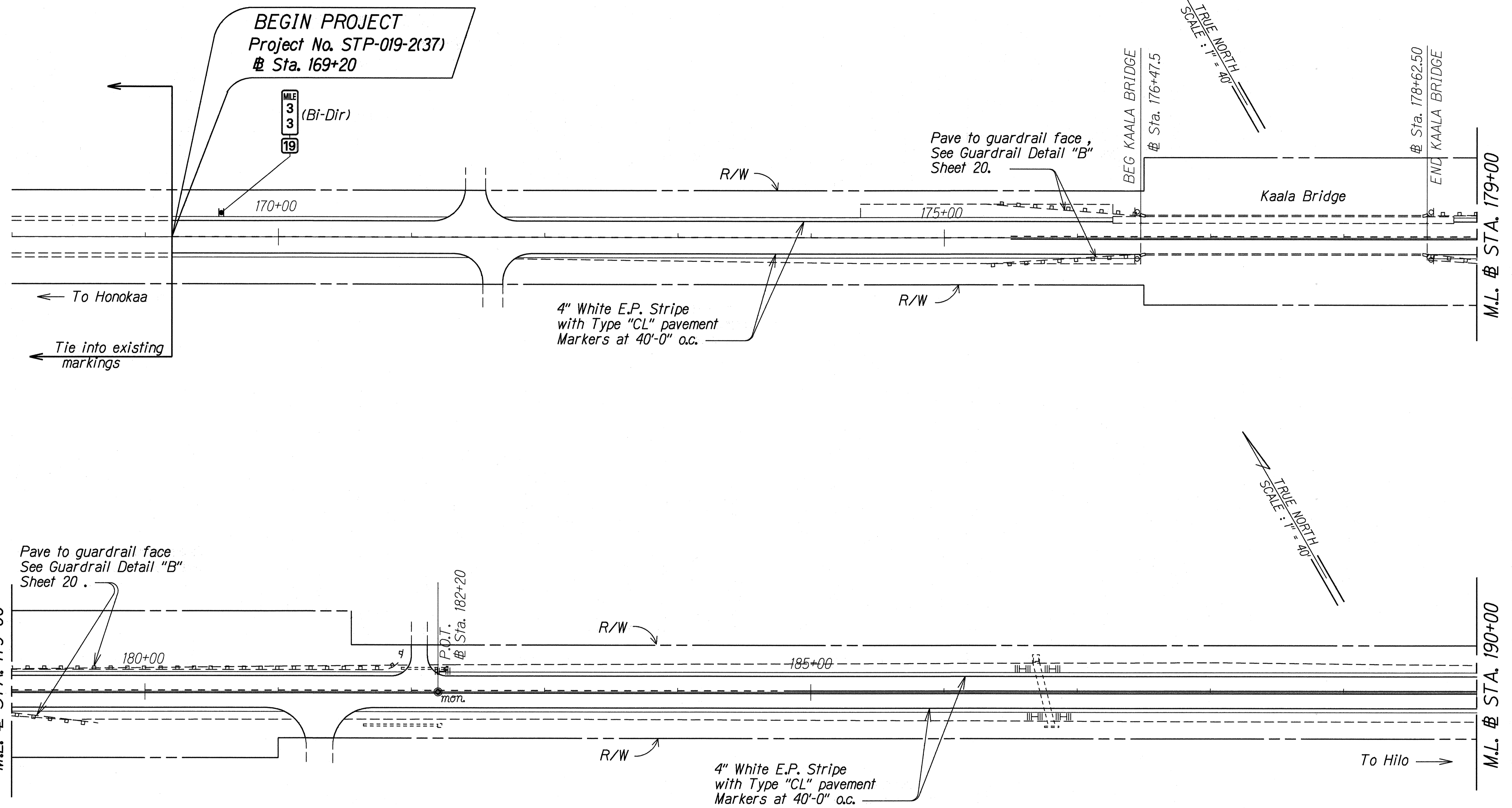


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	6	36



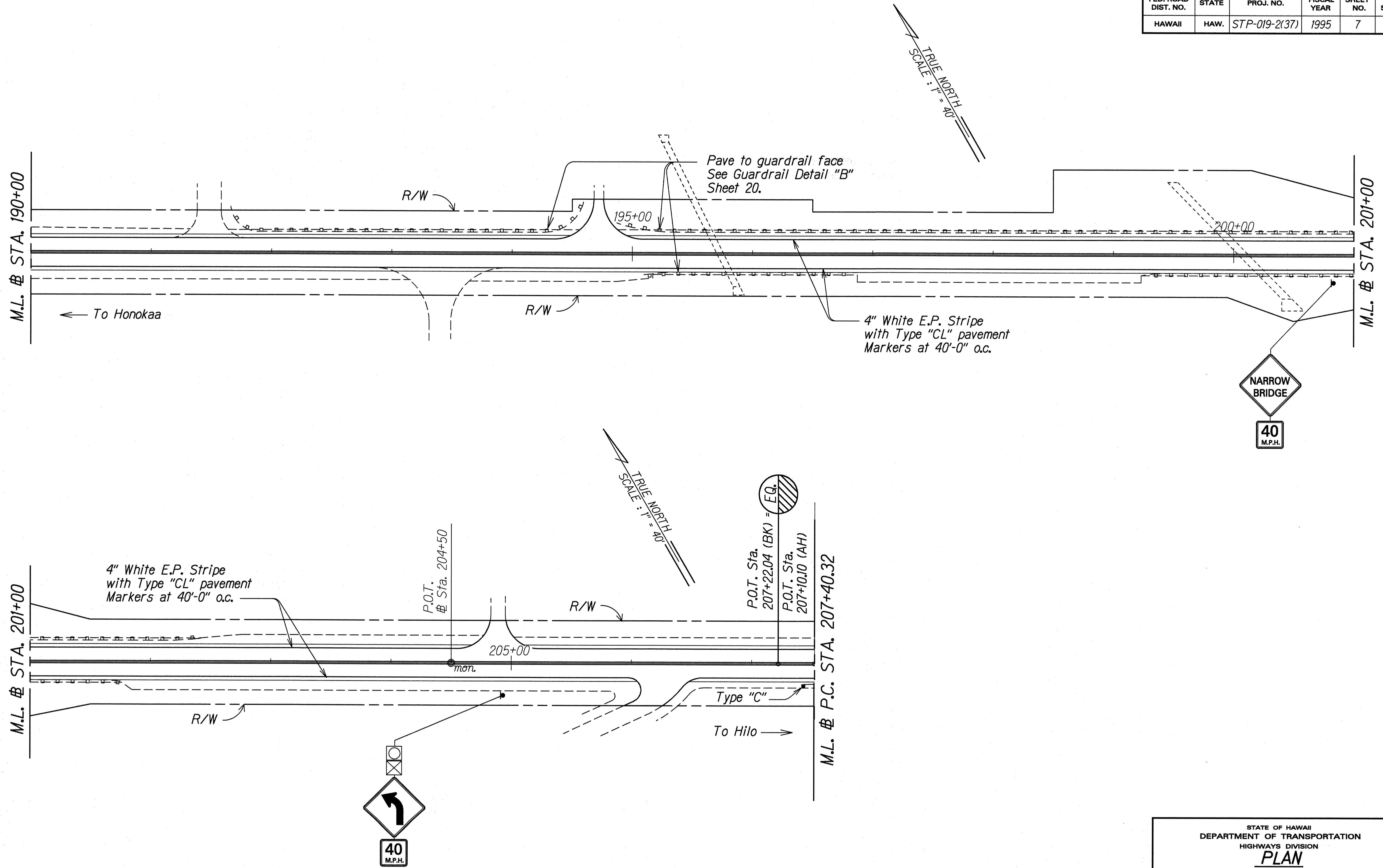
**NOTES:**

1. Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.
2. Edge of pavement stripe is carried through all driveways, except as otherwise shown.
3. 8" white e. p. stripe, 750'. on approaches to narrow bridges.

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**PLAN**  
**ROADWAY, SIGNING**  
**PAVEMENT MARKING**  
HAWAII BELT ROAD RESURFACING  
Kaala Bridge to Kaawalii Gulch  
F.A. PROJECT NO. STP-019-2(37)  
Scale: 1" = 40' Date: Nov. 1994  
SHEET No. 1 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	7	36



DATE	NOV. 1994
SURVEY PLOTTED BY	H. Krause
DRAWN BY	S. Chow
DESIGNED BY	S. Chow
CHECKED BY	S. Chow

**NOTES :**

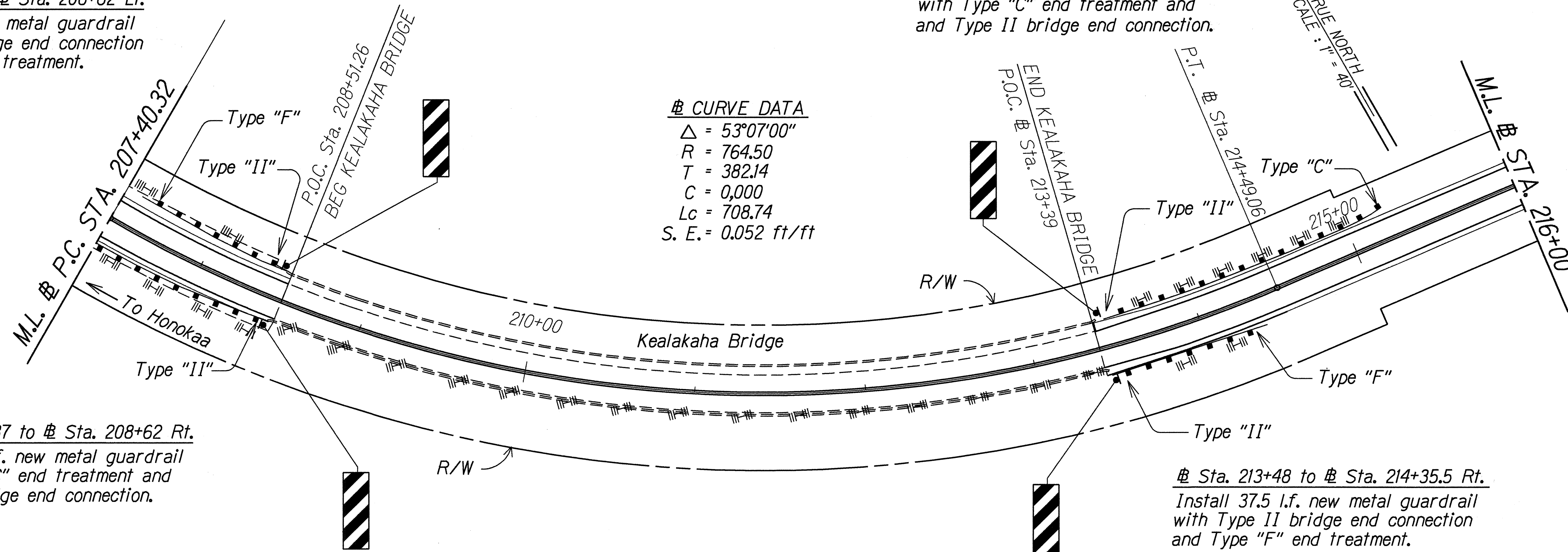
1. Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**PLAN**  
**ROADWAY, SIGNING**  
**PAVEMENT MARKING**  
**HAWAII BELT ROAD RESURFACING**  
**Kaala Bridge To Kaawalii Gulch**  
**F.A. PROJECT NO. STP-019-2(37)**  
Scale: 1" = 40' Date: Nov., 1994  
SHEET No. 2 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	8	36

± Sta. 207+62 to ± Sta. 208+62 Lt.  
Install 50 l.f. new metal guardrail with Type II bridge end connection and Type "F" end treatment.

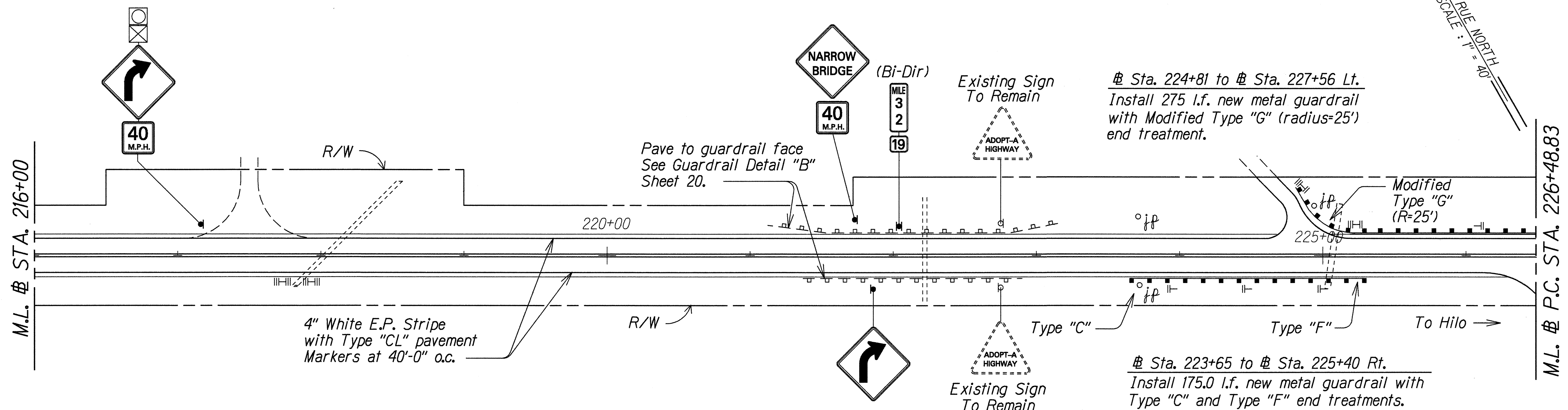
± Sta. 213+48 to ± Sta. 215+23 Lt.  
Install 125 l.f. new metal guardrail with Type "C" end treatment and and Type II bridge end connection.



± CURVE DATA  
 $\Delta = 53^{\circ}07'00''$   
 $R = 764.50$   
 $T = 382.14$   
 $C = 0.000$   
 $Lc = 708.74$   
 $S. E. = 0.052 \text{ ft/ft}$

± Sta. 207+87 to ± Sta. 208+62 Rt.  
Install 75 l.f. new metal guardrail with Type "C" end treatment and Type II bridge end connection.

± Sta. 213+48 to ± Sta. 214+35.5 Rt.  
Install 37.5 l.f. new metal guardrail with Type II bridge end connection and Type "F" end treatment.



± Sta. 224+81 to ± Sta. 227+56 Lt.  
Install 275 l.f. new metal guardrail with Modified Type "G" (radius=25') end treatment.

± Sta. 223+65 to ± Sta. 225+40 Rt.  
Install 175.0 l.f. new metal guardrail with Type "C" and Type "F" end treatments.

DATE	BY
Nov. 1994	PLANNED BY J.L. GEMEL
Nov. 1994	DESIGNED BY S. CHOW
Nov. 1994	CHECKED BY S. CHOW
Nov. 1994	NOTED BY S. CHOW
Nov. 1994	CHECKED BY S. CHOW

**NOTES:**

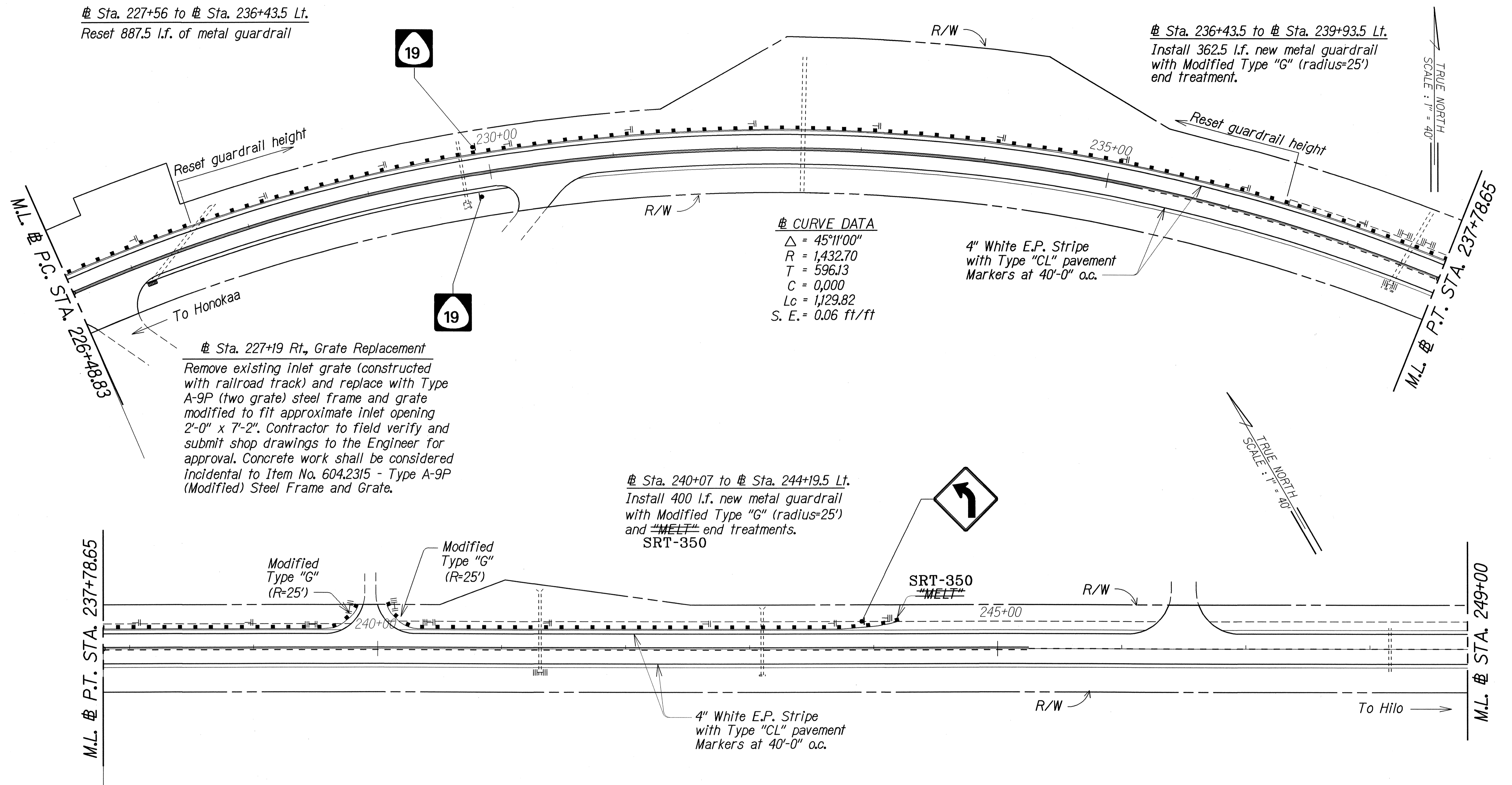
1. Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**PLAN**  
**ROADWAY, SIGNING**  
± **PAVEMENT MARKING**  
**Kaala Bridge To Kaawalii Gulch**  
**F.A. PROJECT NO. STP-019-2(37)**  
Scale: 1" = 40' Date: Nov., 1994  
SHEET No. 3 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	9	36

# Sta. 227+56 to # Sta. 236+43.5 Lt.  
Reset 887.5 l.f. of metal guardrail

# Sta. 236+43.5 to # Sta. 239+93.5 Lt.  
Install 362.5 l.f. new metal guardrail with Modified Type "G" (radius=25') end treatment.



# CURVE DATA  
 $\Delta = 45^{\circ}11'00''$   
 $R = 1,432.70$   
 $T = 596.13$   
 $C = 0.000$   
 $L_c = 1,129.82$   
 $S. E. = 0.06 \text{ ft/ft}$

# Sta. 227+19 Rt., Grate Replacement  
 Remove existing inlet grate (constructed with railroad track) and replace with Type A-9P (two grate) steel frame and grate modified to fit approximate inlet opening 2'-0" x 7'-2". Contractor to field verify and submit shop drawings to the Engineer for approval. Concrete work shall be considered incidental to Item No. 604.2315 - Type A-9P (Modified) Steel Frame and Grate.

# Sta. 240+07 to # Sta. 244+19.5 Lt.  
 Install 400 l.f. new metal guardrail with Modified Type "G" (radius=25') and "MELT" end treatments.  
 SRT-350

4" White E.P. Stripe with Type "CL" pavement Markers at 40'-0" o.c.

4" White E.P. Stripe with Type "CL" pavement Markers at 40'-0" o.c.

DATE	Nov. 1994
SURVEY PLOTTED BY	J.H. Leung
DRAWN BY	S. Chow
TRACED BY	S. Chow
NOTE BOOK	10/1/94
QUANTITIES BY	S. Chow
CHECKED BY	S. Chow

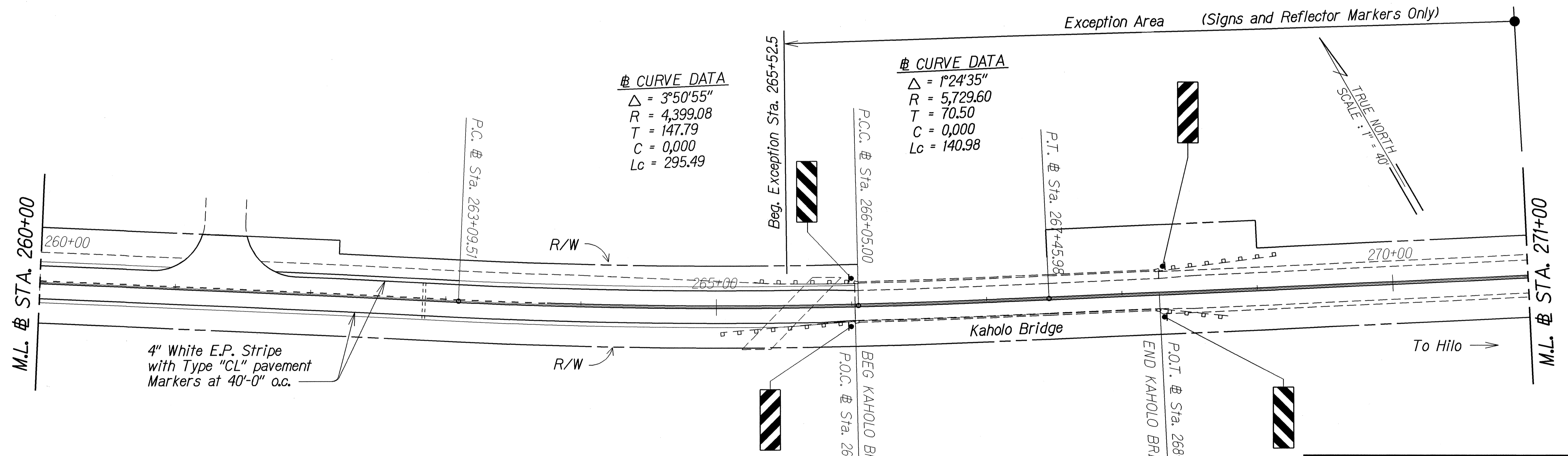
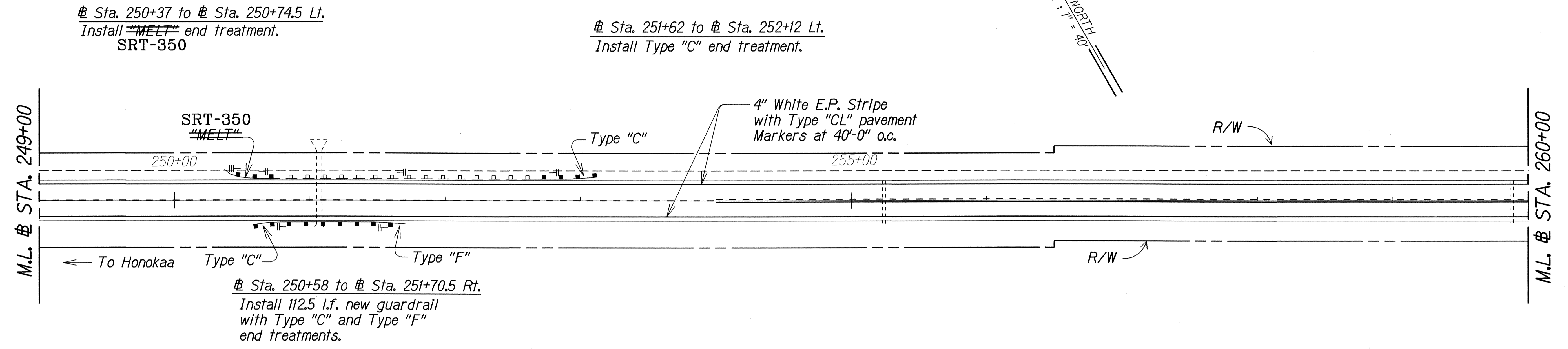
**NOTES:**

1. Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**PLAN**  
**ROADWAY, SIGNING**  
**# PAVEMENT MARKING**  
 HAWAII BELT ROAD RESURFACING  
 Kaala Bridge To Kaawali Gulch  
 F.A. PROJECT NO. STP-019-2(37)  
 Scale: 1"=40' Date: Nov., 1994

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	10	36



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	Nov. 1994
DRAWN BY	H. Keane
TRACED BY	S. Chow
NOTE BOOK	Nov. 1997
QUANTITIES BY	S. Chow
CHECKED BY	S. Chow
NO. OF SHEETS	10

**NOTES:**

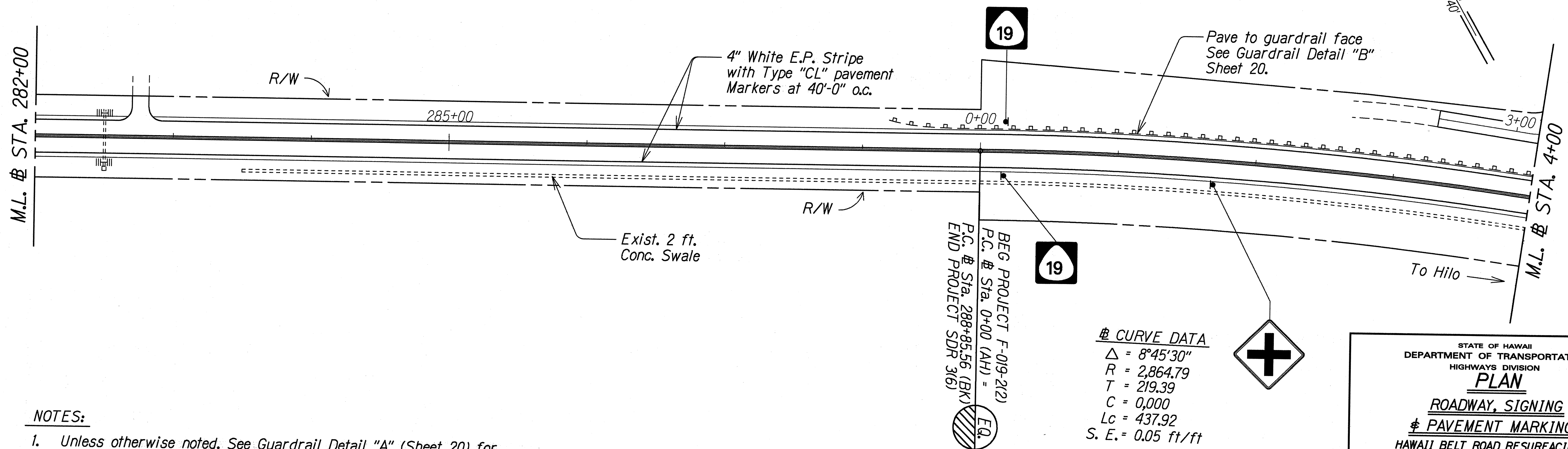
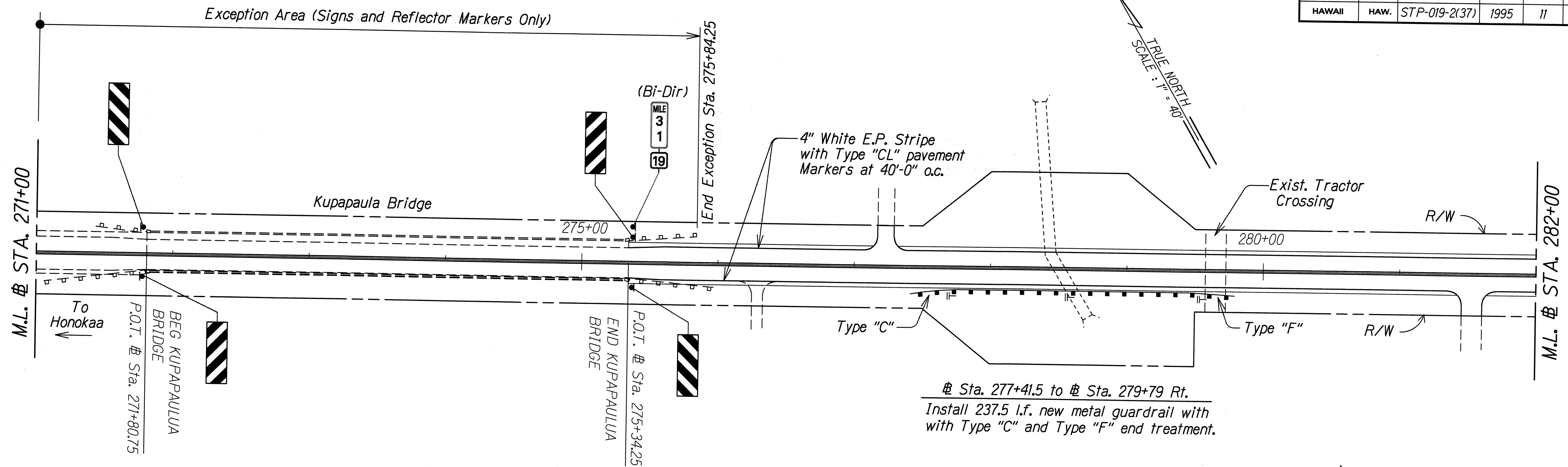
- Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**PLAN**  
**ROADWAY SIGNING**  
**PAVEMENT MARKING**  
HAWAII BELT ROAD RESURFACING  
Kaala Bridge To Kaawali Gulch  
F.A. PROJECT NO. STP-019-2(37)  
Scale: 1"=40' Date: Nov., 1994

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	11	36



**NOTES:**

- Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

DATE	NOV. 1994
DESIGNED BY	S. CHOW
DRAWN BY	J. KOSKI
CHECKED BY	S. CHOW
DATE <th>NOV. 1994</th>	NOV. 1994
DESIGNED BY	S. CHOW
DRAWN BY	J. KOSKI
CHECKED BY	S. CHOW

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**PLAN**

**ROADWAY, SIGNING**

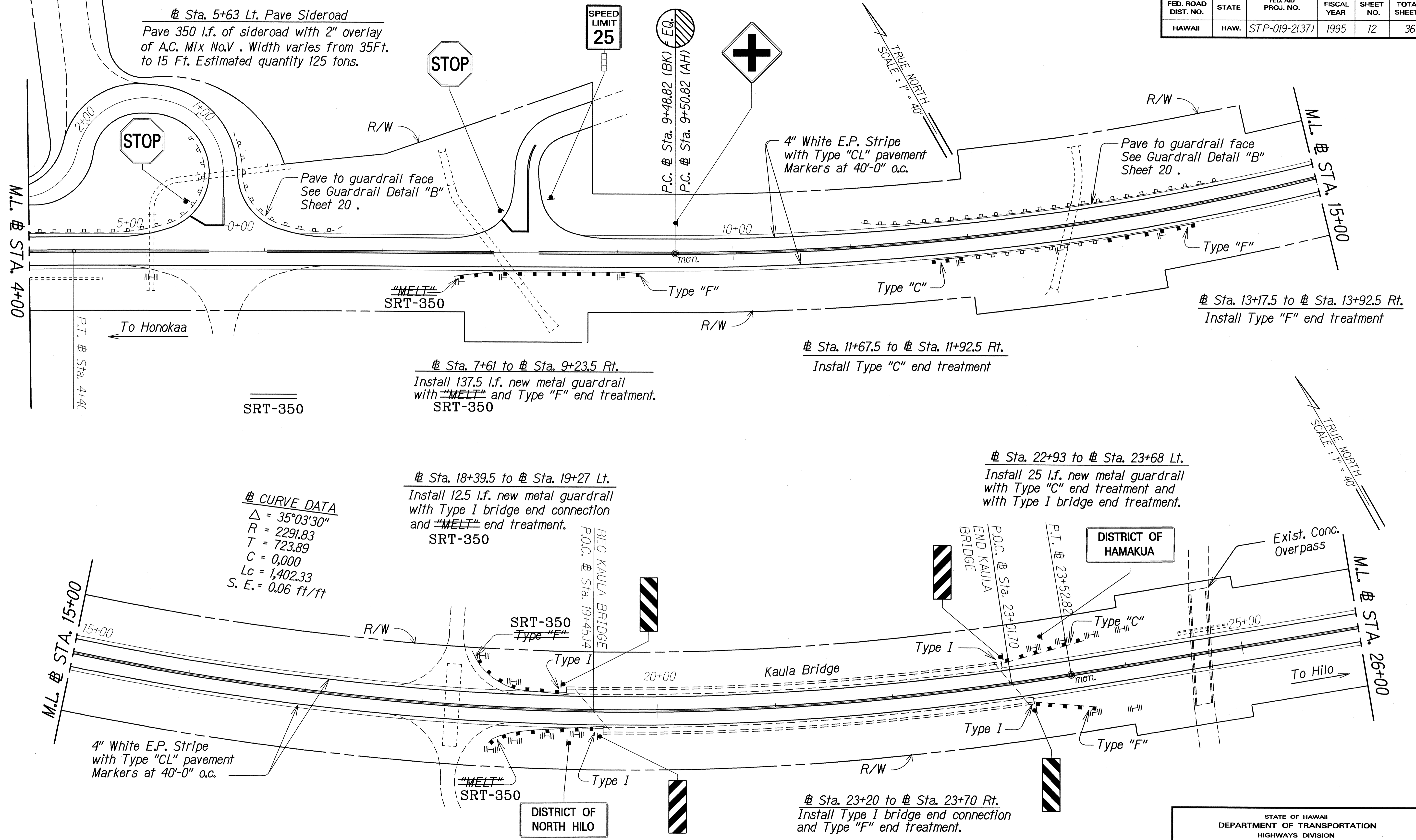
**# PAVEMENT MARKING**

HAWAII BELT ROAD RESURFACING  
Kaala Bridge To Kaawali Gulch  
F.A. PROJECT NO. STP-019-2(37)

Scale: 1"=40' Date: Nov., 1994

SHEET No. 6 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	12	36



- NOTES:**
1. Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

**LEGEND FOR AS-BUILT POSTINGS**

	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**PLAN**  
**ROADWAY, SIGNING**  
**PAVEMENT MARKING**

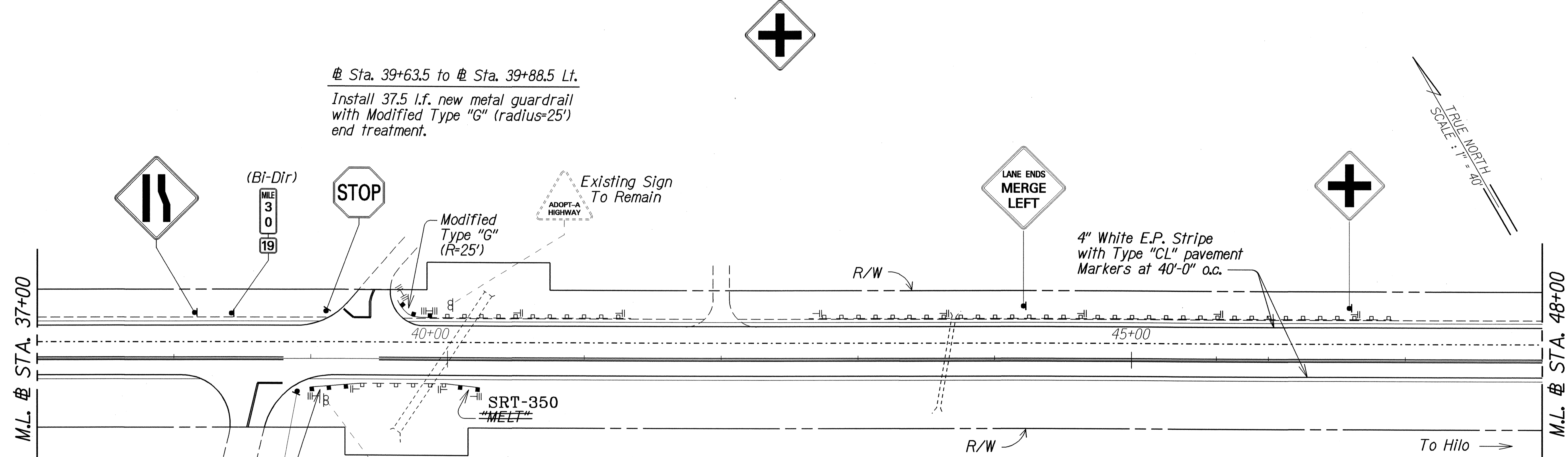
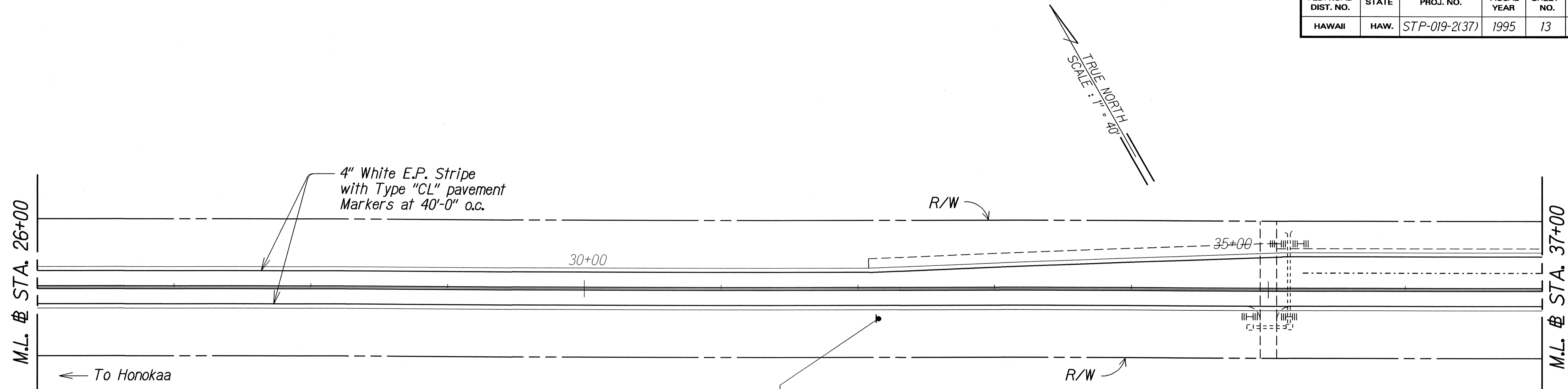
**HAWAII BELT ROAD RESURFACING**  
**Kaala Bridge To Kaawalli Gulch**  
**F.A. PROJECT NO. STP-019-2(37)**

Scale: 1"=40' Date: Nov., 1994

SHEET No. 7 OF 13 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	NOV. 1994
DESIGNED BY	NOV. 1994
QUANTITIES BY	NOV. 1994
CHECKED BY	NOV. 1994

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	13	36



4" White E.P. Stripe with Type "CL" pavement Markers at 40'-0" o.c.

Sta. 39+63.5 to Sta. 39+88.5 Lt.  
Install 37.5 l.f. new metal guardrail with Modified Type "G" (radius=25') end treatment.

Sta. 38+99 to Sta. 39+36.5 Rt.  
Install 12.5 l.f. new metal guardrail with "MELT" end treatment. SRT-350

Sta. 39+98.5 to Sta. 40+23.5 Rt.  
Install "MELT" end treatment. SRT-350

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

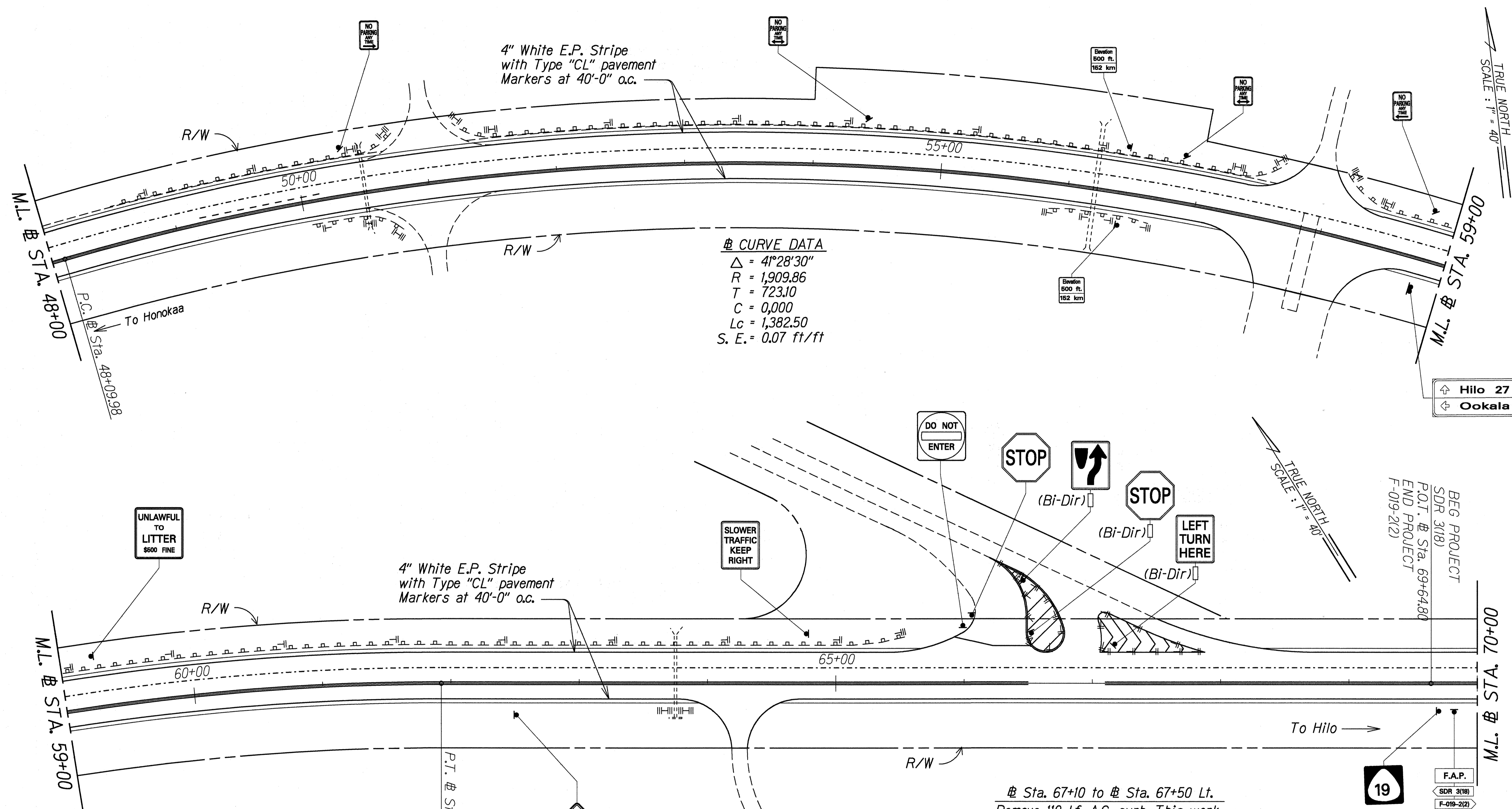
- NOTES:
- Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**PLAN**  
ROADWAY, SIGNING  
PAVEMENT MARKING  
Kaala Bridge To Kaawali Gulch  
F.A. PROJECT NO. STP-019-2(37)  
Scale: 1"=40' Date: Nov., 1994  
SHEET No. 8 OF 13 SHEETS

"AS-BUILT"

SURVEY PLOTTED BY	DATE
DRAWN BY H. Krane	Nov. 1994
TRACED BY S. Chow	Nov. 1994
DESIGNED BY S. Chow	Nov. 1994
CHECKED BY S. Chow	Nov. 1994
ORIGINAL PLAN	
NOTE BOOK	
FILE NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	14	36



**☉ CURVE DATA**  
 $\Delta = 41^{\circ}28'30''$   
 $R = 1,909.86$   
 $T = 723.10$   
 $C = 0,000$   
 $Lc = 1,382.50$   
 $S. E. = 0.07 \text{ ft/ft}$

SLOWER TRAFFIC KEEP RIGHT

DO NOT ENTER

STOP

(Bi-Dir)

STOP

(Bi-Dir)

LEFT TURN HERE

(Bi-Dir)

UNLAWFUL TO LITTER \$600 FINE

4" White E.P. Stripe with Type "CL" pavement Markers at 40'-0" o.c.

☉ Sta. 67+10 to ☉ Sta. 67+50 Lt.  
 Remove 110 l.f. A.C. curb. This work shall be considered incidental to Item No. 401.0400-Asphalt Concrete Pavement, Mix No. IV.

☉ Sta. 66+45 to ☉ Sta. 66+55 Lt.  
 Remove 140 l.f. A.C. curb. This work shall be considered incidental to Item No. 401.0400-Asphalt Concrete Pavement, Mix No. IV.

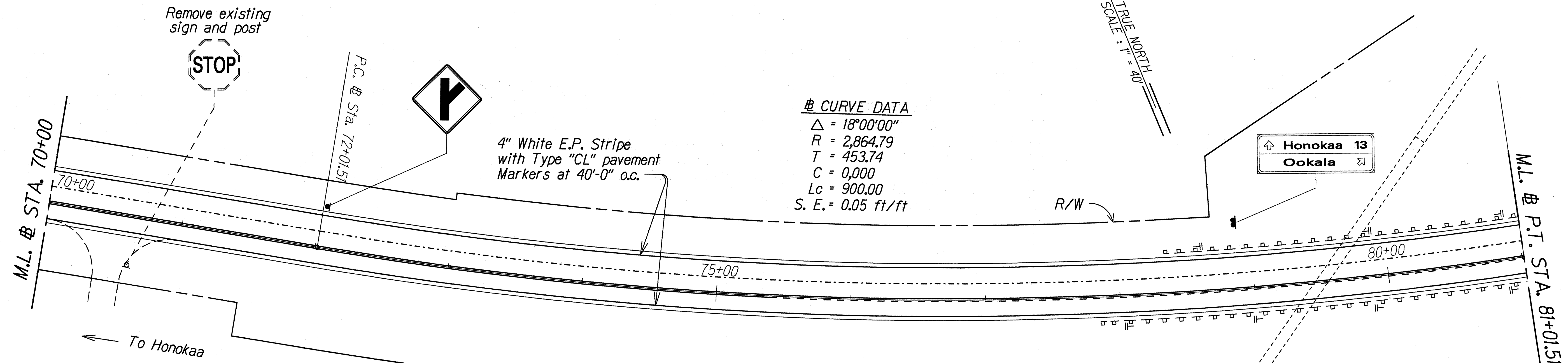
**NOTES:**

- Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

DATE	NOV. 1994
SURVEY PLOTTED BY	H.W. LEWEN
DRAWN BY	H. KEANE
NOTES	H.W. LEWEN
QUANTITIES BY	S. CHOW
CHECKED BY	S. CHOW

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**PLAN**  
 ROADWAY, SIGNING  
 & PAVEMENT MARKING  
 HAWAII BELT ROAD RESURFACING  
 Kaala Bridge To Kaawali Gulch  
 F.A. PROJECT NO. STP-019-2(37)  
 Scale: 1"=40' Date: Nov., 1994

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	15	36

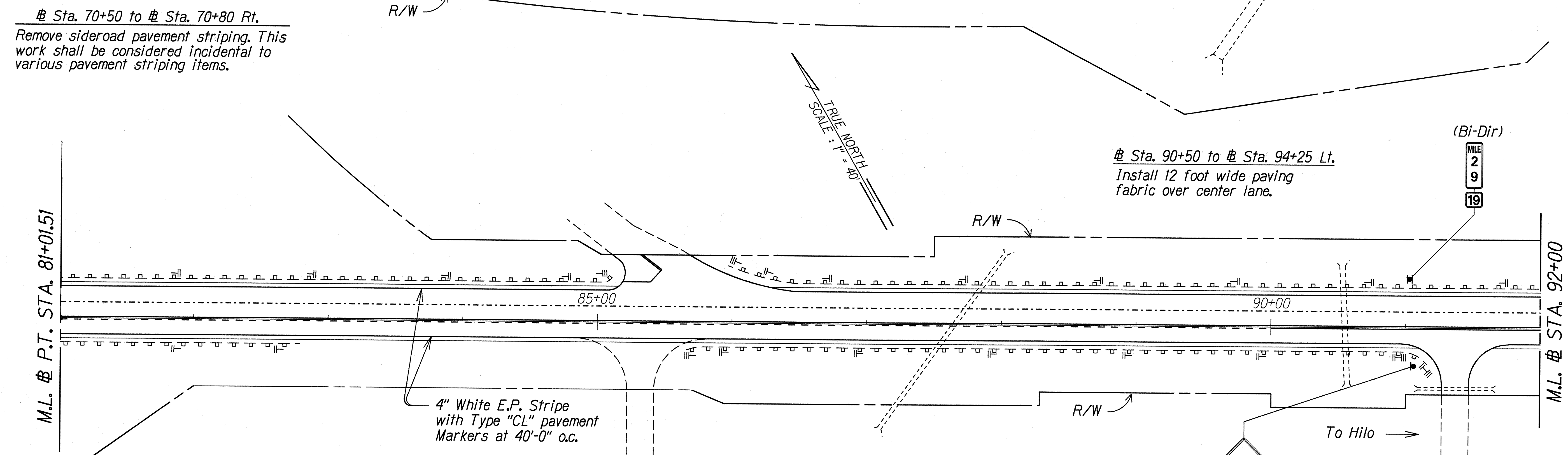


Remove existing sign and post

Remove sideroad pavement striping. This work shall be considered incidental to various pavement striping items.

**§ CURVE DATA**

Δ = 18°00'00"  
 R = 2,864.79  
 T = 453.74  
 C = 0.000  
 Lc = 900.00  
 S. E. = 0.05 ft/ft



Install 12 foot wide paving fabric over center lane.

Provide for additional leveling course between outbound thru lane and truck climbing lane. Estimated quantity 12 tons A.C. Mix No. V.

- NOTES:**
- Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

SURVEY PLOTTED BY	DATE
DRAWN BY H. KAMU	Nov. 1994
DESIGNED BY S. CHOW	Nov. 1994
QUANTITIES BY S. CHOW	Nov. 1994
CHECKED BY S. CHOW	Nov. 1994

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**PLAN**

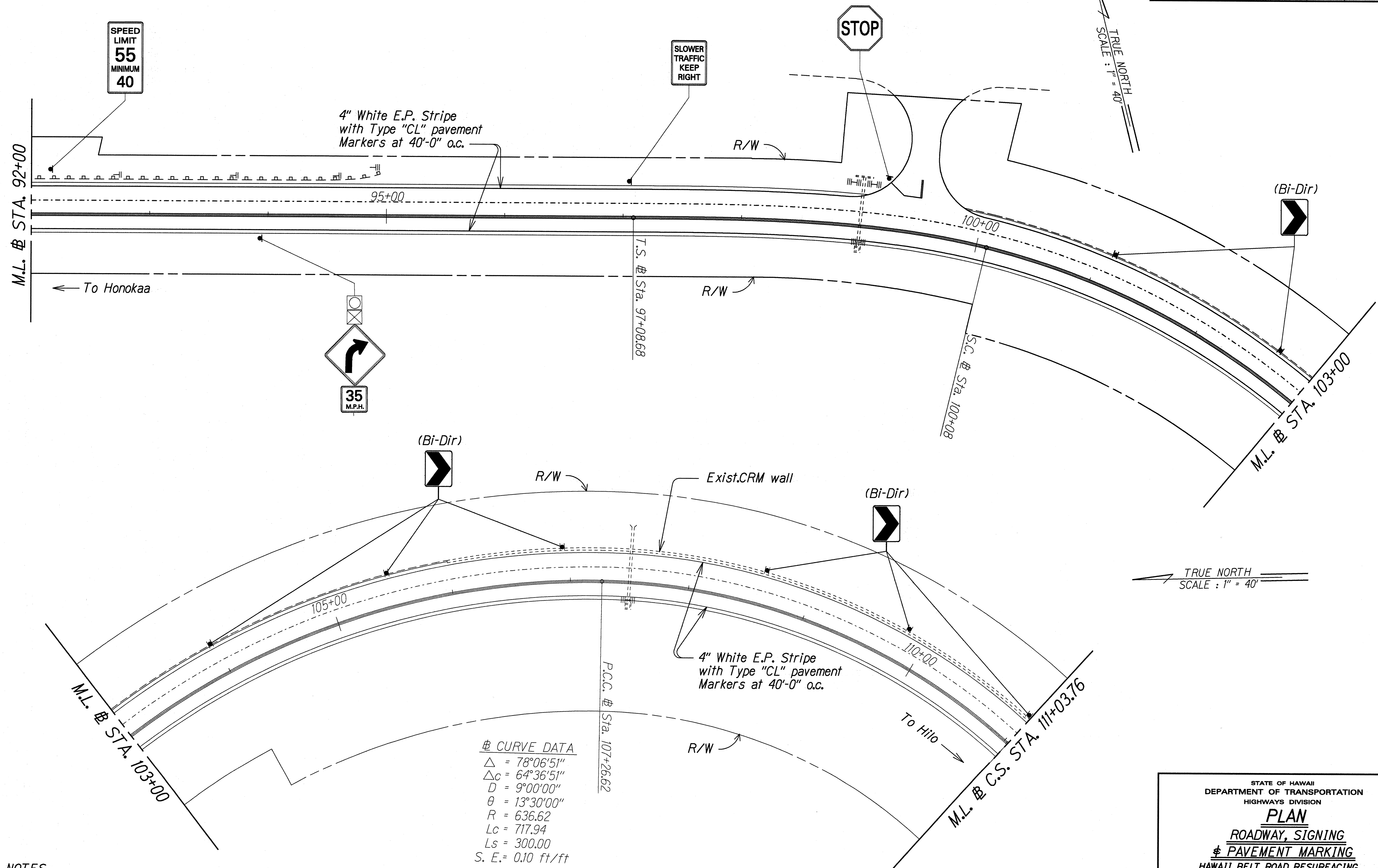
**ROADWAY, SIGNING**  
**& PAVEMENT MARKING**

**HAWAII BELT ROAD RESURFACING**  
 Kaala Bridge To Kaawalii Gulch  
 F.A. PROJECT NO. STP-019-2(37)

Scale: 1"=40' Date: Nov., 1994

SHEET No. 10 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	16	36



# CURVE DATA

$\Delta$	= 78°06'51"
$\Delta C$	= 64°36'51"
D	= 9°00'00"
$\theta$	= 13°30'00"
R	= 636.62
Lc	= 717.94
Ls	= 300.00
S. E.	= 0.10 ft/ft

NOTES:  
 1. Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	Nov. 1994
DRAWN BY H. Kanaga	Nov. 1994
TRACED BY S. Chow	Nov. 1994
NOTE BOOK	Nov. 1994
QUANTITIES BY S. Chow	Nov. 1994
CHECKED BY S. Chow	Nov. 1994

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**PLAN**  
 ROADWAY, SIGNING  
 & PAVEMENT MARKING

HAWAII BELT ROAD RESURFACING  
 Kaala Bridge To Kaawaili Gulch  
 F.A. PROJECT NO. STP-019-2(37)

Scale: 1"=40' Date: Nov., 1994

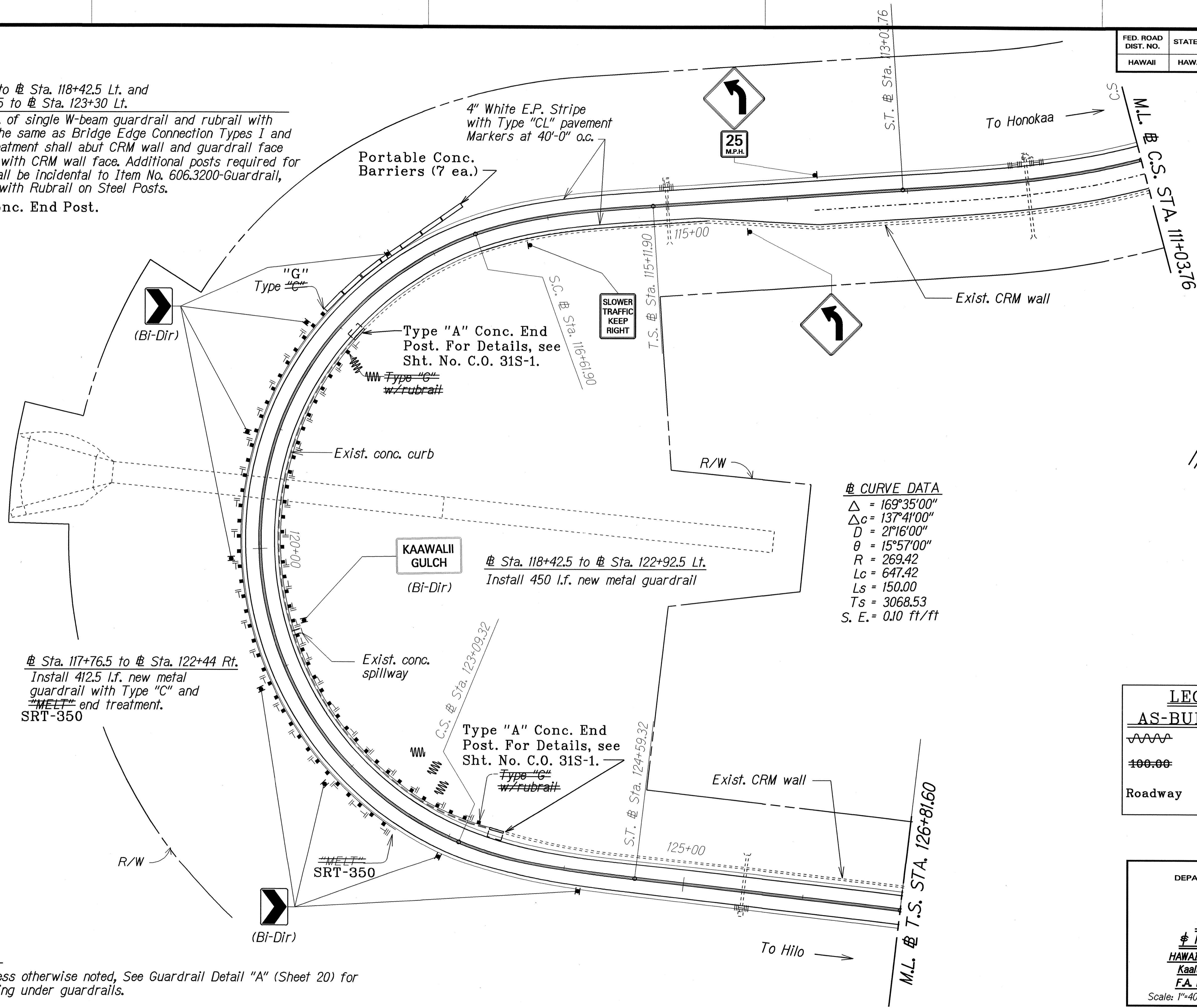
SHEET No. 11 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	17	36

Sta. 118+05 to Sta. 118+42.5 Lt. and  
Sta. 122+92.5 to Sta. 123+30 Lt.

Install 37.5 l.f. of single W-beam guardrail and rubrail with post spacing the same as Bridge Edge Connection Types I and II. ~~End~~ treatment shall abut CRM wall and guardrail face shall be flush with CRM wall face. Additional posts required for installation shall be incidental to Item No. 606.3200-Guardrail, Type 3-Single with Rubrail on Steel Posts.

Type "A" Conc. End Post.



**CURVE DATA**

$\Delta$	= 169°35'00"
$\Delta_c$	= 137°41'00"
D	= 21°16'00"
$\theta$	= 15°57'00"
R	= 269.42
Lc	= 647.42
Ls	= 150.00
Ts	= 3068.53
S. E.	= 0.10 ft/ft

**LEGEND FOR AS-BUILT POSTINGS**

	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**PLAN**

**ROADWAY, SIGNING**  
**PAVEMENT MARKING**

**HAWAII BELT ROAD RESURFACING**  
Kaala Bridge To Kaawalii Gulch  
F.A. PROJECT NO. STP-019-2(37)

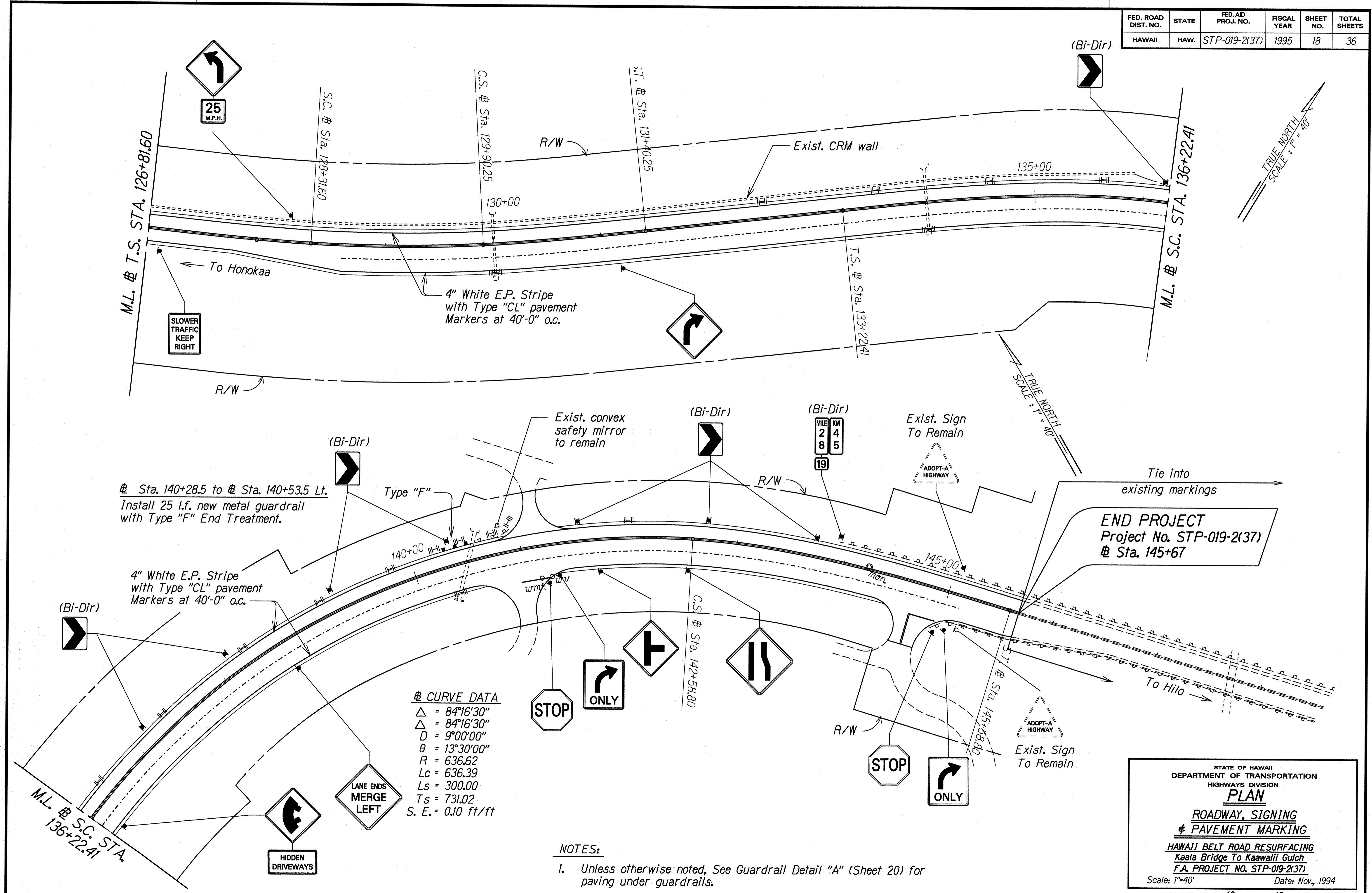
Scale: 1"=40' Date: Nov., 1994

- NOTES:**
- Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

SURVEY PLOTTED BY	DATE
DRAWN BY H. Krause	Nov. 1994
TRACED BY S. Chow	Nov. 1994
QUANTITIES BY S. Chow	Nov. 1994
CHECKED BY S. Chow	Nov. 1994

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-2(37)	1995	18	36



# Sta. 140+28.5 to # Sta. 140+53.5 Lt.  
Install 25 l.f. new metal guardrail  
with Type "F" End Treatment.

**CURVE DATA**  
 $\Delta = 84^{\circ}16'30''$   
 $\Delta = 84^{\circ}16'30''$   
 $D = 9^{\circ}00'00''$   
 $\theta = 13^{\circ}30'00''$   
 $R = 636.62$   
 $Lc = 636.39$   
 $Ls = 300.00$   
 $Ts = 731.02$   
 $S. E. = 0.10 \text{ ft/ft}$

**NOTES:**  
 1. Unless otherwise noted, See Guardrail Detail "A" (Sheet 20) for paving under guardrails.

DATE: NOV. 1994  
 SURVEY PLANNED BY: J.L. LEWIS  
 DRAWN BY: J.L. LEWIS  
 CHECKED BY: S. CHOW  
 DESIGNED BY: S. CHOW  
 ORIGINAL PLAN: 4/18/93

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**PLAN**  
 ROADWAY, SIGNING  
 & PAVEMENT MARKING  
 HAWAII BELT ROAD RESURFACING  
 Kaala Bridge To Kaawali Gulch  
 F.A. PROJECT NO. STP-019-2(37)  
 Scale: 1"=40' Date: Nov., 1994