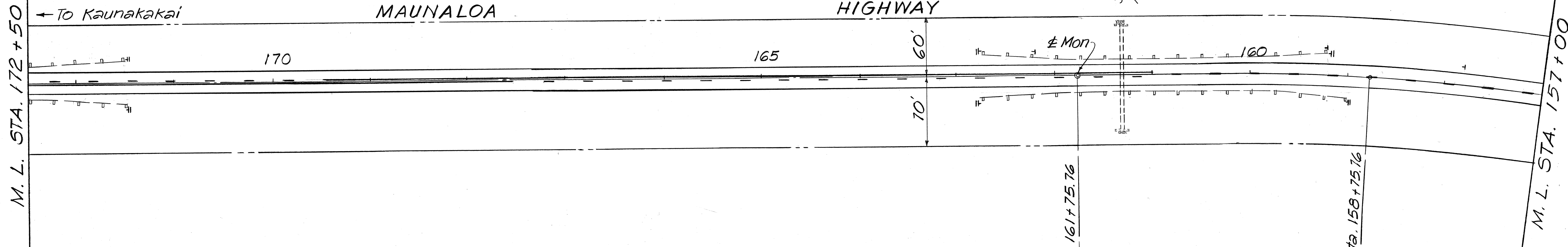
SCALE: AS NOTED DATE: JUN. 1985

SHEET NO. 3 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0000(24)	1985	6	28

TRUE NORTH
Scale: 1"=50'

Sta. 161+30.76
78" Steel Liner Plate



TRUE NORTH
Scale: 1"=50'

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

± CURVE DATA ⑤	
Δ	44° 54' 30"
Dc	2° 00'
Rc	2291.83
Lc	1496.33
Ts	1097.82
Ls	300.00
L.T.	200.04
S.T.	100.04
θs	3° 45'
S.E.	0.04'/ft.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

MAUNALOA HWY. RESURFACING
PROJ. NO RS-0000(24)

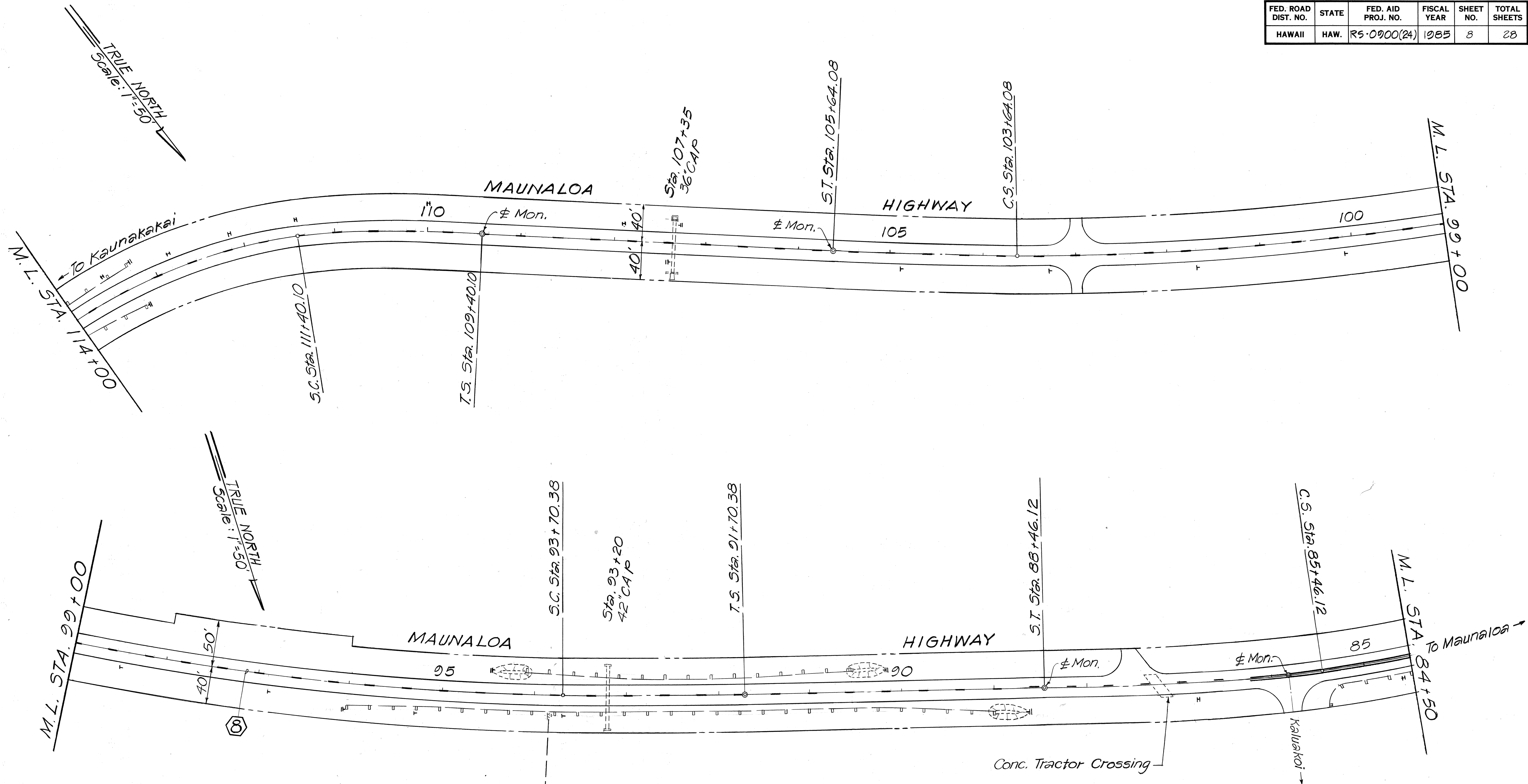
SCALE: AS NOTED DATE: JUN, 1985

SHEET NO. 4 OF 12 SHEETS

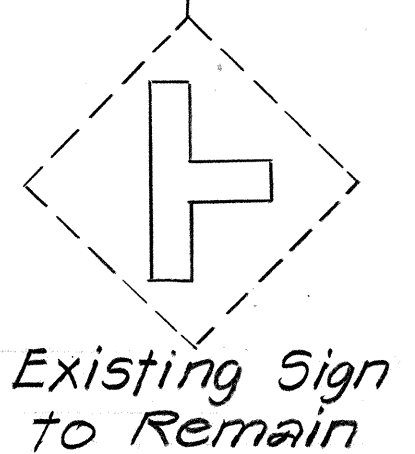
ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____
NOTE BOOK	DRAWN BY _____
	TRACED BY _____
	DESIGNED BY _____
	QUANTITIES BY _____
No. _____	CHECKED BY _____



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0900(24)	1985	8	28



CURVE DATA	
Δ	23° 52' 26.3"
D_c	2° 00'
R_c	2864.79
L_c	993.70
T_s	105.51
L_s	200.00
$L.T.$	133.34
$S.T.$	66.67
θ_s	2° 00'
$S.E.$	0.03'/Ft.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

MAUNALOA HWY. RESURFACING
PROJ. NE RS-0900(24)

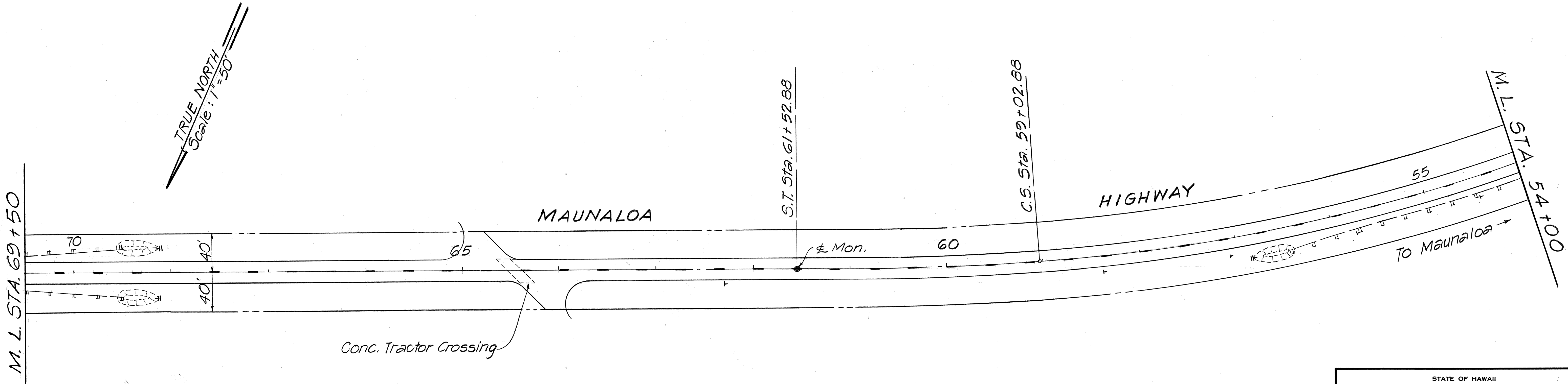
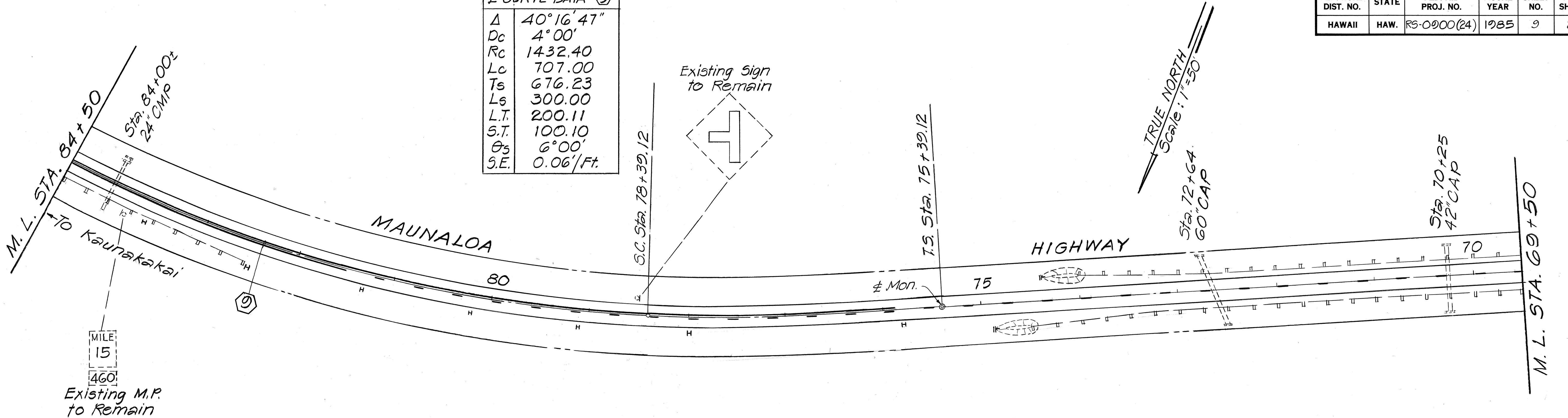
SCALE: AS NOTED DATE: JUN. 1985

SHEET No. 8 OF 12 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0000(24)	1985	9	28

CURVE DATA ⑨	
Δ	40°16'47"
Dc	4°00'
Rc	1432.40
Lc	707.00
Ts	676.23
Ls	300.00
L.T.	200.11
S.T.	100.10
θs	6°00'
S.E.	0.06'/Ft.



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

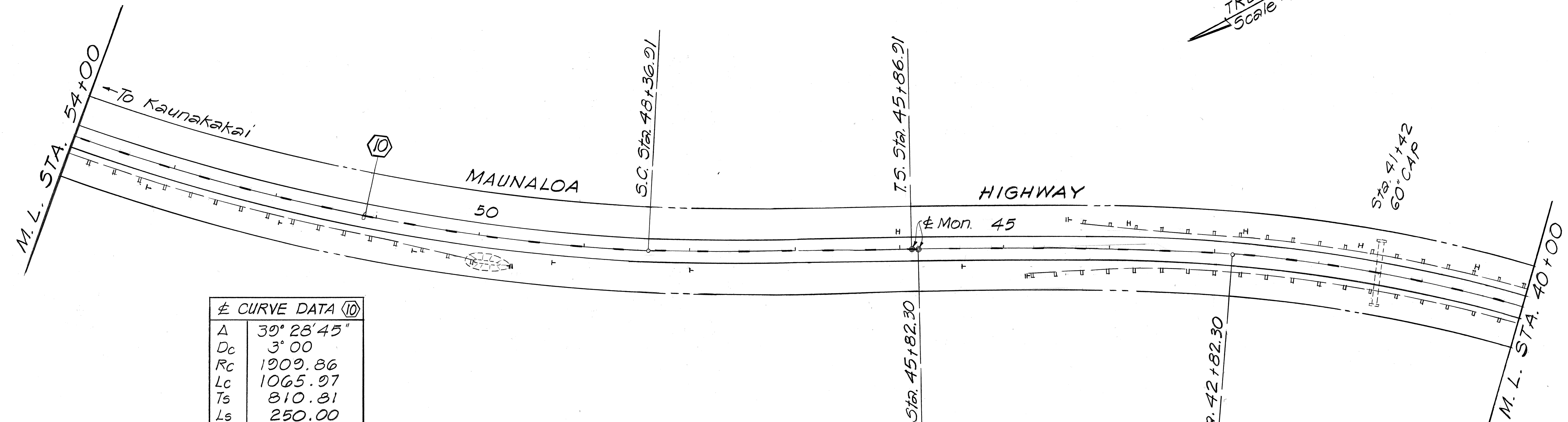
MAUNALOA HWY. RESURFACING
PROJ. NO RS-0000(24)

SCALE: AS NOTED DATE: JUN. 1985

SHEET No. 7 OF 12 SHEETS

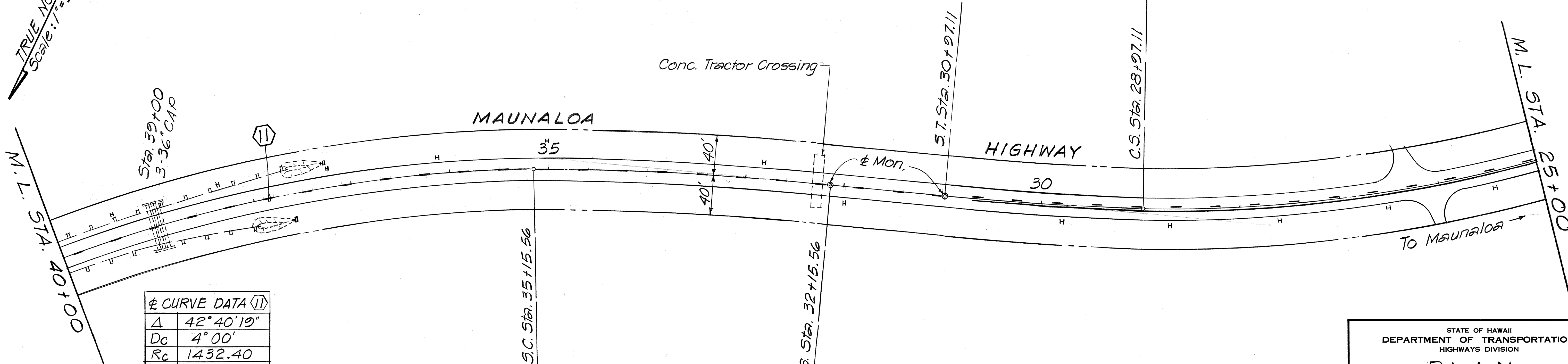
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0900(24)	1985	10	28

TRUE NORTH
Scale = 1" = 50'



CURVE DATA (10)	
Δ	39° 28' 45"
Dc	3° 00'
Rc	1909.86
Lc	1065.97
Ts	810.81
Ls	250.00
L.T.	166.70
S.T.	83.37
θs	3° 45'
S.E.	0.05/Ft.

TRUE NORTH
Scale = 1" = 50'



CURVE DATA (11)	
Δ	42° 40' 19"
Dc	4° 00'
Rc	1432.40
Lc	766.74
Ts	710.48
Ls	300.00
L.T.	200.11
S.T.	100.10
θs	6° 00'
S.E.	0.06/Ft.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

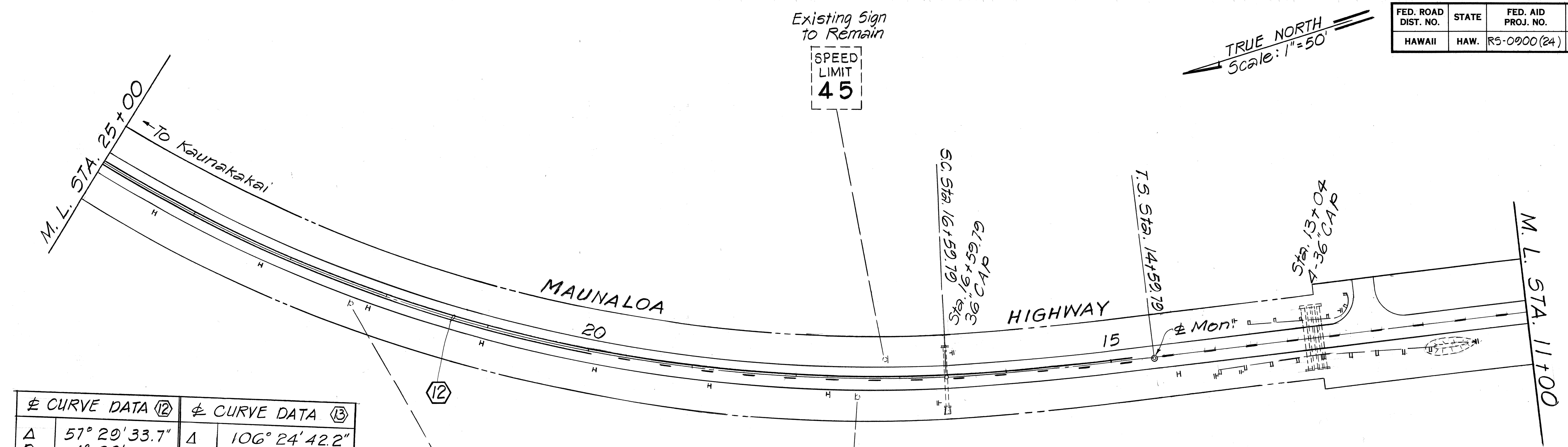
MAUNALOA HWY. RESURFACING
PROJ. NO RS-0900(24)

SCALE: AS NOTED DATE: JUN. 1985
SHEET No. 8 OF 12 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0900(24)	1985	11	28

TRUE NORTH
Scale: 1"=50'



Δ CURVE DATA 12		Δ CURVE DATA 13	
Δ	57° 29' 33.7"	Δ	106° 24' 42.2"
Dc	4° 00'	D	38° 12'
R	1432.40	R	150.00
Lc	1237.32	T	200.55
Ts	886.35	L	278.59
Ls	200.00	S.E.	0.10'/Ft.
L.T.	133.37		
S.T.	66.70		
θs	4° 20'		
S.E.	0.06'/Ft.		

REDUCED
SPEED
30
M.P.H.
Existing Sign
to Remain

SPEED
LIMIT
20
Existing Sign
to Remain

SPEED
LIMIT
20
Existing Sign
to Remain

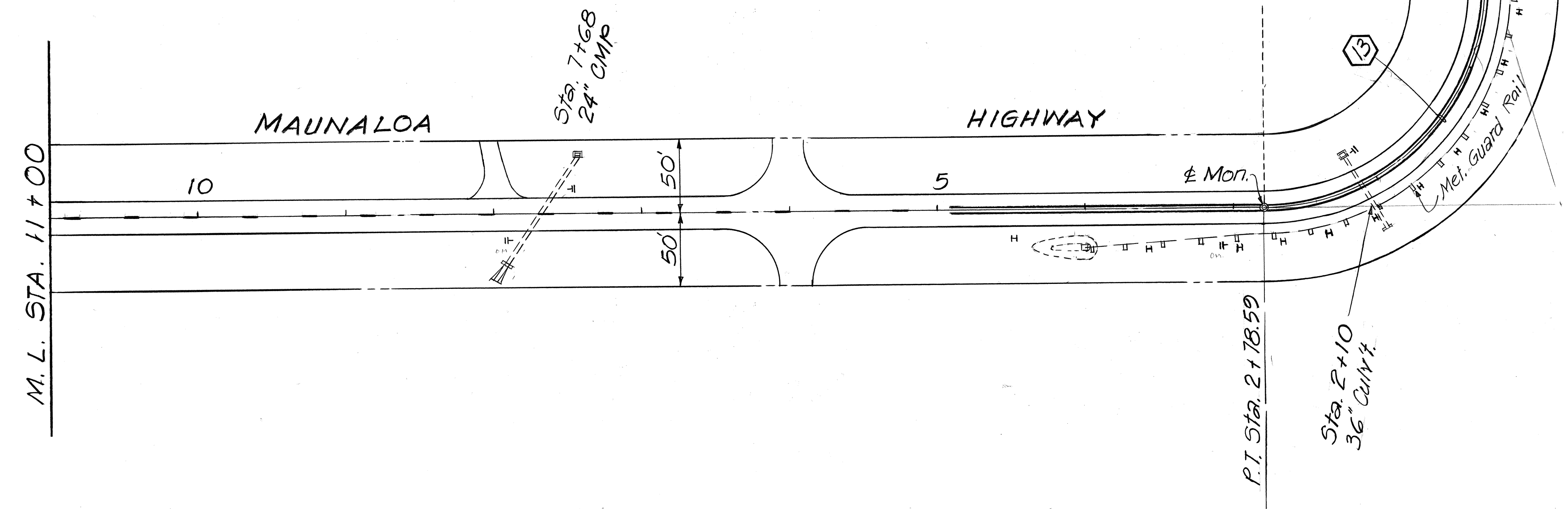
BEGIN
STATE
HIGHWAY
Existing Sign
to Remain

END PROJ. NO. RS-0900(24)
P.C. STA 0+00 =
P.C. STA. 0+00
PROJ. NO. S21(1)

MILE
1
6
55
460
Existing M.P.
to Remain

TRUE NORTH
Scale: 1"=50'

END
STATE
HIGHWAY
Existing Sign
to Remain



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

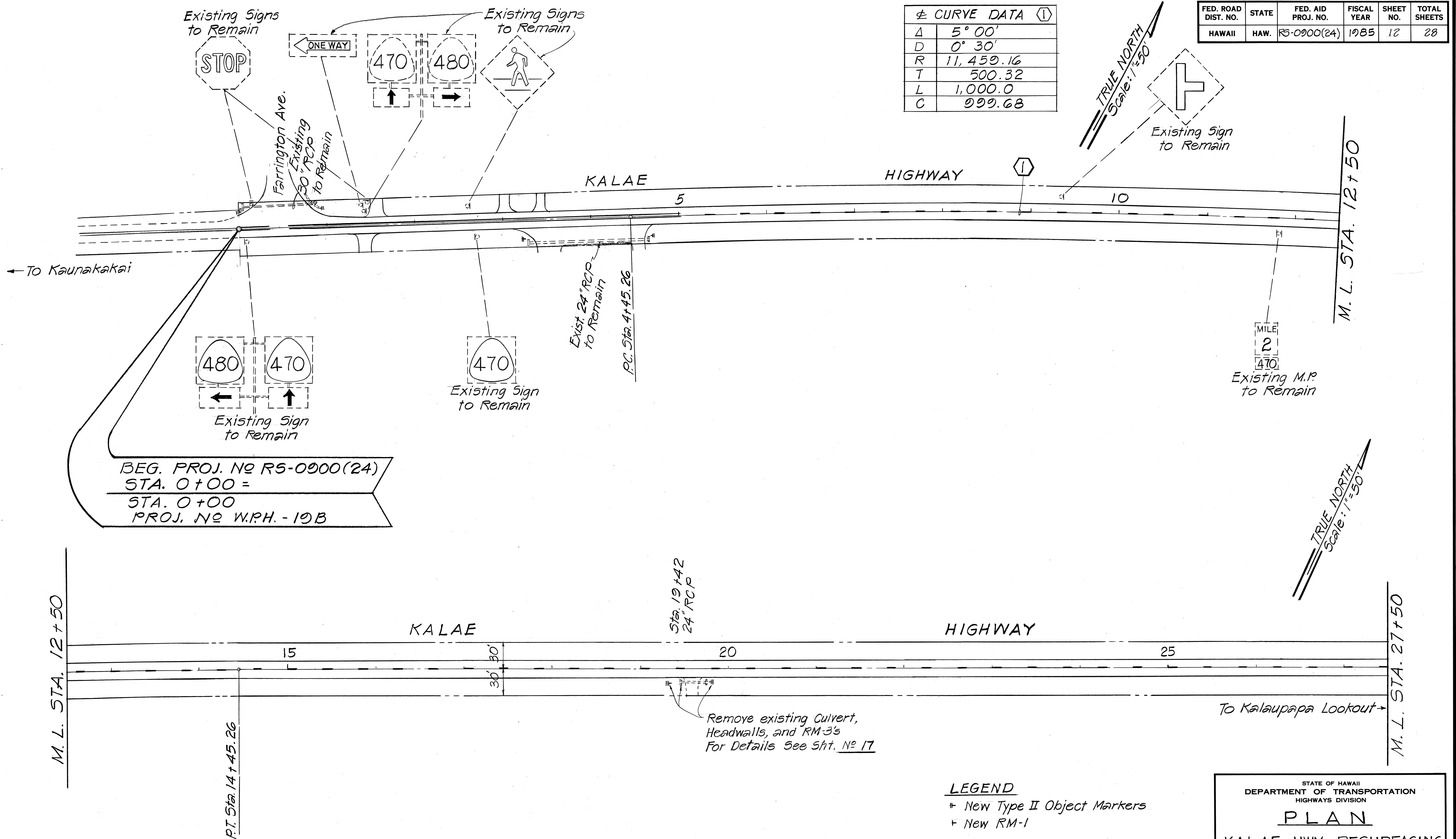
PLAN

MAUNALOA HWY. RESURFACING
PROJ. NO RS-0900(24)

SCALE: AS NOTED DATE: JUN. 1985
SHEET No. 9 OF 12 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
NO.	CHECKED BY	

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



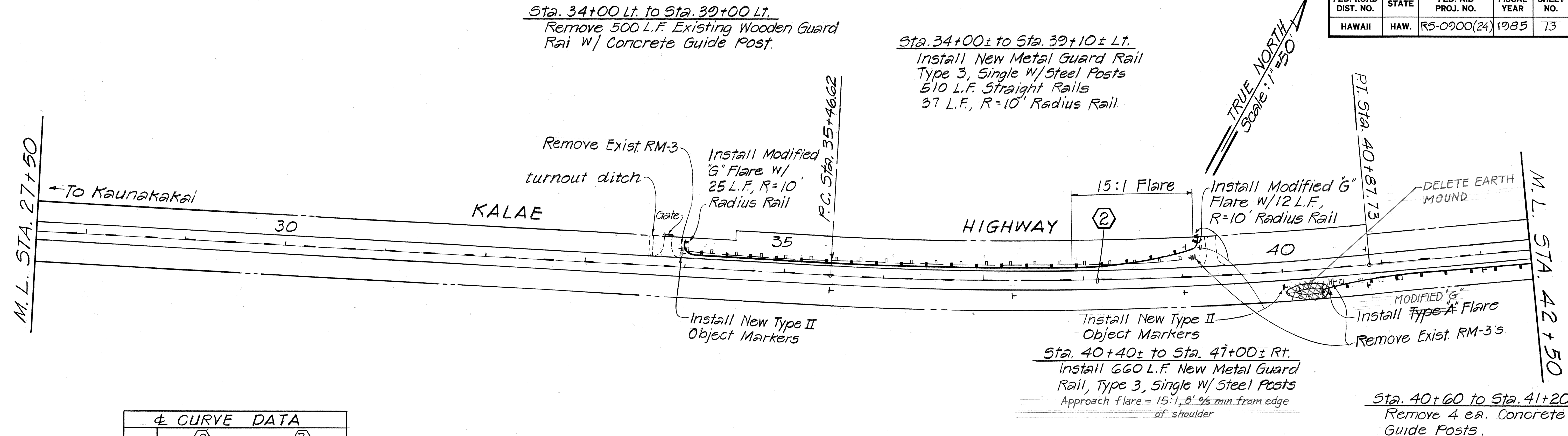
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

PLAN

KALAE HWY. RESURFACING
 PROJ. NO RS-0900(24)

SCALE: AS NOTED DATE: JUN. 1985
 SHEET No. 10 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0900(24)	1985	13	28



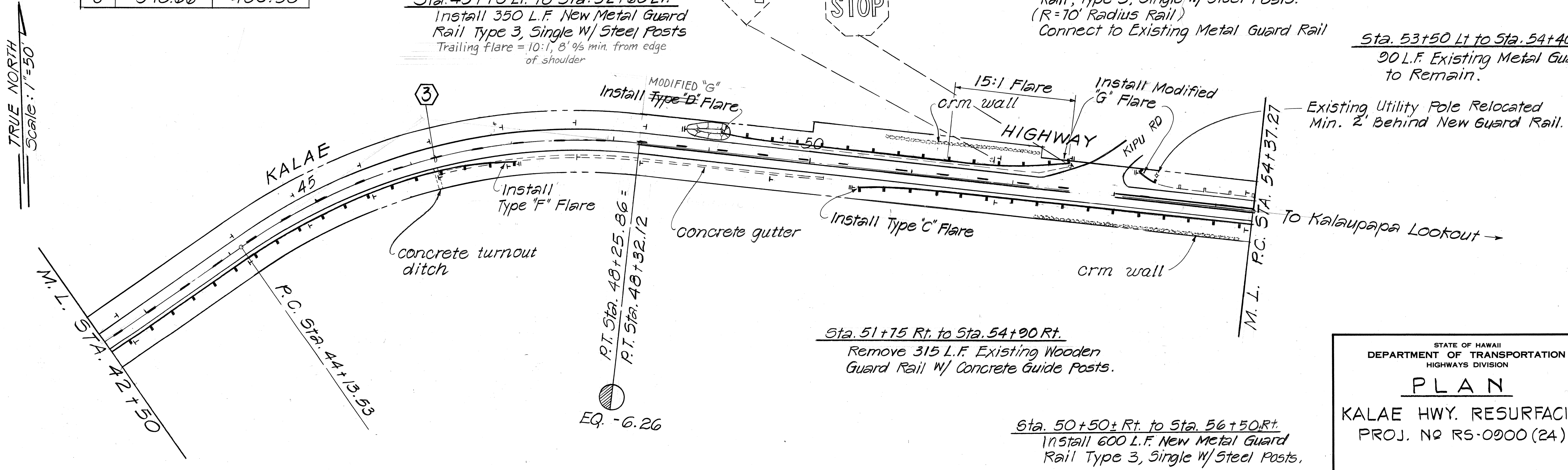
CURVE DATA		
	②	③
Δ	8° 07'	41° 14'
D	1° 30'	10° 00'
R	3819.72	572.96
T	271.01	215.55
L	541.11	412.33
C	540.66	403.50

Sta. 49+60 Lt. to Sta. 52+60 Lt.
Remove 300 L.F. Existing Wooden Guard Rail w/ Concrete Guide Posts.

Sta. 49+10 Lt. to Sta. 52+60 Lt.
Install 350 L.F. New Metal Guard Rail Type 3, Single w/ Steel Posts
Trailing flare = 10:1, 8' 9/16 min. from edge of shoulder

Sta. 53+20 Lt. to Sta. 53+50 Lt.
Install 38 L.F. New Metal Guard Rail, Type 3, Single w/ Steel Posts. (R=70 Radius Rail)
Connect to Existing Metal Guard Rail

Sta. 53+50 Lt. to Sta. 54+40 Lt.
90 L.F. Existing Metal Guard to Remain.



Sta. 51+75 Rt. to Sta. 54+90 Rt.
Remove 315 L.F. Existing Wooden Guard Rail w/ Concrete Guide Posts.

Sta. 50+50 Rt. to Sta. 56+50 Rt.
Install 600 L.F. New Metal Guard Rail Type 3, Single w/ Steel Posts.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

KALAE HWY. RESURFACING
PROJ. NO RS-0900 (24)

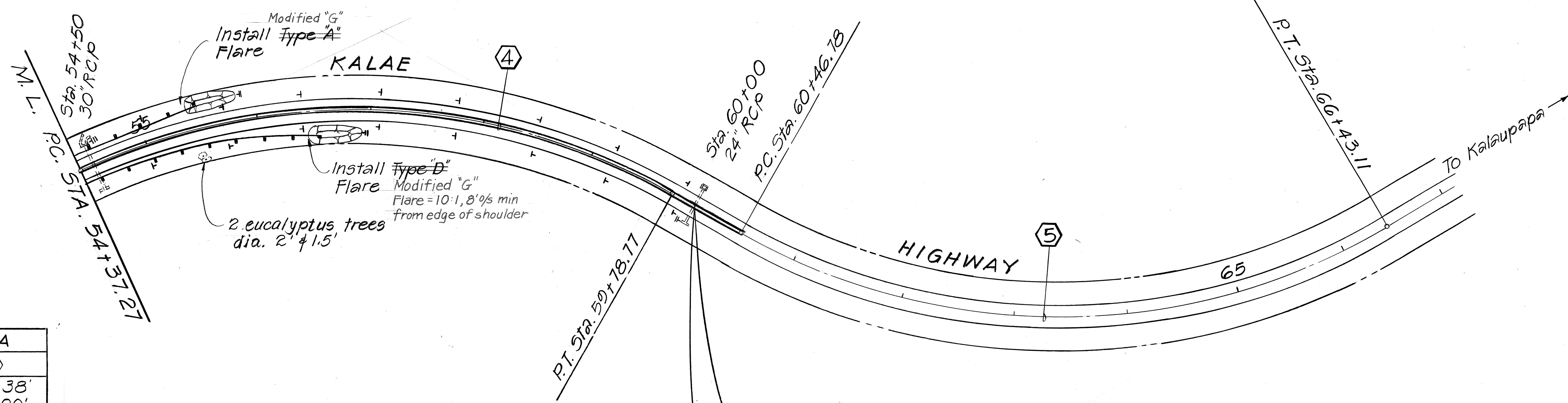
SCALE: AS NOTED DATE: JUN. 1985
SHEET No. 11 OF 12 SHEETS

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0900(24)	1985	14	28

TRUE NORTH
Scale: 1" = 50'

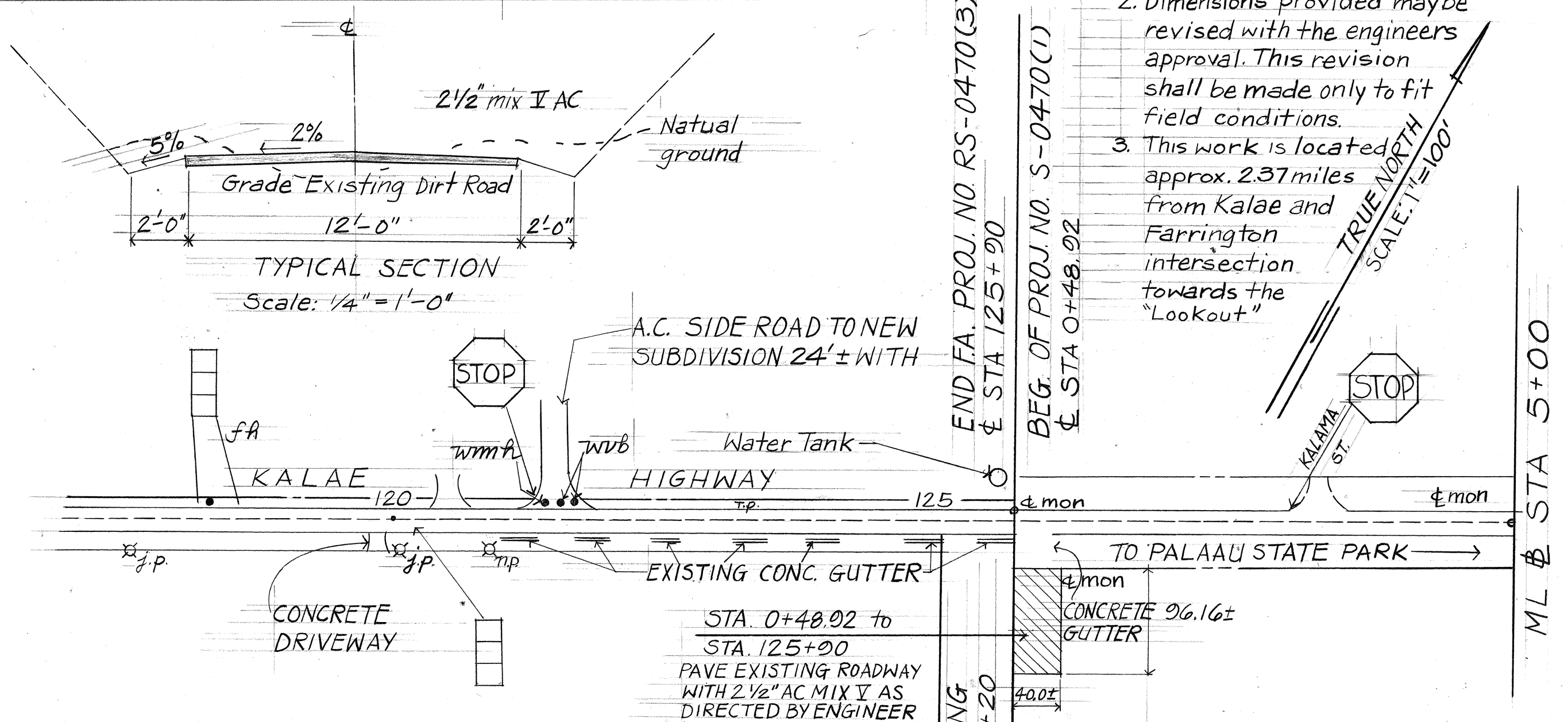
Sta. 54+40+Lt. to Sta. 55+50+Lt.
Install 110 L.F. New Metal Guard
Rail Type 3, Single w/ Steel Posts.
Connect to Existing Metal Guard Rail,
Flare = 15:1, 8' 0" min. from edge
of shoulder



CURVE DATA		
	④	⑤
Δ	54° 09'	59° 38'
D	10° 00'	10° 00'
R	572.96	572.96
T	292.88	328.26
L	541.50	506.33
C	521.58	569.78

NOTE:
1. Approximate grade of road = 20%-25%
2. Dimensions provided may be revised with the engineers approval. This revision shall be made only to fit field conditions.
3. This work is located approx. 2.37 miles from Kalaie and Farrington intersection towards the "lookout"

END PROJ. NO RS-0900(24)
STA. 60+00
STA. 60+00
PROJ. NO W.P.H. -19B



NOTE:
1. Stations Ref. to Prof No. S-0470(1)
2. Estimated Qty. 18 tons AC
3. Notify the State 24 hrs. prior sch. paving
4. Payment for this work shall be made under Item No. 401.0500 AC Mix II Or as agreed w/ the engineer.

CONTRACT CHANGE
ORDER NO. 2
KALE HIGHWAY 470A

Note: This tracing prepared during "As-Built" posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

KALAE HWY. RESURFACING
PROJ. NO RS-0900(24)

SCALE: AS NOTED DATE: JUN. 1985
SHEET No. 12 OF 12 SHEETS

DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
NO.	_____