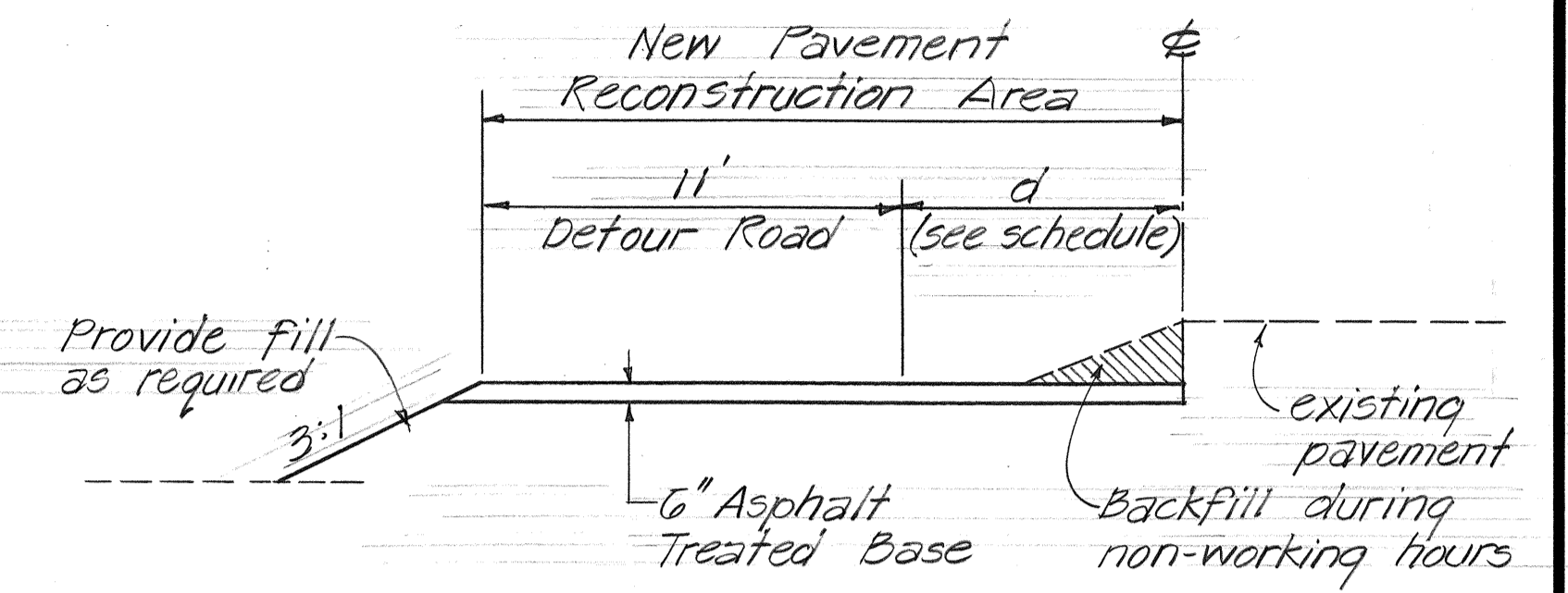
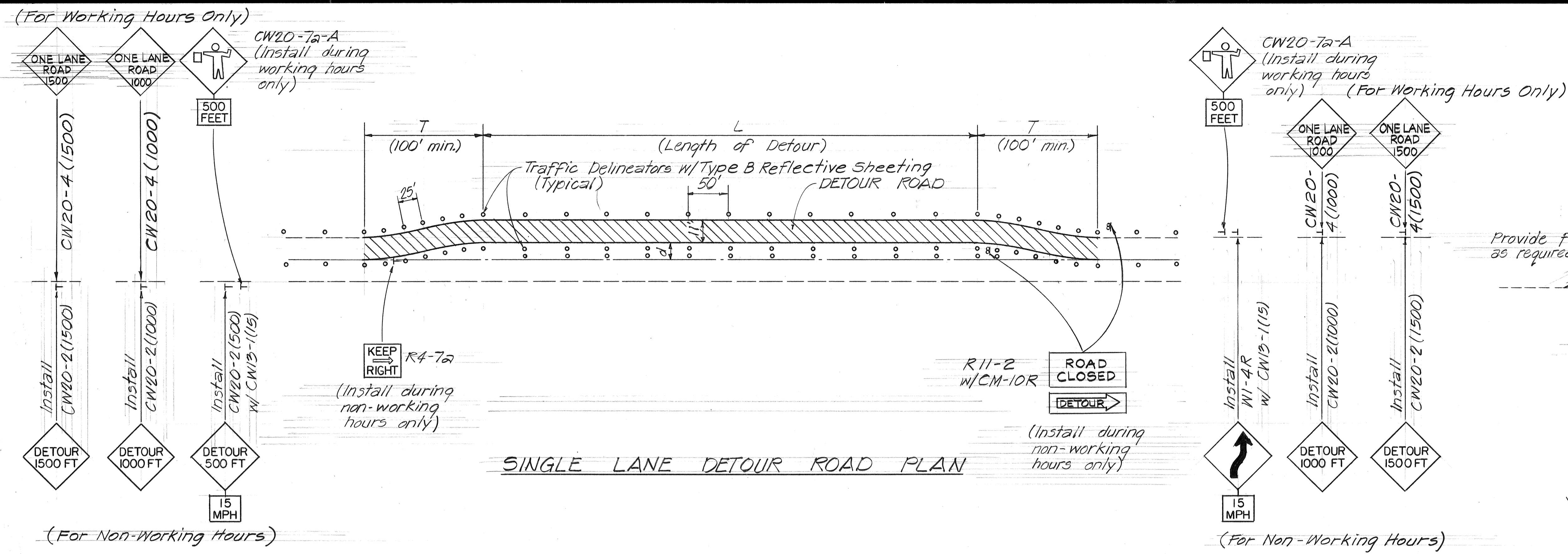
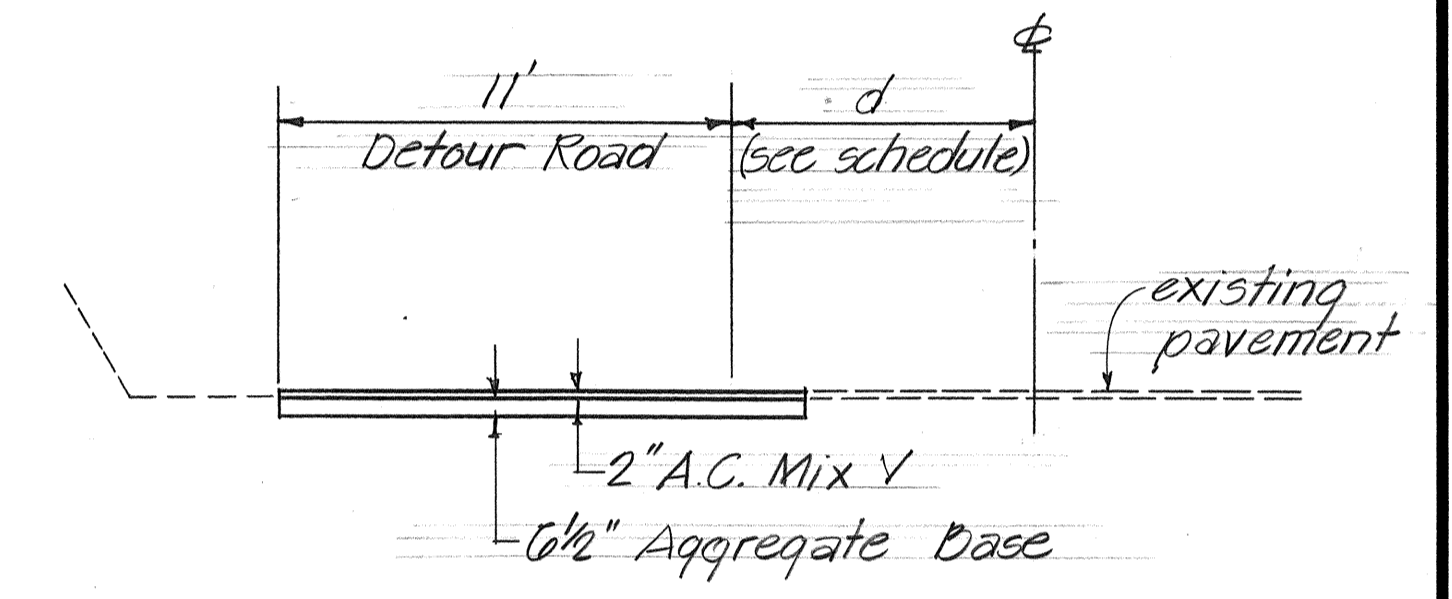


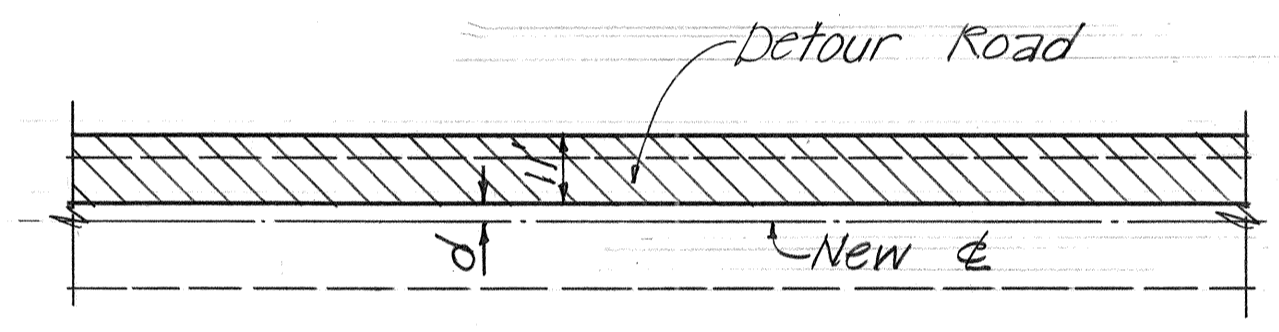
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	R5-0190(B)	1987	29	56



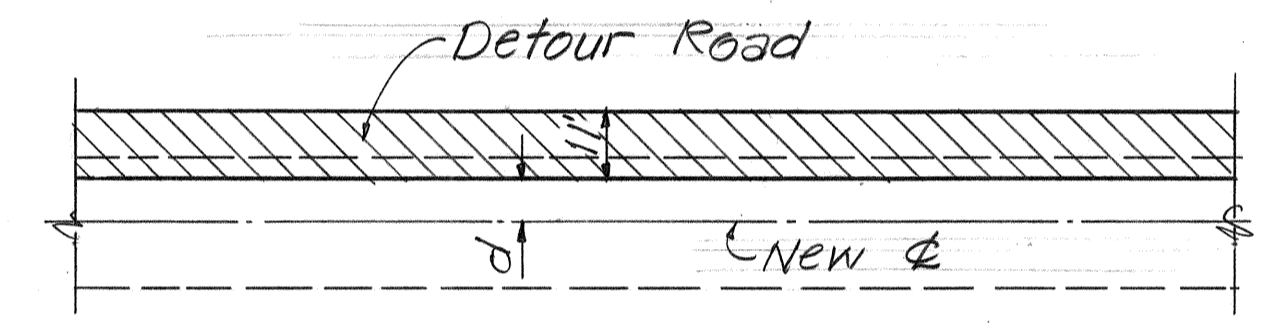
TYP. SECTION ~ SINGLE LANE (TYPE A)



TYP. SECTION ~ SINGLE LANE (TYPE B)



TYPE A DETOUR ROAD



TYPE B DETOUR ROAD

**NOTE**  
 Quantities do not include Saddle Rd. junction, sta. 151+70 to 153+60 Rt.  
 Additional A.C. Mix No. V required to level shoulders along Type A detours to finish grade

**ESTIMATED QUANTITIES\***

\*Quantities are additional quantities needed for detours, discounting quantities used for typical section construction.

TYPE	STATION - STATION	L (FT.)	d (FT.)	T (L.F.)	AREA (S.F.)	203.0100 ROADWAY EXCAVATION	304.1110 AGGREGATE BASE	401.0500 A.C. MIX V	301.0100 ASPHALT CONC. BASE	629.1016 TEMPORARY STRIPING	629.2097 TEMP. DL MARKERS	644.1000 TRAFFIC DELINEATORS
NONE	43+00 - 44+50	150								30	8	
A	48+50 - 50+50 R	200	4	100	1200	23	<6.5	13.1	47	160	40	
NONE	57+00 - 62+00	500								100	25	
A	88+00 - 90+50 L	250	4	100	1400	26	<7.6	15.3	55	180	46	
A	119+00 - 121+00 R	200	4	100	1200	23	<6.5	13.1	47	160	40	
A	125+00 - 127+50 L	250	4	100	1400	26	<7.6	15.3	55	180	46	
NONE	130+00 - 138+00	800								160	40	
NONE	142+00 - 145+00	300								60	15	
A	150+00 - 171+00 R	1910	4	100	8040	140		87.9	314	844	212	
B	150+00 - 163+50 L	1350	4	0	7330	192	147.10	21.6		580	145	
B	154+80 - 159+00 R	420	4	0	1730	45	70	21.6		168	42	
B	167+50 - 171+00 L	350	4	100	2800	70	114	35		220	56	
NONE	179+00 - 183+00	400								80	20	
NONE	193+50 - 202+00	850								170	43	
<b>TOTALS</b>						554 C.Y.	(282) 238 C.Y.	290.7 TONS	518 TONS	3,092 L.F.	778 EA.	200 EA.

**GENERAL NOTES**

- The single lane detour shall have temporary striping and raised pavement markers as indicated in Section 629 - Pavement Markers, Striping and Markings of the special provisions.
- 4-Inch pavement striping for detours shall be detour grade tape and shall be paid for under item no. 629. 3000 - 4-Inch Pavement Striping for Detours (Tape).
- The single lane detour shall be applicable to the locations as indicated on this sheet.
- All posts for construction signs shall be flanged channel posts or square tube posts the size and gage specified in the plans. No wood posts shall be allowed.
- All signs shall be of high intensity reflective sheeting.
- Type A detours shall consist of asphalt treated base course placed during reconstruction of the new roadway base.
- Type B detours shall consist of widening the existing pavement at the shoulders to provide an 11' detour lane.
- Contractor to provide smooth and easy riding transitions to existing roadway surface during work stoppages and non-working hours.
- The exact Type, Limits and Locations of Detours shall be determined by the Engineer in the field.

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

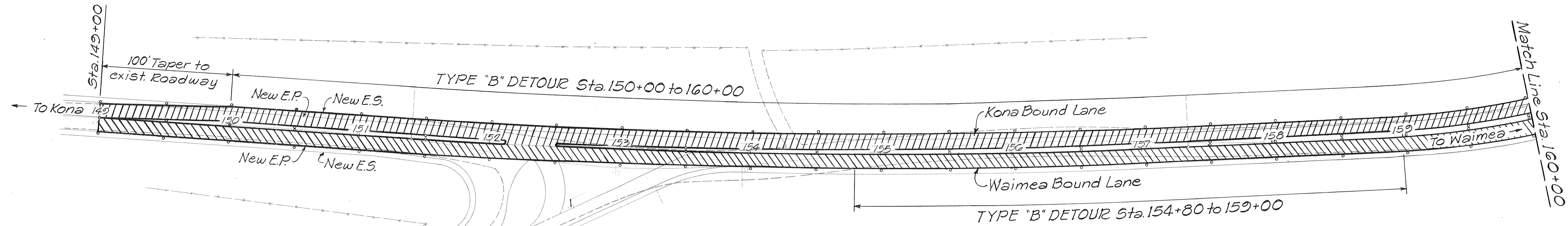
**TYPICAL DETOUR ROAD SIGNING & DETAILS**

MAMALAHOA HIGHWAY RESURFACING  
 KAMAKOHA BRIDGE NO. 1 TO KEAMUKU  
 PROJECT NO. R5-0190(B)

Not to Scale Date: March 1987  
 SHEET No. 1 OF 4 SHEETS

ORIGINAL PLANNED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 DESIGNED BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(8)	1987	30	56

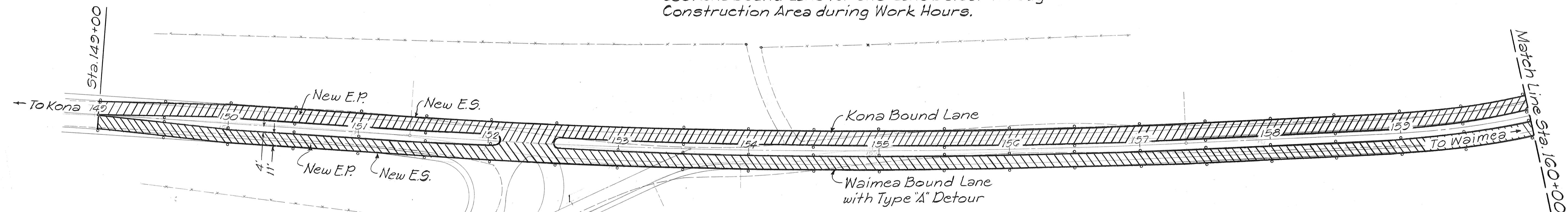
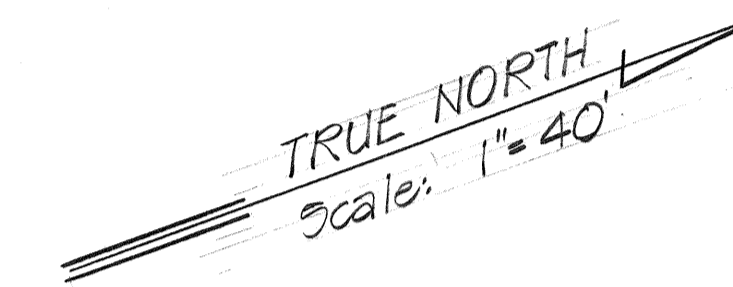


**PHASE-I STA. 149+00 to STA. 160+00**

Construct Type "B" Detour Road from  
 Station 150+00 to 160+00 (Kona Bd. Lane)  
 Station 154+80 to 159+00 (Waimea Bd. Lane)  
 Construct Type "A" Detour Road from  
 Station 149+00 to 149+50.

Reconstruct Station 149+50 to 172+00 (Waimea Bd. Lane)  
 Full width including Type "A" Detour Road.

Use Kona Bound Lane for One-Lane Detour through  
 Construction Area during Work Hours.



**PHASE-II STA. 149+00 to STA. 160+00**

Reconstruct Kona Bound Lane.

Use New Waimea Bound Lane with  
 Type "A" Detour Road through  
 Construction Area during Work Hours.

**GENERAL DETOUR NOTES:**

**STA. 149+00 to STA. 172+00**

Provide Smooth Riding Transitions back  
 to detour lanes as shown during work  
 stoppage.

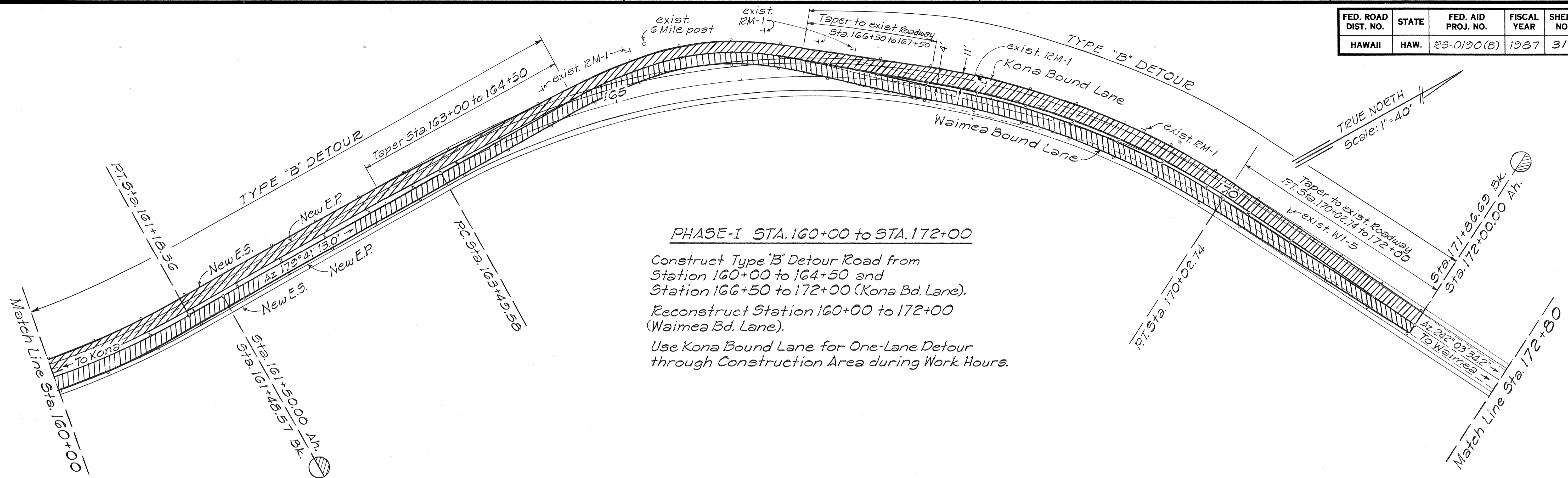
Provide Traffic Delineators and route  
 traffic along detour lanes shown during  
 non-working hours.

Provide Flagmen and Construction  
 Warning Signs in accordance with  
 Advance Warning Signs shown on Sheet 29.

DATE	
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

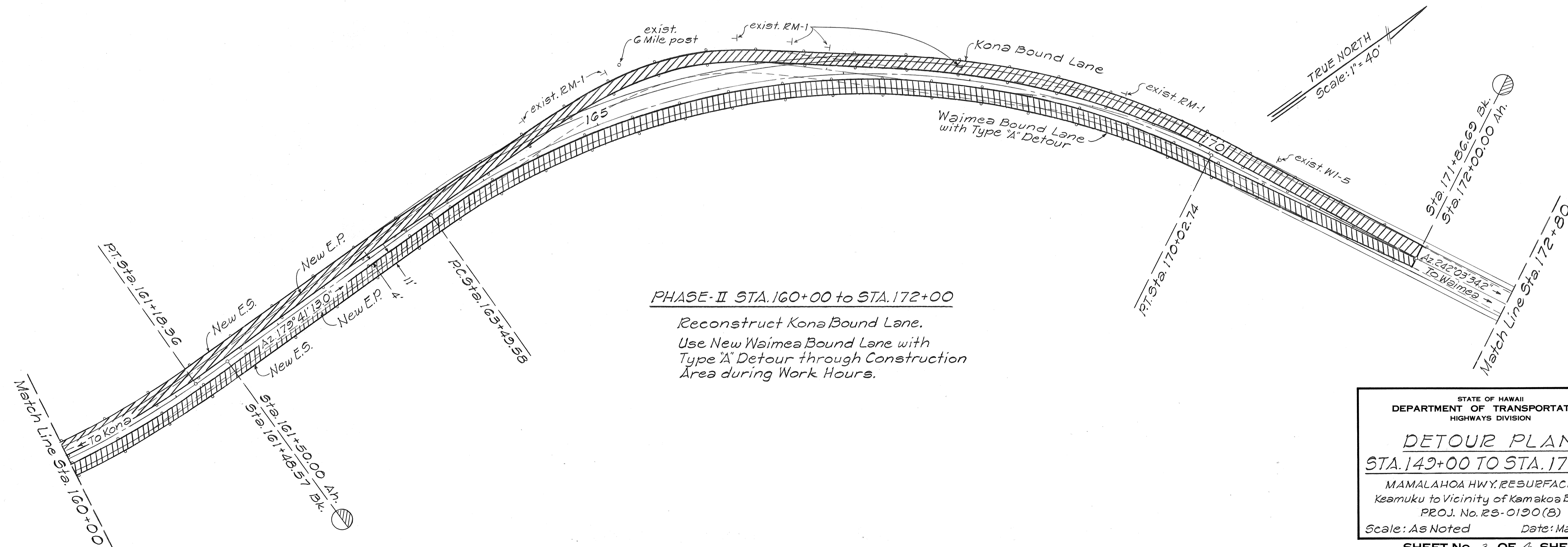
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**DETOUR PLAN**  
**STA. 149+00 TO STA. 172+00**  
 MAMALAHOA HIGHWAY RESURFACING  
 KAMAKOHA BRIDGE NO. 1 TO KEAMUKU  
 PROJECT NO. RS-0190(8)  
 Scale: As Noted Date: March 1987

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	25-0190(B)	1987	31	56



**PHASE-I STA. 160+00 to STA. 172+00**

Construct Type "B" Detour Road from Station 160+00 to 164+50 and Station 166+50 to 172+00 (Kona Bd. Lane).  
 Reconstruct Station 160+00 to 172+00 (Waimea Bd. Lane).  
 Use Kona Bound Lane for One-Lane Detour through Construction Area during Work Hours.



**PHASE-II STA. 160+00 to STA. 172+00**

Reconstruct Kona Bound Lane.  
 Use New Waimea Bound Lane with Type "A" Detour through Construction Area during Work Hours.

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

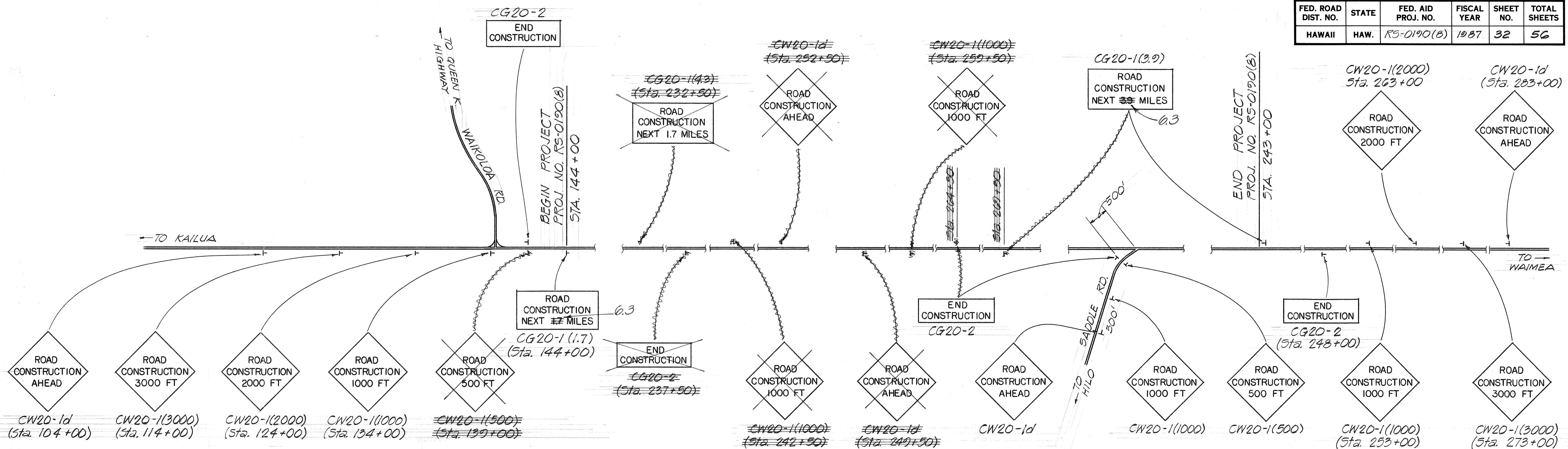
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**DETOUR PLAN**  
 STA. 149+00 TO STA. 172+00

MAMALAHOA HWY. RESURFACING  
 Keamuku to Vicinity of Kamakoa Br. No. 1  
 PROJ. No. 25-0190(B)  
 Scale: As Noted Date: Mar. 1987

**SHEET NO. 3 OF 4 SHEETS**

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(B)	1987	32	56



**CONSTRUCTION & DETOUR SIGN SUMMARY**

STATION	621.5400 Regulatory & Warning Sign (Construction)	621.7120 Construction Sign with Two Posts	621.5100 Regulatory & Warning Sign w/Post (≤ 10 FT <sup>2</sup> )	STATION	621.5400 Regulatory & Warning Sign (Construction)	621.7120 Construction Sign with Two Posts	621.5100 Regulatory & Warning Sign w/Post (≤ 10 FT <sup>2</sup> )
MAMALAHOA HWY							
104+00 R		1 ea. CW20-1d					
114+00 R		1 ea. CW20-1(3000)					
124+00 R		1 ea. CW20-1(2000)					
134+00 R		1 ea. CW20-1(1000)					
<del>139+00 R</del>		<del>1 ea. CW20-1(500)</del>					
139+00 L		1 ea. CG20-2		SADDLE ROAD			
144+00 R		1 ea. CG20-1( <del>1.7</del> )6.3		5+00 L	1 ea. CW20-1(500)		
<del>232+50 L</del>		<del>1 ea. CG20-1(4.3)</del>		5+00 R	1 ea. CG20-2		
<del>237+50 R</del>		<del>1 ea. CG20-2</del>		10+00 L	1 ea. CW20-1(1000)		
<del>242+50 L</del>		<del>1 ea. CW20-1(1000)</del>		15+00 L	1 ea. CW20-1d		
<del>252+50 L</del>		<del>1 ea. CW20-1d</del>					
<del>249+50 R</del>		<del>1 ea. CW20-1d</del>		DETOUR ROADS*			
<del>259+50 R</del>		<del>1 ea. CW20-1(1000)</del>		AS NEEDED	2 ea. CW13-1(15)	1 ea. CW20-2(500)	1 ea. R4-7a
<del>264+50 L</del>		<del>1 ea. CG20-2</del>		"	2 ea. CW20-4(1000)	2 ea. CW20-2(1000)	2 ea. R11-2
<del>269+50 R</del>		<del>1 ea. CG20-1(3.9)</del>		"	2 ea. CW20-4(1500)	2 ea. CW20-2(1500)	1 ea. CW1-4R
				"	2 ea. CM4-10(R)	2 ea. CW20-7 <sup>6</sup> -A	
243+00 L		1 ea. CG20-1( <del>3.9</del> )6.3					
248+00 R		1 ea. CG20-2					
253+00 L		1 ea. CW20-1(1000)					
263+00 L		1 ea. CW20-1(2000)					
273+00 L		1 ea. CW20-1(3000)					
283+00 L		1 ea. CW20-1d					
				TOTALS	8 Ea.	25 <del>32</del> Ea.	4 Ea.

\* See Typical Detour Road, Signing and Details for Temporary Striping and Temporary Pavement Marker Estimated Quantities. (Sheet 29)

DATE \_\_\_\_\_  
 SURVEY PLOTTED BY \_\_\_\_\_  
 DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 ORIGINAL PLAN \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 NO. \_\_\_\_\_

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**CONSTRUCTION & DETOUR  
 SIGN DETAILS & SUMMARY**

MAMALAHOA HIGHWAY RESURFACING  
 KAMAKOHA BRIDGE NO. 1 TO KEAMUKU  
 PROJECT NO. RS-0190(B)

Not to Scale Date: March 1987

SHEET NO. 4 OF 4 SHEETS