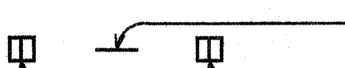
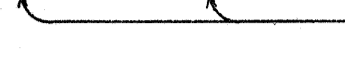
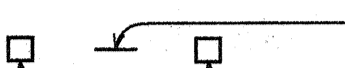
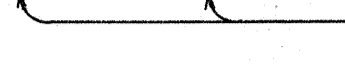

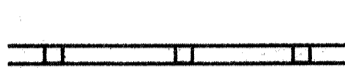







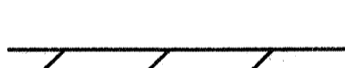








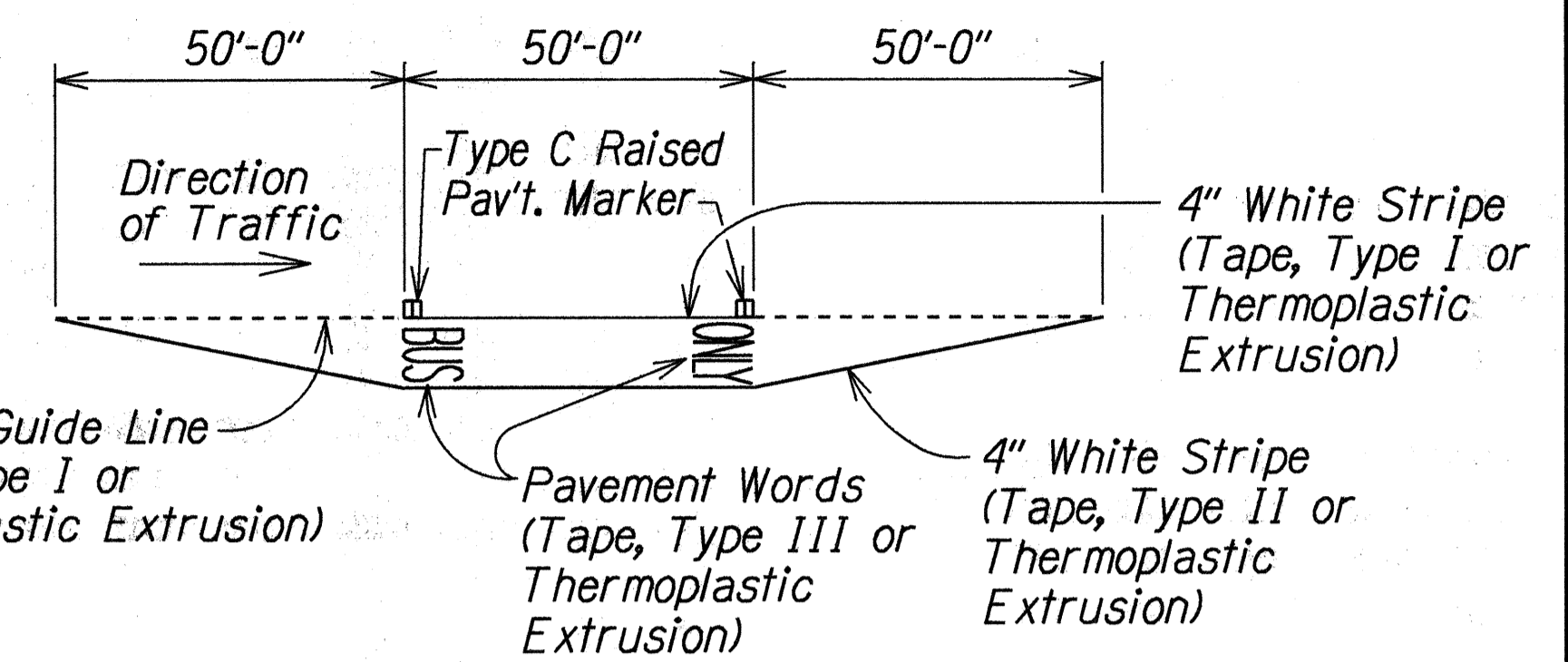
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	25	55

LEGEND

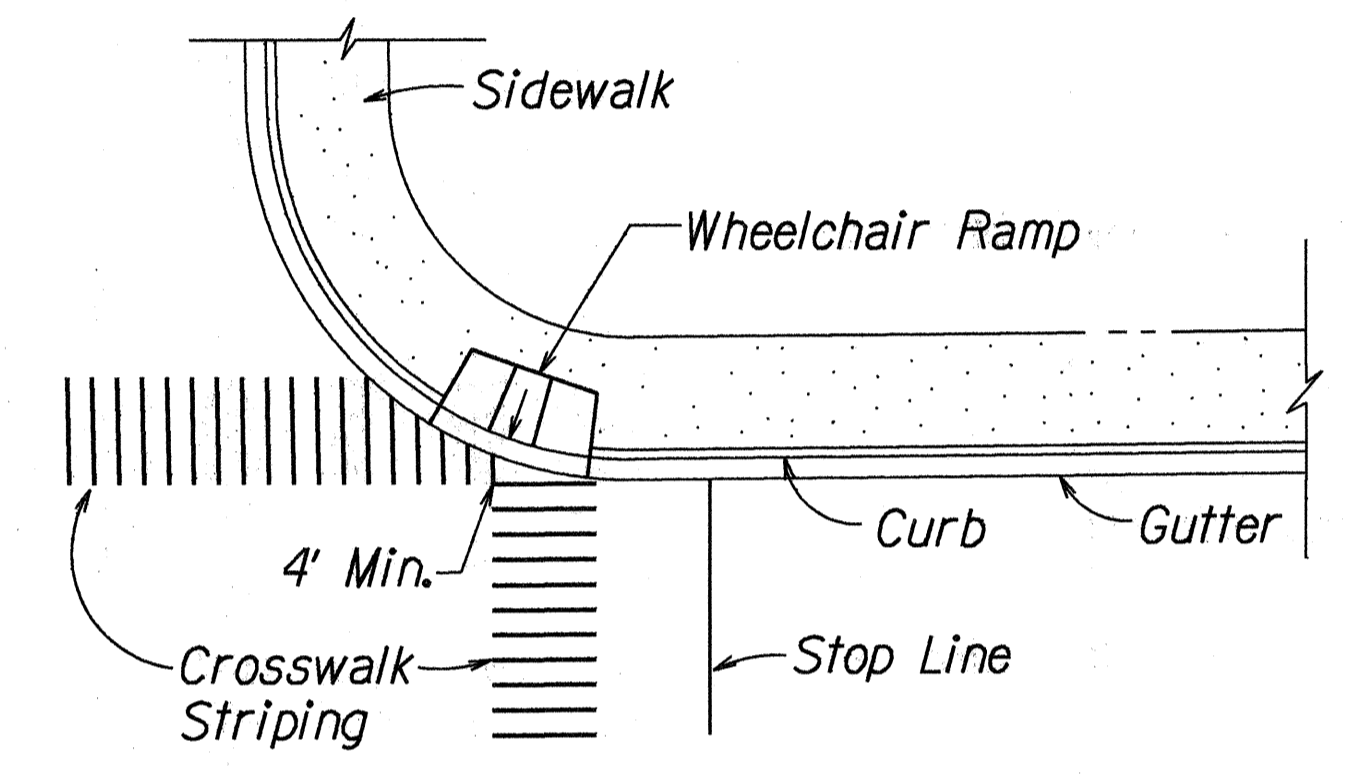
-  4 each Type A Raised Pavement Markers
-  Type C Raised Pavement Markers @ 40'-0" o.c.
-  4 each Type J Raised Pavement Markers
-  Type D Raised Pavement Markers @ 40'-0" o.c.
-  8" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
-  4" Double Solid Yellow with Type D Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
-  4" Double Solid Yellow Stripes with Type H Raised Pavement Markers @ 20'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
-  4" Yellow Edge Stripe with Type H Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
-  4" Double Solid White Stripes with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
-  Lane Change Restriction Marking
-  4 each Type A Raised Pavement Markers
Type C Raised Pavement Markers @ 20'-0" o.c.
4" White Stripe (Tape, Type I or Thermoplastic Extrusion)
-  4" or 8" White Edge Stripe with Type C Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
-  4" White Guide Lines (Tape, Type III or Thermoplastic Extrusion except for bus bays)
-  Transverse Median Marking (Tape, Type II or Thermoplastic Extrusion)
-  Transverse Shoulder Marking (Tape, Type II or Thermoplastic Extrusion)
-  Channelizing Island or Deceleration Lane Gore (Tape, Type II or Thermoplastic Extrusion)
-  Crosswalk and Stop Line. All Stop Lines shall be 10'-0" from Crosswalk unless otherwise noted. The circled number indicates the number of lanes for payment (Tape, Type III or Thermoplastic Extrusion)
-  Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)
-  STOP Pavement Word (Tape, Type III or Thermoplastic Extrusion)
-  4 Each Type J Raised Pavement Markers
Type D Raised Pavement Markers @ 40'-0" o.c.
Type H Raised Pavement Markers (Reflective Surface facing no-passing direction)
4" Single Solid Yellow Stripe (Tape, Type I or Thermoplastic Extrusion)
-  Extension of Edge Line, 4" Wide x 2'-0" Long White Stripe @ 10'-0" o.c. w/Type C Markers @ 40'-0" o.c. (Tape, Type III or Thermoplastic Extrusion)

NOTES

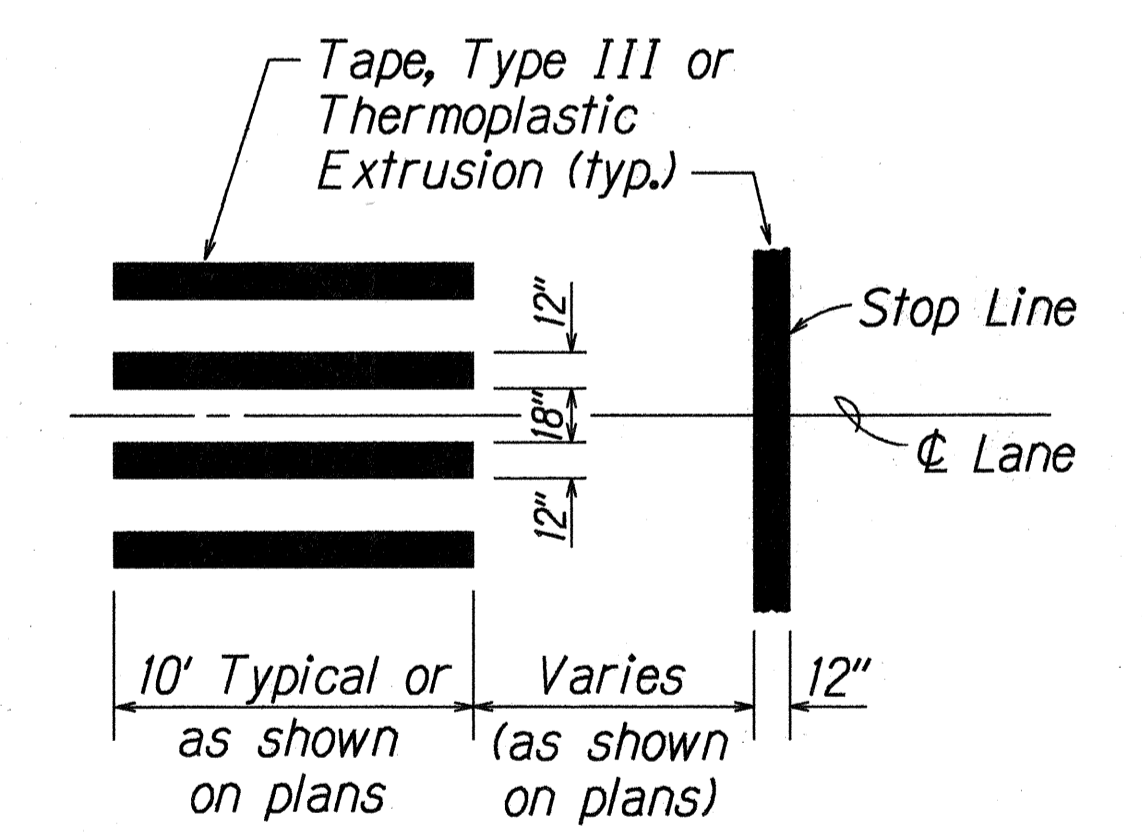
1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
2. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer. Costs shall be incidental to the various pavement marking items.
3. Raised pavement markers shall not be installed within crosswalks.
4. Final locations of all signs shall be approved by the Engineer prior to any installation work.
5. Existing signs not shown on these plans shall remain as posted unless otherwise directed by the Engineer. Removal and disposal of existing signs and/or posts as designated on these plans shall be incidental to the various signing items.
6. Final locations of all Stop Lines shall be approved by the Engineer prior to installation.
7. All pavement striping shall be as noted on the legend or plans.
8. All preformed pavement marking tapes over existing pavement shall be applied with an approved primer as recommended by the tape manufacturer and as approved by the Engineer. The primer shall be allowed to dry to the tacky stage prior to tape application.
9. Curb marking shall include top and front face of curb.
10. Backing for all new Regulatory and Warning Signs shall not be spliced.
11. All sign panels shall conform to Section 62I of Special Provisions and the latest editions and amendments of the following FHWA publications:
 - a. "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD)
 - b. "Standard Highway Signs"
 - c. "Standard Alphabets for Highway Signs"
12. Border, messages, arrows, symbols and shields shall conform to details as shown on the plans and as specified in the MUTCD.
13. Sign messages shall be as indicated on the plan.
14. All panels shall be reflectorized in accordance with Section 712.20 of the Standard Specifications. Minimum width of panels shall be 2 feet, abutting edges of panels shall be in only one direction if vertical abutting edges are used, no horizontal abutting edges shall be allowed and vice versa.
15. All new and relocated signs and markers installed on pipe posts, light standard or expressway sign post are to be mounted with band brackets and steel braces.
16. Final location of all sign post installed within the sidewalk areas shall maintain a minimum clearance width of 36 inches from sidewalk edge to provide for wheelchair accessibility.
17. Removing existing signs and reinstalling on new post shall not be paid for separately, but shall be considered incidental to the various signing items.
18. Signs placed along bikeways shall have a minimum height clearance of 10'-0".
19. All existing sign post(s) to remain within the sidewalk area shall meet the minimum clear width of 36 inches from the sidewalk edge. Where necessary, the existing sign post(s) shall be relocated to meet the minimum clear width. This work shall not be paid for separately but shall be considered incidental to the various signing items.
20. All pavement markings disturbed during the reconstruction of weakened pavement area, from Waimanalo Stream Bridge, (Sta. 4+29) to End of Project, shall be striped to its original layout. Cost of this work shall be considered incidental to reconstruction of weakened pavement areas.
21. Removing and Reinstalling existing Street Name Signs on Regulatory and Warning Signs Post shall not be paid for separately but shall be considered incidental to the various Signing Items.
22. Install Type II Object Marker on all utility poles or trees that are within the State Highway right-of-way and within 50 feet of the roadway edge of pavement shall be marked as directed by the Engineer.



TYPICAL BUS BAY STRIPING
Not to Scale



TYPICAL CROSSWALK STRIPING AT WHEELCHAIR RAMP
Not to Scale

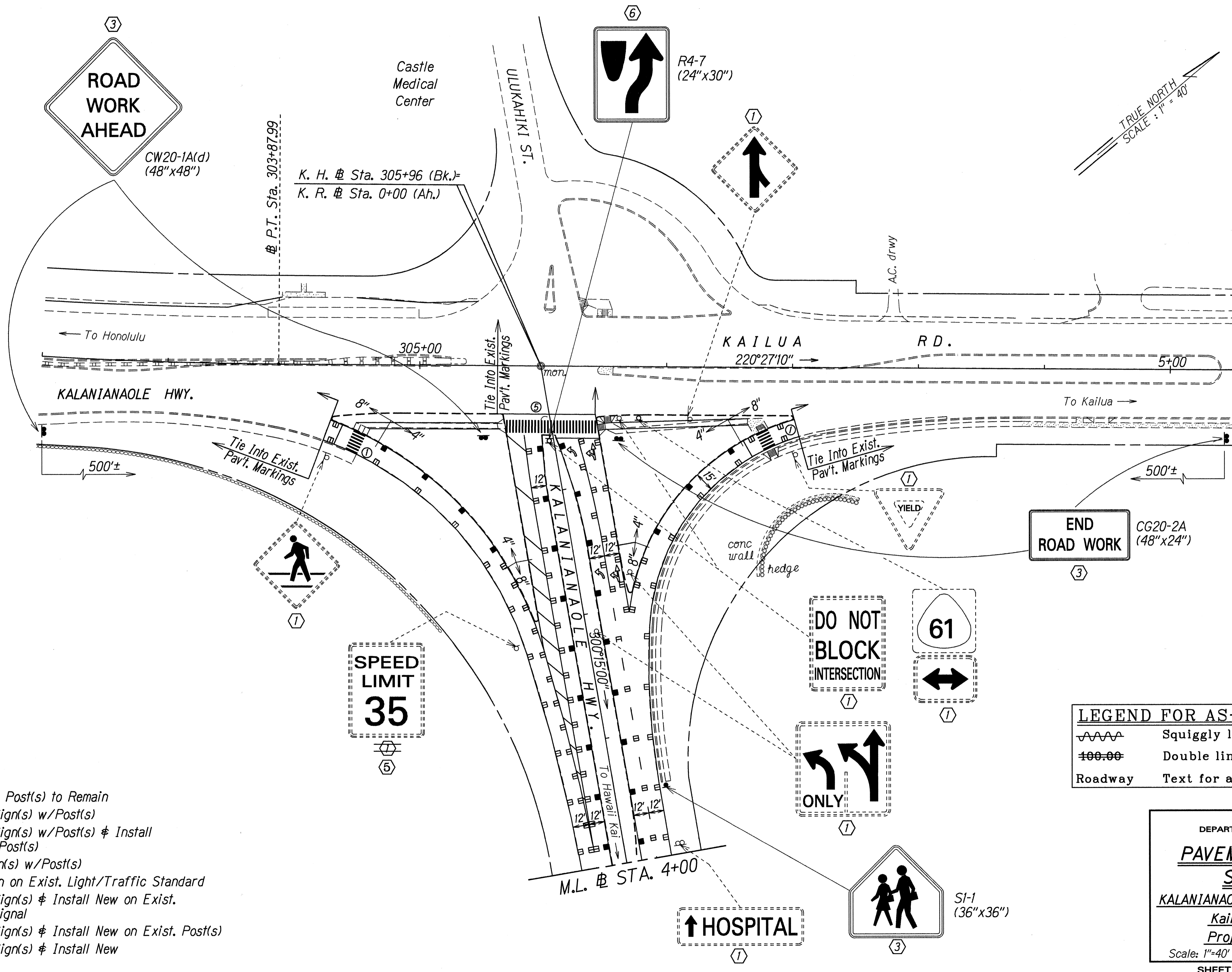


CROSSWALK STRIPING DETAIL
Not to Scale

SURVEY PLOTTED BY	DATE	3/27/96
DESIGNED BY		
NOTED BY		
QUANTITIES BY		
CHECKED BY		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKING
LEGEND, DETAILS & NOTES
KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilo St.
Project No. 72A-01-96M
Not to Scale Date: May, 1996
SHEET No. 25 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	26	55



- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑤ Install New Sign on Exist. Light/Traffic Standard
 - ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
 - ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
 - ⑧ Remove Exist. Sign(s) & Install New

LEGEND FOR AS-BUILT POSTINGS

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

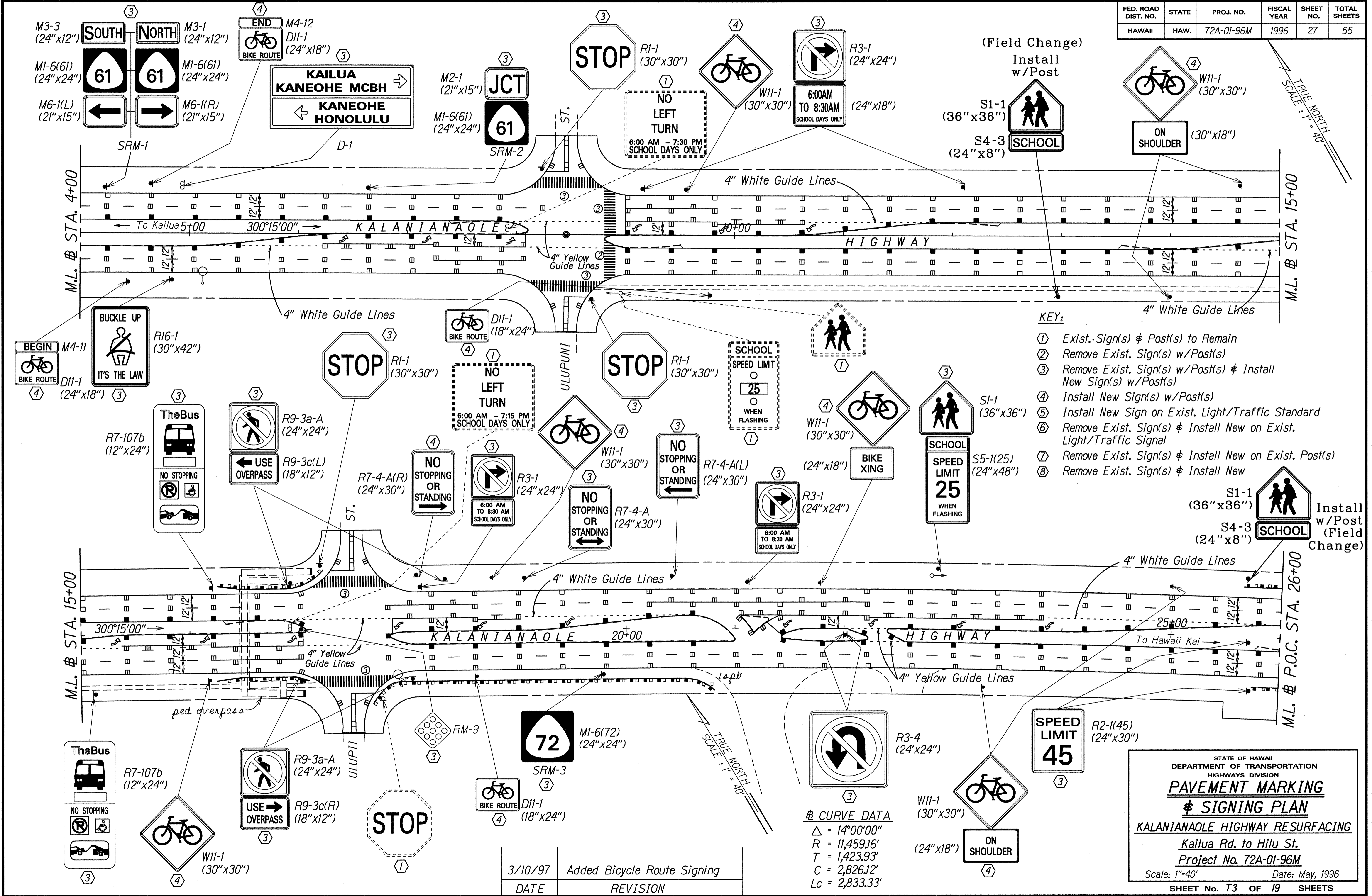
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilo St.
Project No. 72A-01-96M
Scale: 1"=40' Date: May, 1996
SHEET No. 72 OF 19 SHEETS

SURVEY PLOTTED BY	DATE	3/23/96
DRAWN BY		
DESIGNED BY		
NOTE BOOK		
Id. No.		
QUANTITIES BY		
CHECKED BY		
No.		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	27	55



- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑤ Install New Sign on Exist. Light/Traffic Standard
 - ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
 - ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
 - ⑧ Remove Exist. Sign(s) & Install New

SURVEY PLOTTED BY	DATE	3/28/96
DRAWN BY	M. Takahashi	
DESIGNED BY	G. K. K. K.	
QUANTITIES BY		
CHECKED BY	S. S.	
ORIGINAL PLAN		
NOTE BOOK	162.may	
DATE	5/9/96	

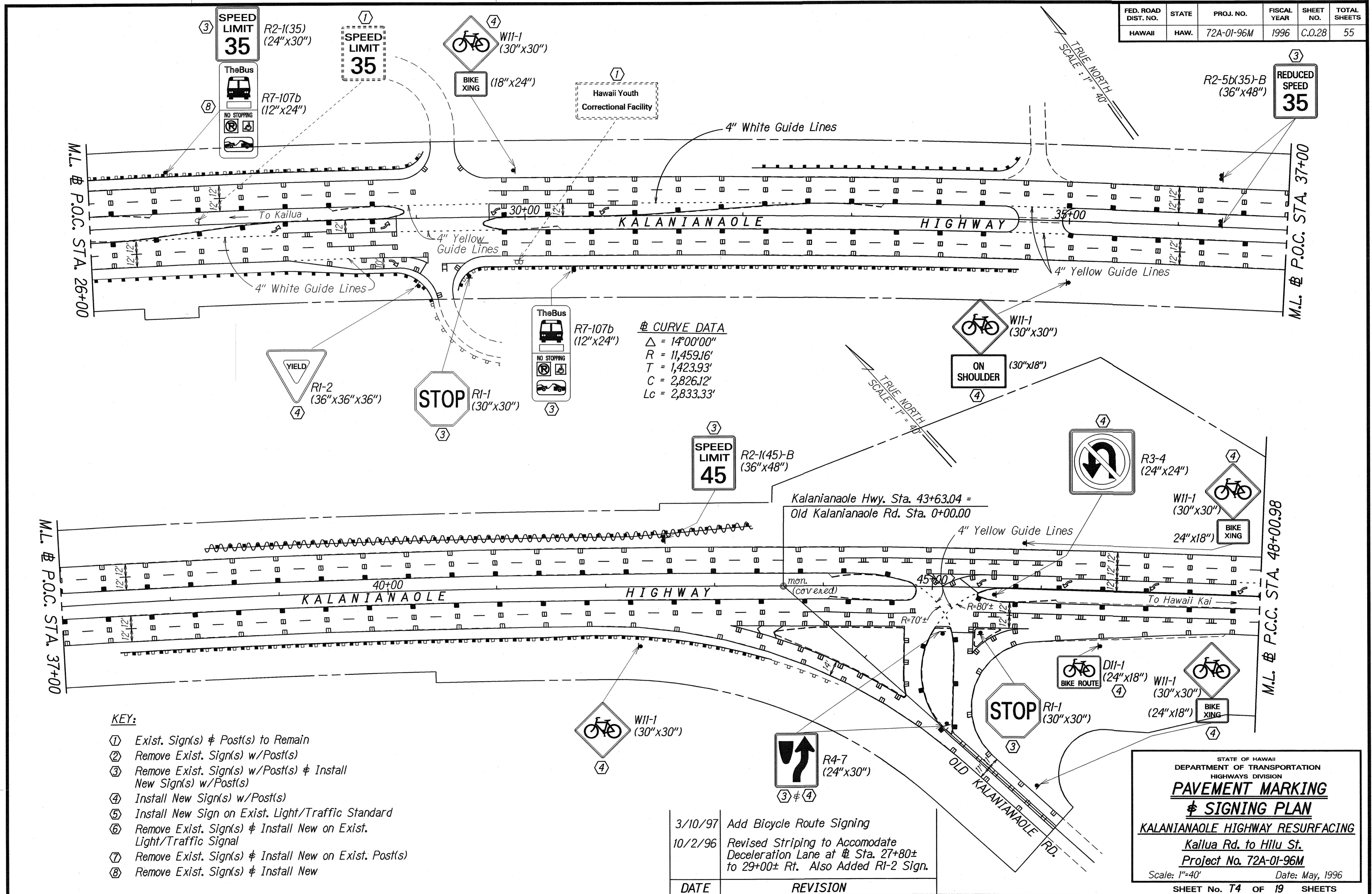
DATE	REVISION
3/10/97	Added Bicycle Route Signing

CURVE DATA
 $\Delta = 14^{\circ}00'00''$
 $R = 11,459.16'$
 $T = 1,423.93'$
 $C = 2,826.12'$
 $Lc = 2,833.33'$

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKING
& **SIGNING PLAN**
KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilo St.
Project No. 72A-01-96M
Scale: 1"=40' Date: May, 1996
SHEET No. 73 OF 19 SHEETS

AS-BUILT C.O. 27

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	C.O.28	55



- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑤ Install New Sign on Exist. Light/Traffic Standard
 - ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
 - ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
 - ⑧ Remove Exist. Sign(s) & Install New

DATE	REVISION
3/10/97	Add Bicycle Route Signing
10/2/96	Revised Striping to Accomodate Deceleration Lane at Sta. 27+80± to 29+00± Rt. Also Added RI-2 Sign.

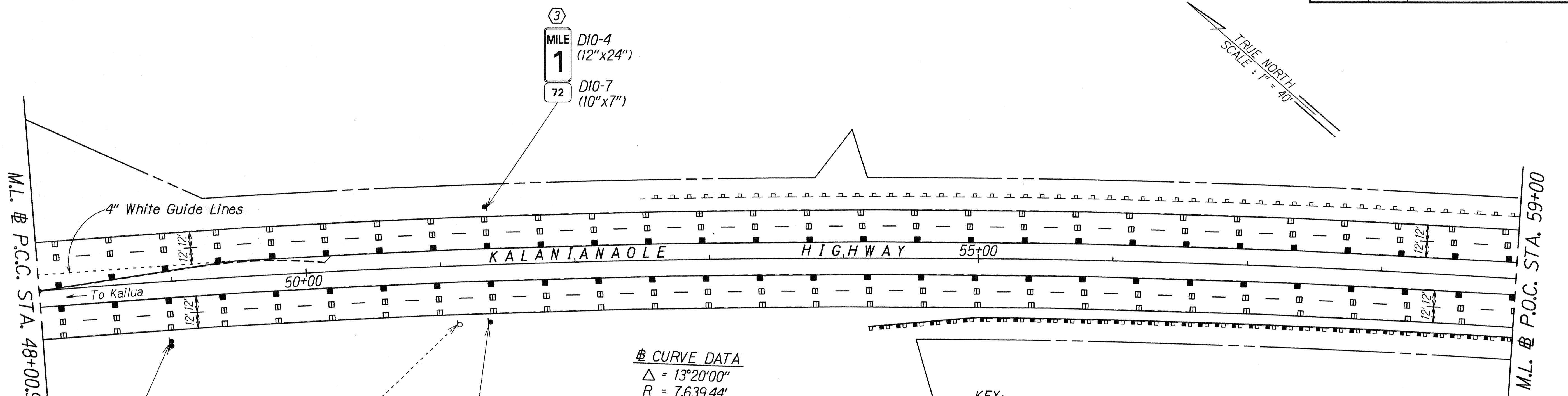
SURVEY BY: M. J. ...
 DRAWN BY: M. J. ...
 DESIGNED BY: E. ...
 QUANTITIES BY: ...
 CHECKED BY: ...

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
PAVEMENT MARKING
& SIGNING PLAN
KALANIANA'OLE HIGHWAY RESURFACING
 Kailua Rd. to Hiliu St.
 Project No. 72A-01-96M
 Scale: 1"=40' Date: May, 1996
 SHEET No. 74 OF 19 SHEETS

"AS-BUILT"

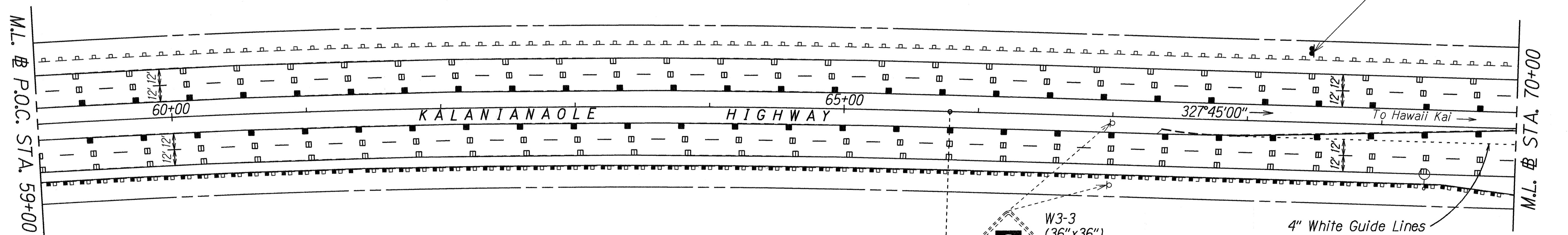
C.O. 28

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	29	55

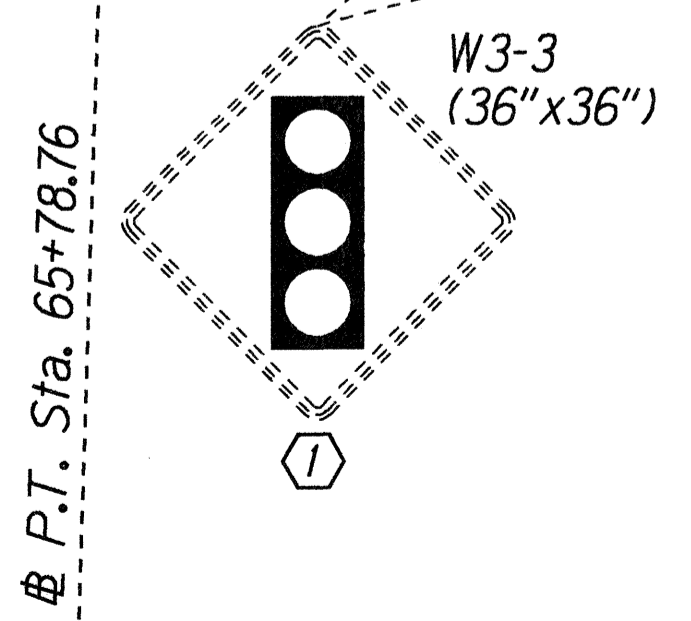


☯ CURVE DATA
 $\Delta = 13^{\circ}20'00''$
 $R = 7,639.44'$
 $T = 892.92'$
 $C = 1,773.77'$
 $Lc = 1,777.78'$

- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑤ Install New Sign on Exist. Light/Traffic Standard
 - ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
 - ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
 - ⑧ Remove Exist. Sign(s) & Install New



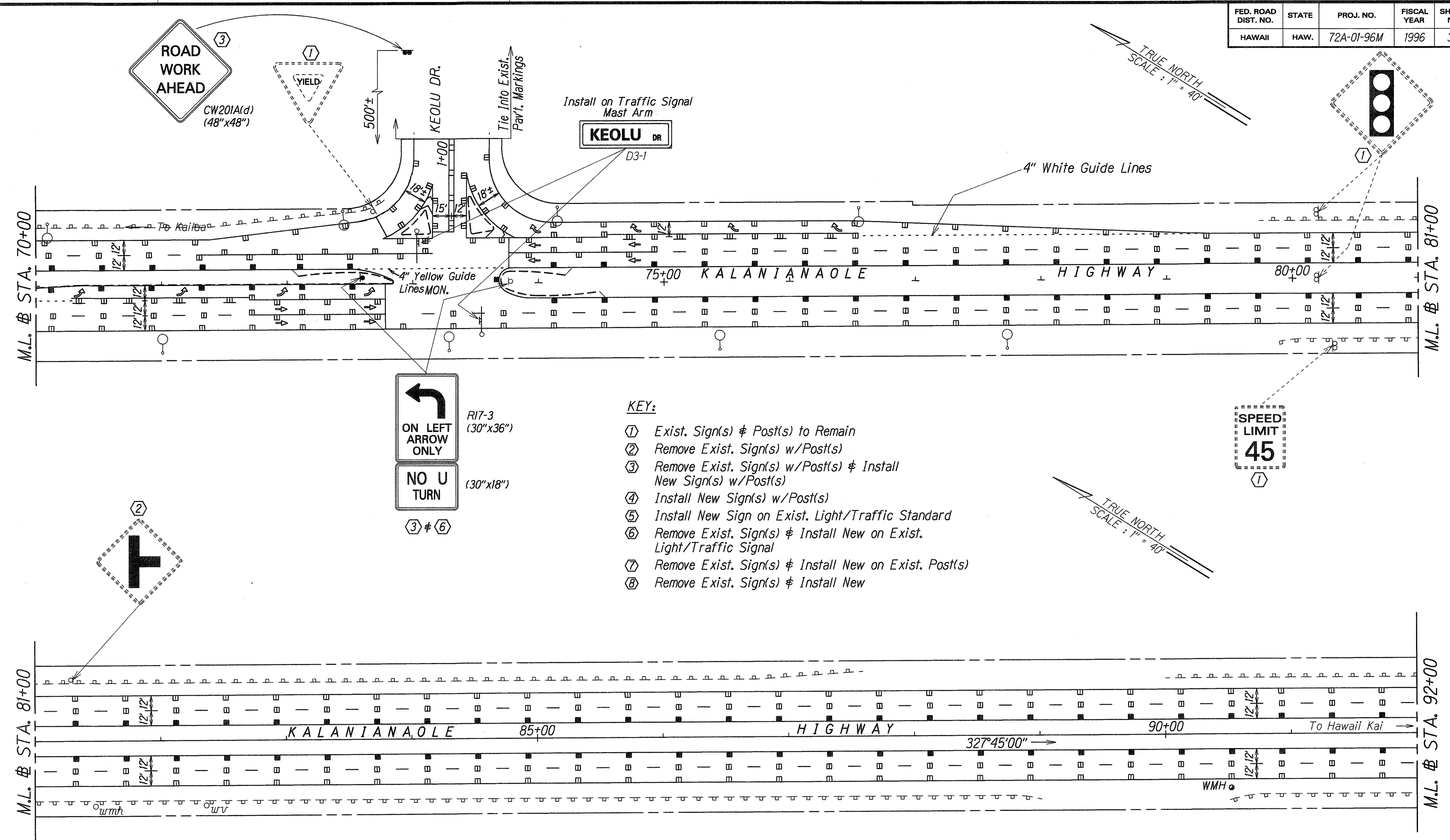
☯ CURVE DATA
 $\Delta = 13^{\circ}20'00''$
 $R = 7,639.44'$
 $T = 892.92'$
 $C = 1,773.77'$
 $Lc = 1,777.78'$



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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKING
& SIGNING PLAN
KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilo St.
Project No. 72A-01-96M
Scale: 1"=40' Date: May, 1996
SHEET No. T5 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	30	55

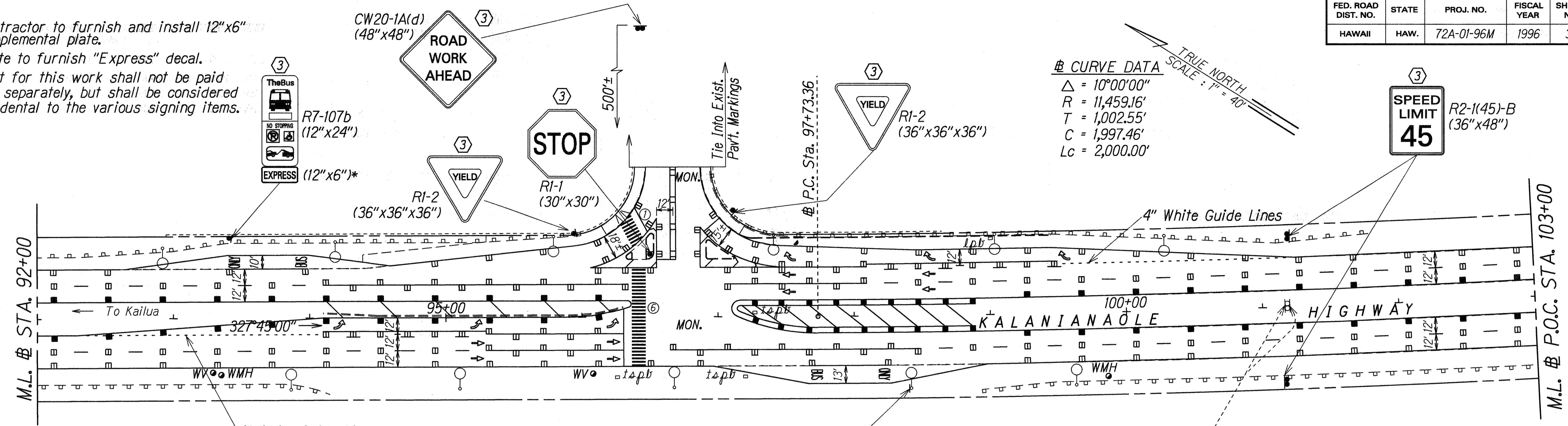


ORIGINAL PLAN
 SURVEY PLOTTED BY: DATE: 3/22/96
 DRAWN BY: M. Takahashi
 DESIGNED BY: G. Kahala
 CHECKED BY: G. Kahala
 No. 8/21/95

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
PAVEMENT MARKING
& SIGNING PLAN
 KALANIANA'OLE HIGHWAY RESURFACING
 Kailua Rd. to Hilo St.
 Project No. 72A-01-96M
 Scale: 1"=40' Date: May, 1996
 SHEET No. 76 OF 19 SHEETS

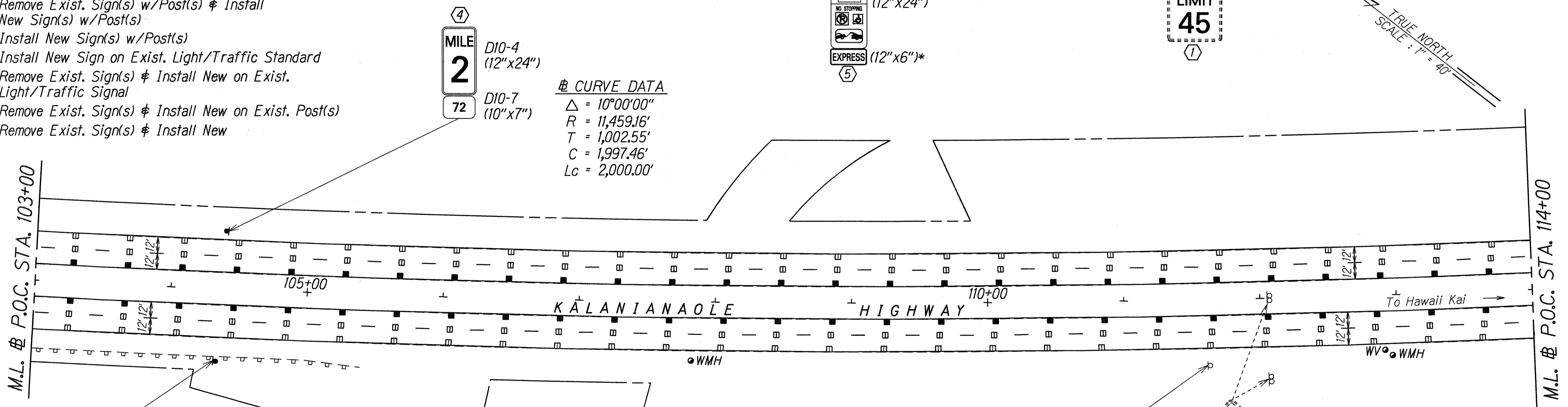
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	31	55

- Contractor to furnish and install 12"x6" supplemental plate.
- State to furnish "Express" decal.
- Cost for this work shall not be paid for separately, but shall be considered incidental to the various signing items.



KEY:

- ① Exist. Sign(s) & Post(s) to Remain
- ② Remove Exist. Sign(s) w/Post(s)
- ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
- ④ Install New Sign(s) w/Post(s)
- ⑤ Install New Sign on Exist. Light/Traffic Standard
- ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
- ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
- ⑧ Remove Exist. Sign(s) & Install New



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	3/20/96
DESIGNED BY	
NOTE BOOK	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PAVEMENT MARKING
& SIGNING PLAN**

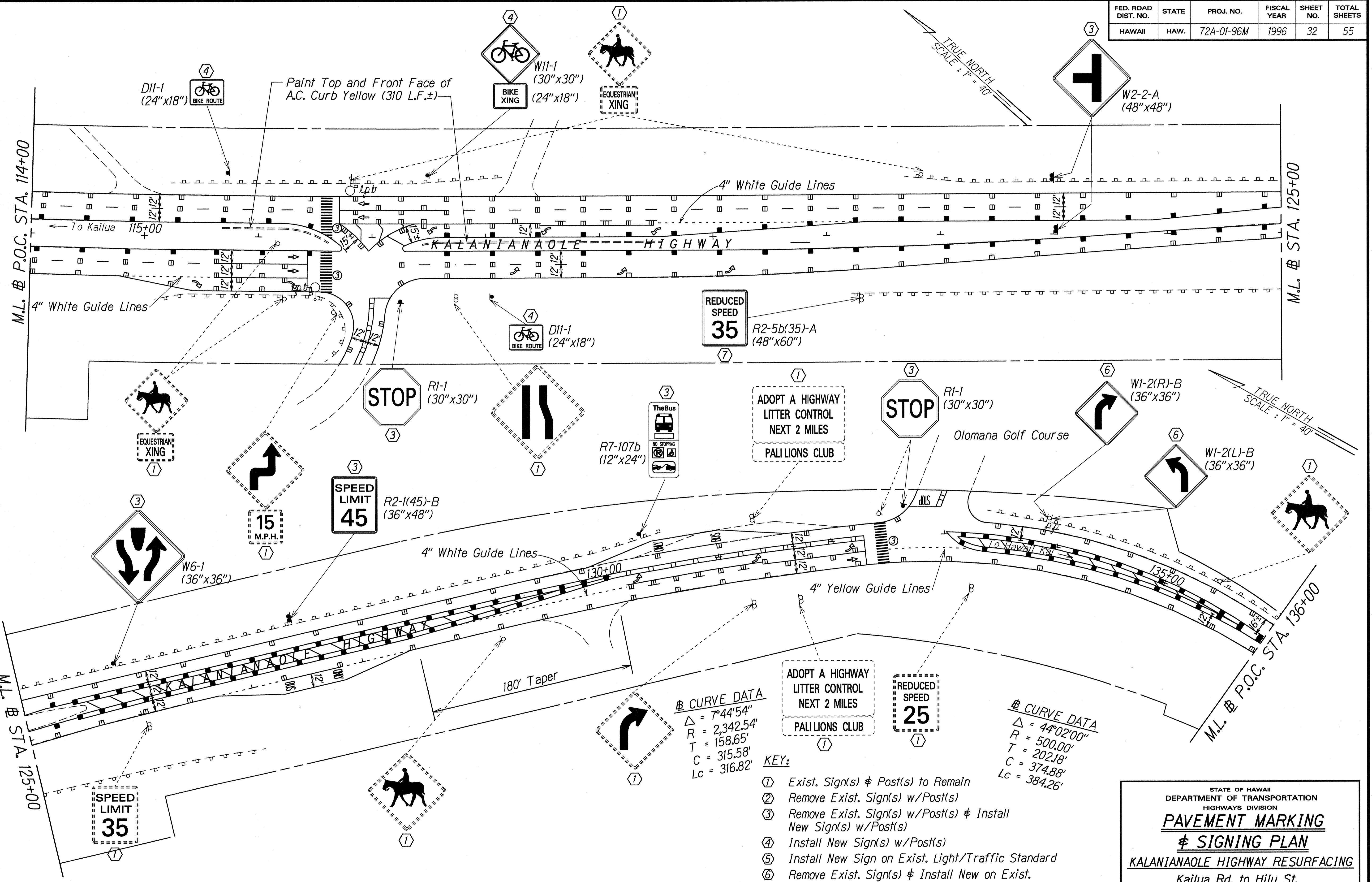
KALANIANA'OLE HIGHWAY RESURFACING

Kailua Rd. to Hilu St.
Project No. 72A-01-96M

Scale: 1"=40' Date: May, 1996

SHEET No. 77 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	32	55



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

DATE	REVISION
3/10/97	Added Bicycle Route Signing

- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑤ Install New Sign on Exist. Light/Traffic Standard
 - ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
 - ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
 - ⑧ Remove Exist. Sign(s) & Install New

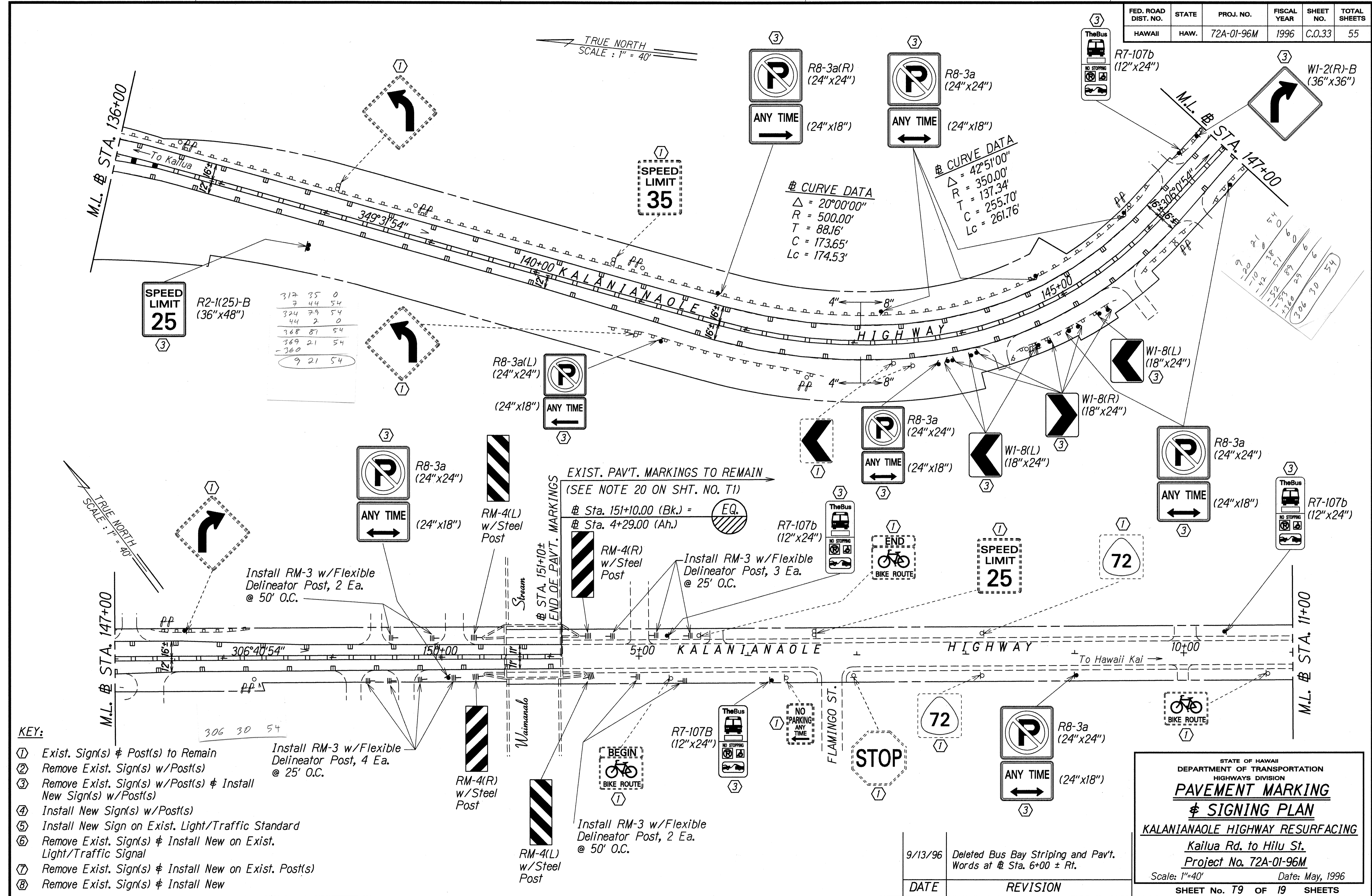
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PAVEMENT MARKING
& SIGNING PLAN**

KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilu St.
Project No. 72A-01-96M
Scale: 1"=40' Date: May, 1996

SHEET No. 18 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	C.O.33	55



317	35	0
7	44	54
324	79	54
44	2	0
768	87	54
389	21	54
-360		
9	21	54

5	20	21	54
1	10	42	38
1	52	89	6
1	53	146	29
1	54	180	6
1	54	306	30
1	54	374	

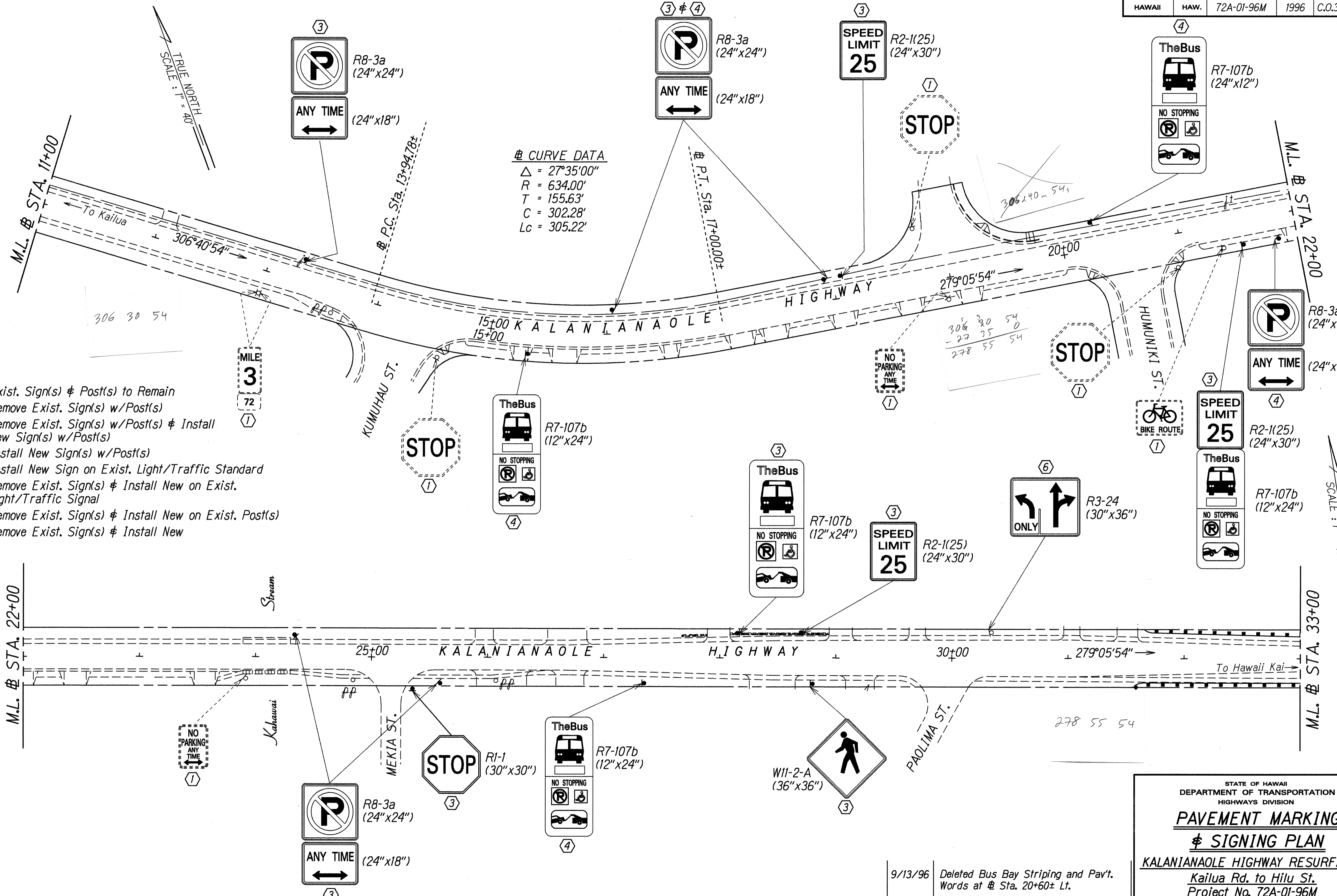
- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑤ Install New Sign on Exist. Light/Traffic Standard
 - ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
 - ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
 - ⑧ Remove Exist. Sign(s) & Install New

SURVEY PLOTTED BY	DATE	3/28/96
DRAWN BY	M. Fagan	
DESIGNED BY	G. Kersch	
QUANTITIES BY		
CHECKED BY		
ORIGINAL PLAN		
NOTE BOOK		
FILE NO.		
DATE		

DATE	REVISION
9/13/96	Deleted Bus Bay Striping and Pav't. Words at Sta. 6+00 ± Rt.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKING & SIGNING PLAN
KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilo St.
Project No. 72A-01-96M
Scale: 1"=40' Date: May, 1996
SHEET No. T9 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	C.O.34	55



SURVEY PLOTTED BY	DATE
DRAWN BY	3/22/96
NOTE BOOK	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

DATE	REVISION
9/13/96	Deleted Bus Bay Striping and Pav't. Words at Sta. 20+60± Lt.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

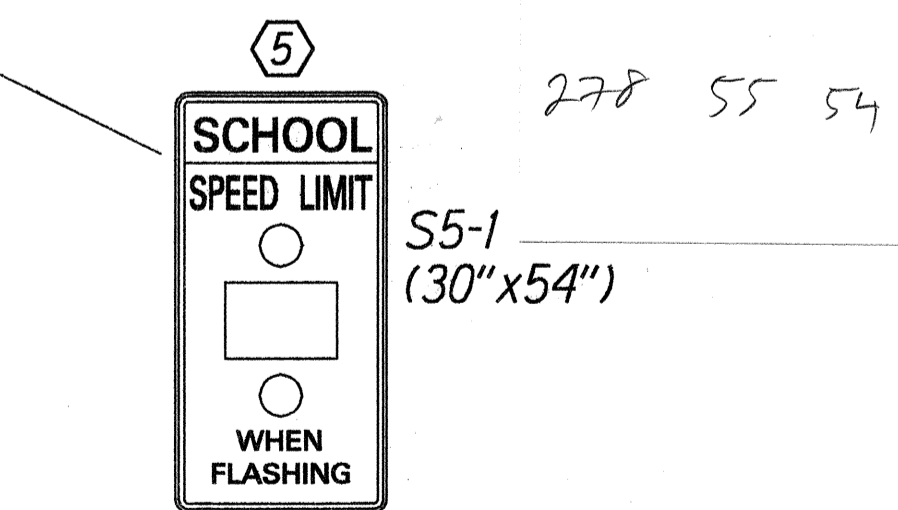
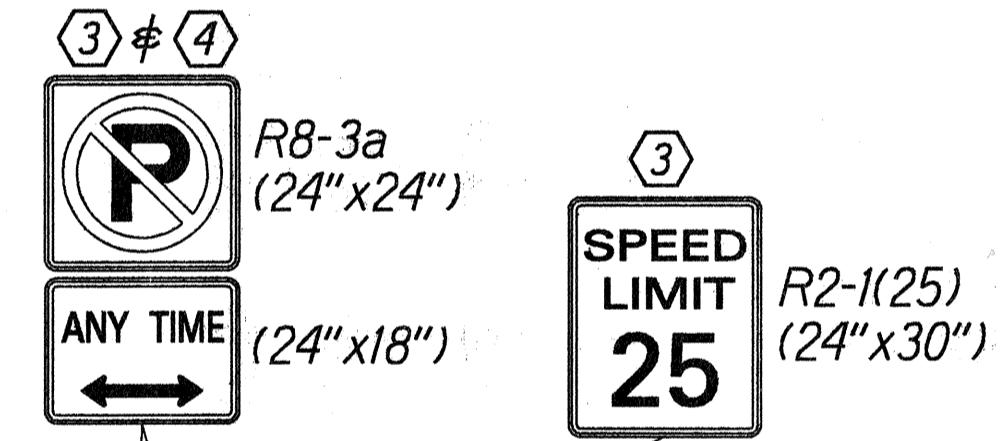
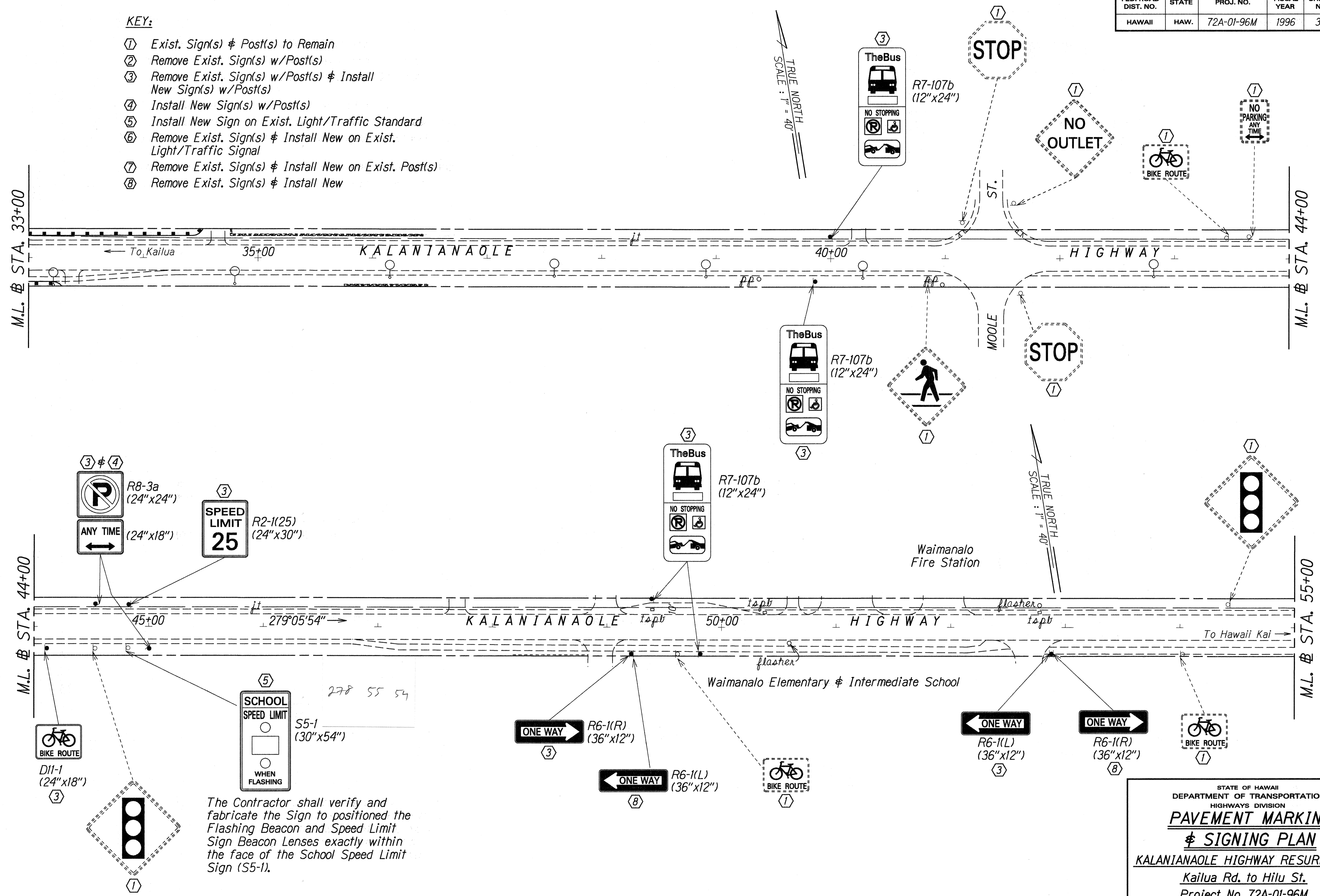
PAVEMENT MARKING & SIGNING PLAN

KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilo St.
Project No. 72A-01-96M

Scale: 1"=40' Date: May, 1996
SHEET No. T10 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	35	55

- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑤ Install New Sign on Exist. Light/Traffic Standard
 - ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
 - ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
 - ⑧ Remove Exist. Sign(s) & Install New

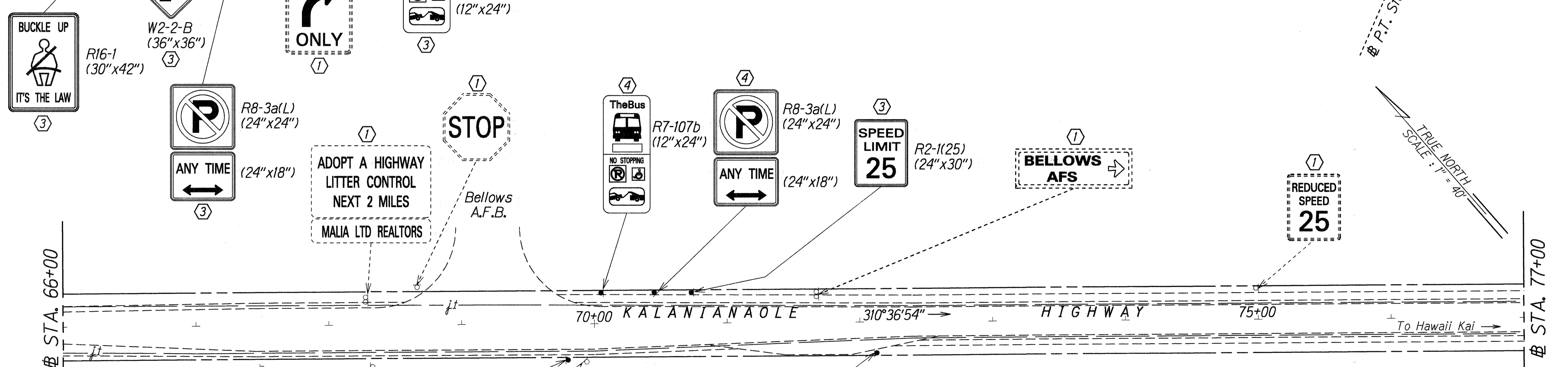
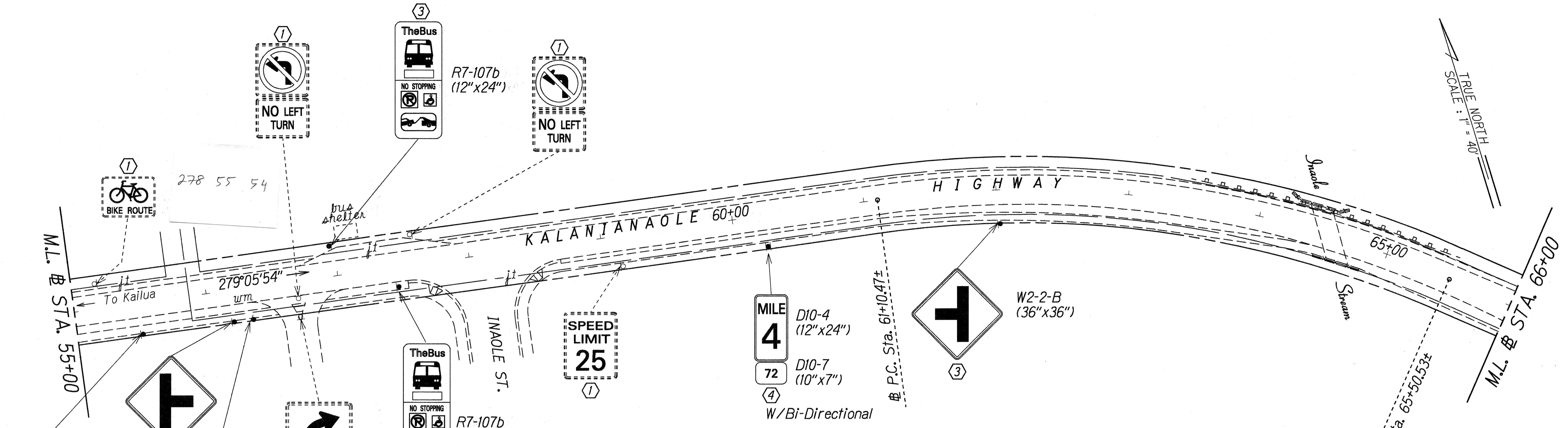
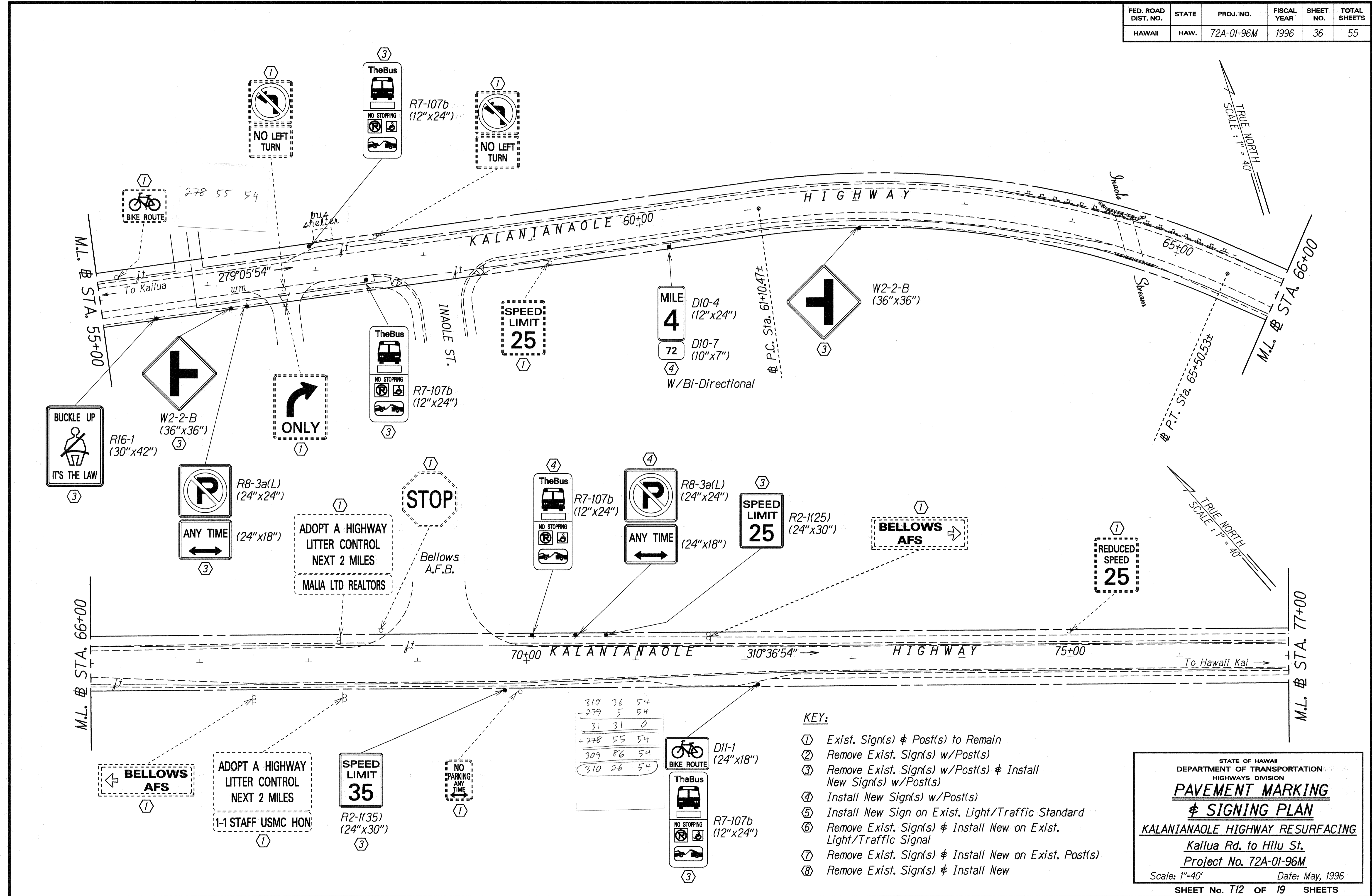


The Contractor shall verify and fabricate the Sign to positioned the Flashing Beacon and Speed Limit Sign Beacon Lenses exactly within the face of the School Speed Limit Sign (S5-1).

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**PAVEMENT MARKING
& SIGNING PLAN**
KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilo St.
Project No. 72A-01-96M
Scale: 1"=40' Date: May, 1996
SHEET No. 111 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	36	55



SURVEY PLOTTED BY	DATE
DESIGNED BY	2/28/96
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

310	36	54
279	5	54
31	31	0
+278	55	54
309	86	54
310	26	54

- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑤ Install New Sign on Exist. Light/Traffic Standard
 - ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
 - ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
 - ⑧ Remove Exist. Sign(s) & Install New

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PAVEMENT MARKING
& SIGNING PLAN**

KALANIANA'OLE HIGHWAY RESURFACING

Kailua Rd. to Hilo St.
Project No. 72A-01-96M

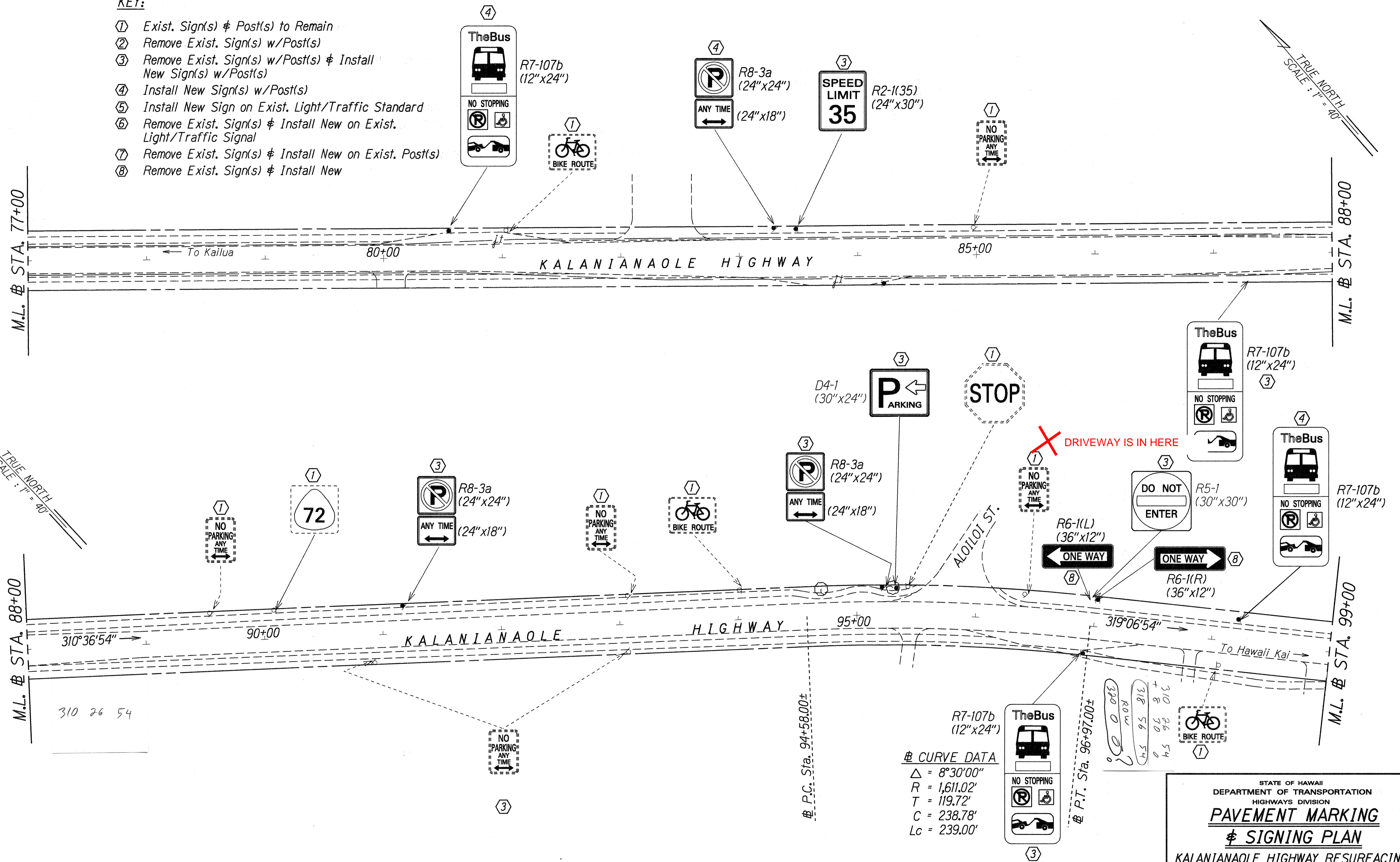
Scale: 1"=40' Date: May, 1996

SHEET No. T12 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	37	55

KEY:

- ① Exist. Sign(s) & Post(s) to Remain
- ② Remove Exist. Sign(s) w/Post(s)
- ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
- ④ Install New Sign(s) w/Post(s)
- ⑤ Install New Sign on Exist. Light/Traffic Standard
- ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
- ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
- ⑧ Remove Exist. Sign(s) & Install New



TRUE NORTH
SCALE: 1" = 40'

TRUE NORTH
SCALE: 1" = 40'

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

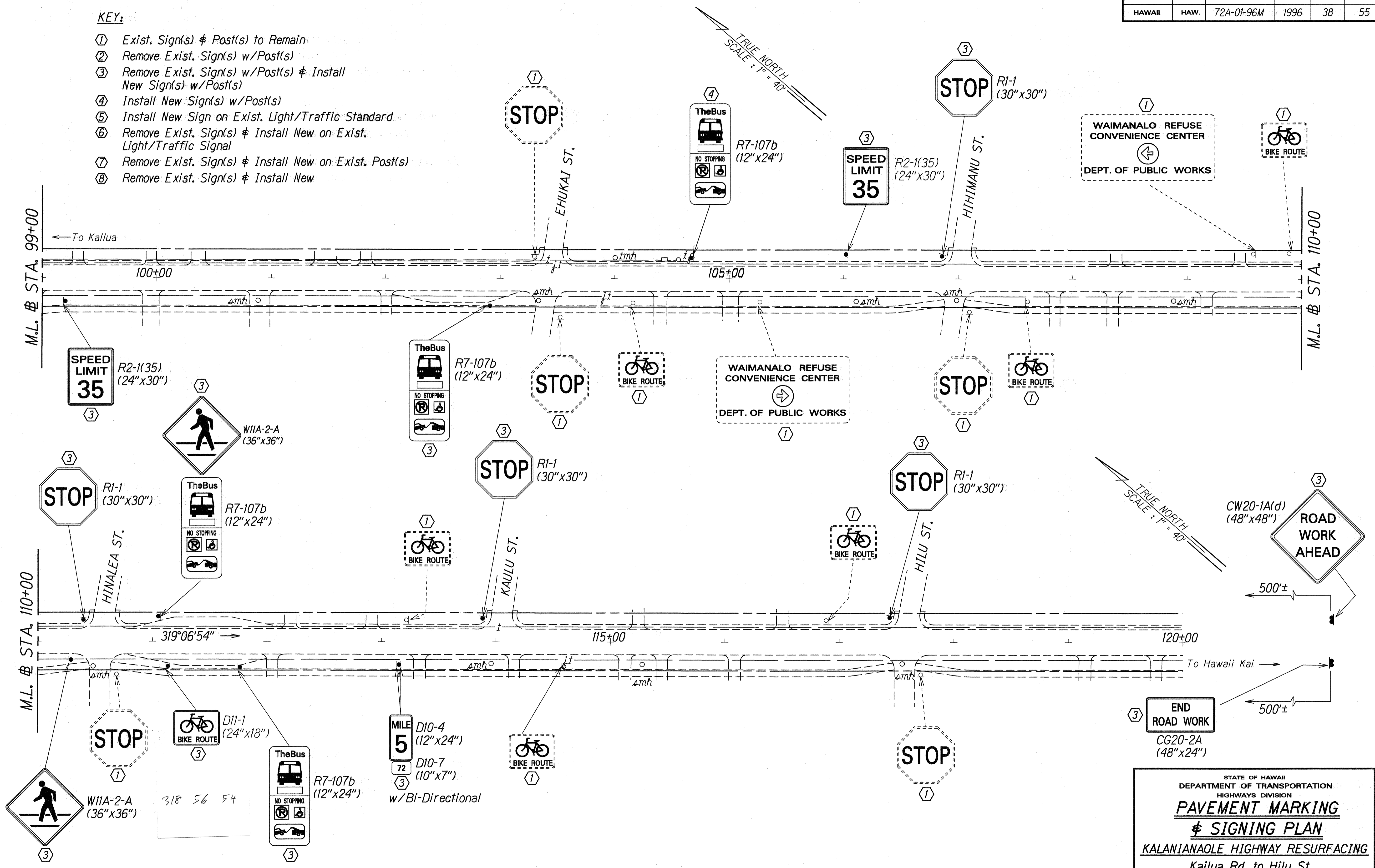
CURVE DATA
 $\Delta = 8^{\circ}30'00''$
 $R = 1,611.02'$
 $T = 119.72'$
 $C = 238.78'$
 $Lc = 239.00'$

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**PAVEMENT MARKING
& SIGNING PLAN**
KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilo St.
Project No. 72A-01-96M
Scale: 1"=40' Date: May, 1996
SHEET No. T13 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	38	55

KEY:

- ① Exist. Sign(s) & Post(s) to Remain
- ② Remove Exist. Sign(s) w/Post(s)
- ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
- ④ Install New Sign(s) w/Post(s)
- ⑤ Install New Sign on Exist. Light/Traffic Standard
- ⑥ Remove Exist. Sign(s) & Install New on Exist. Light/Traffic Signal
- ⑦ Remove Exist. Sign(s) & Install New on Exist. Post(s)
- ⑧ Remove Exist. Sign(s) & Install New



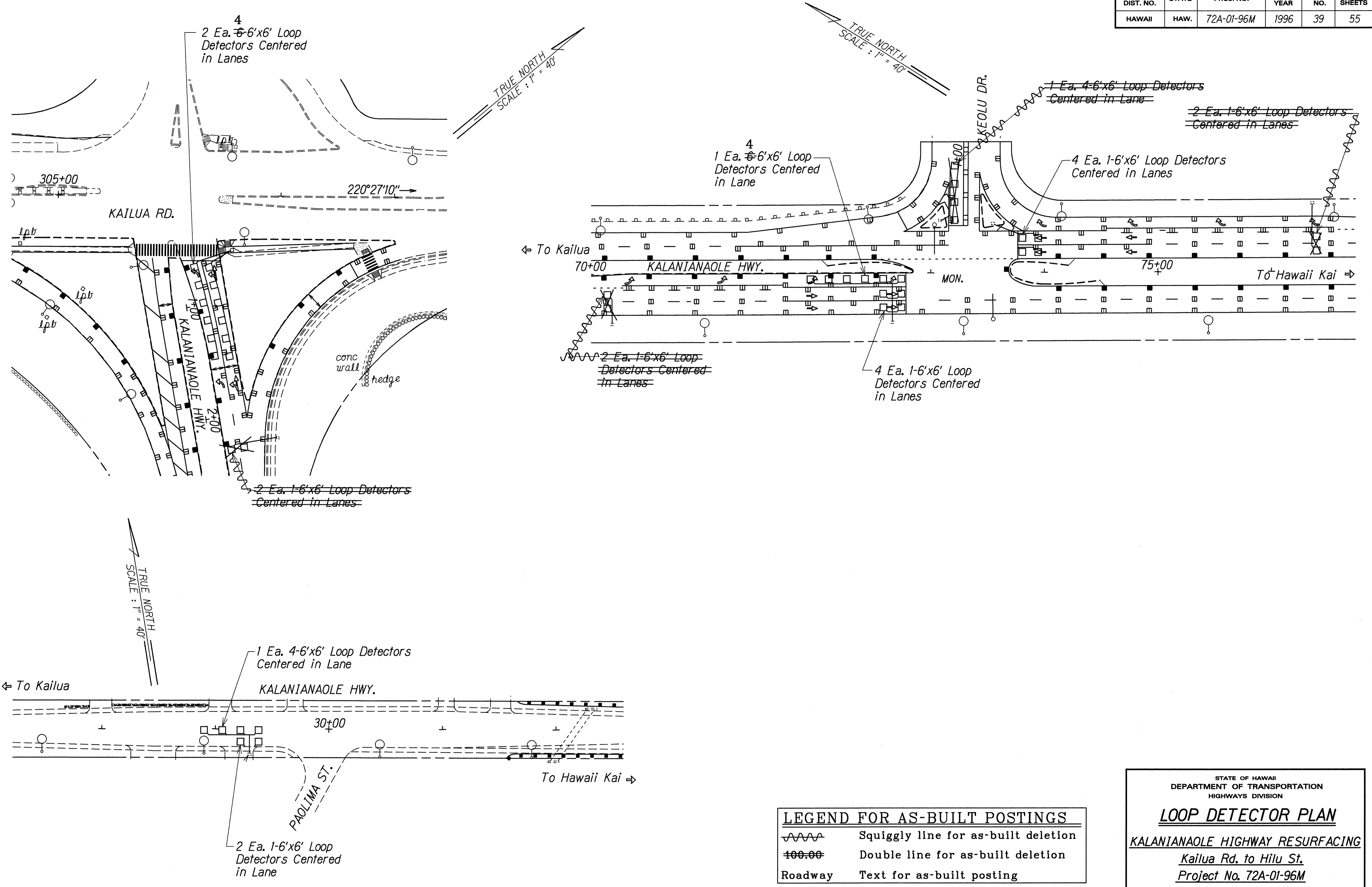
SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PAVEMENT MARKING
& SIGNING PLAN**

KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilu St.
Project No. 72A-01-96M
Scale: 1"=40' Date: May, 1996
SHEET No. 114 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	39	55



SURVEY PLOTTED BY	DATE	3/20/96
DRAWN BY		
NOTE BOOK		
DESIGNED BY		
QUANTITIES BY		
CHECKED BY		

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

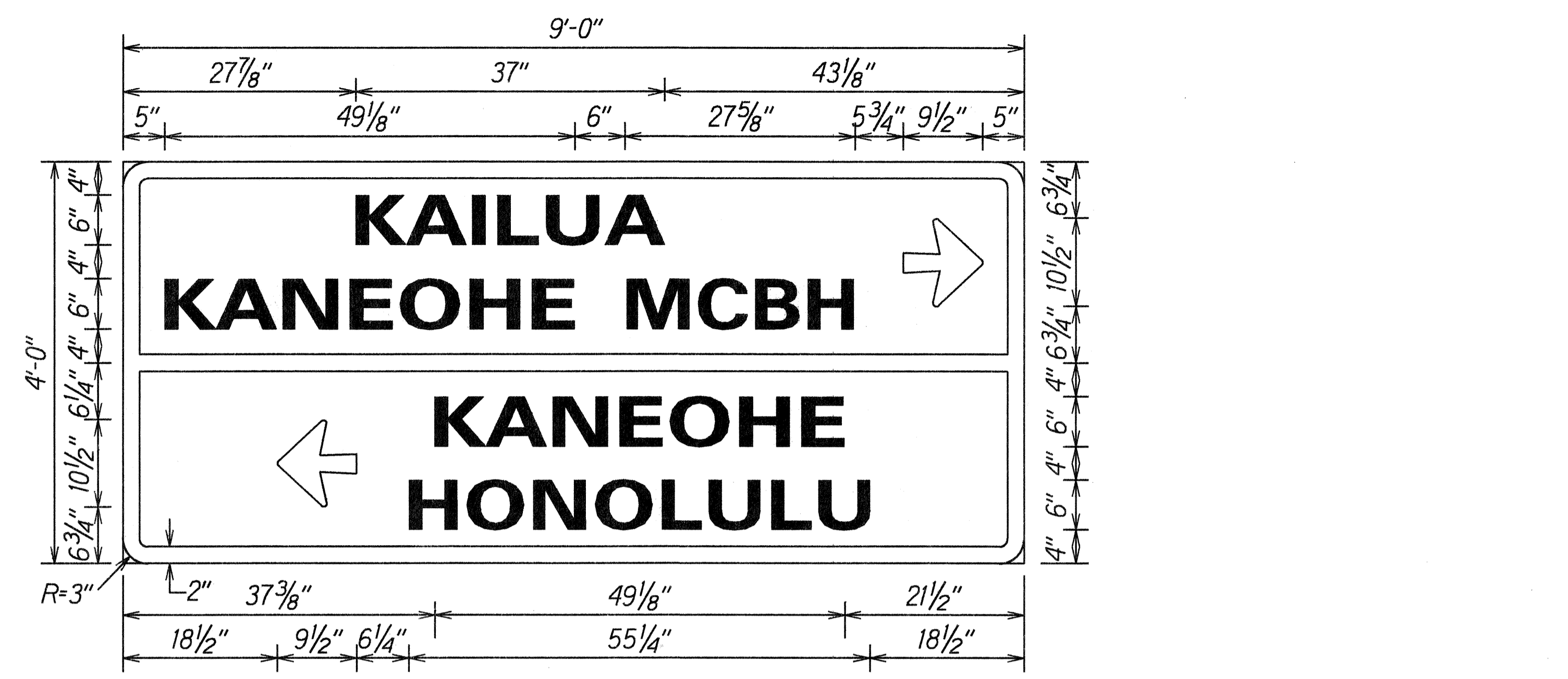
LOOP DETECTOR PLAN

KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilu St.
Project No. 72A-01-96M

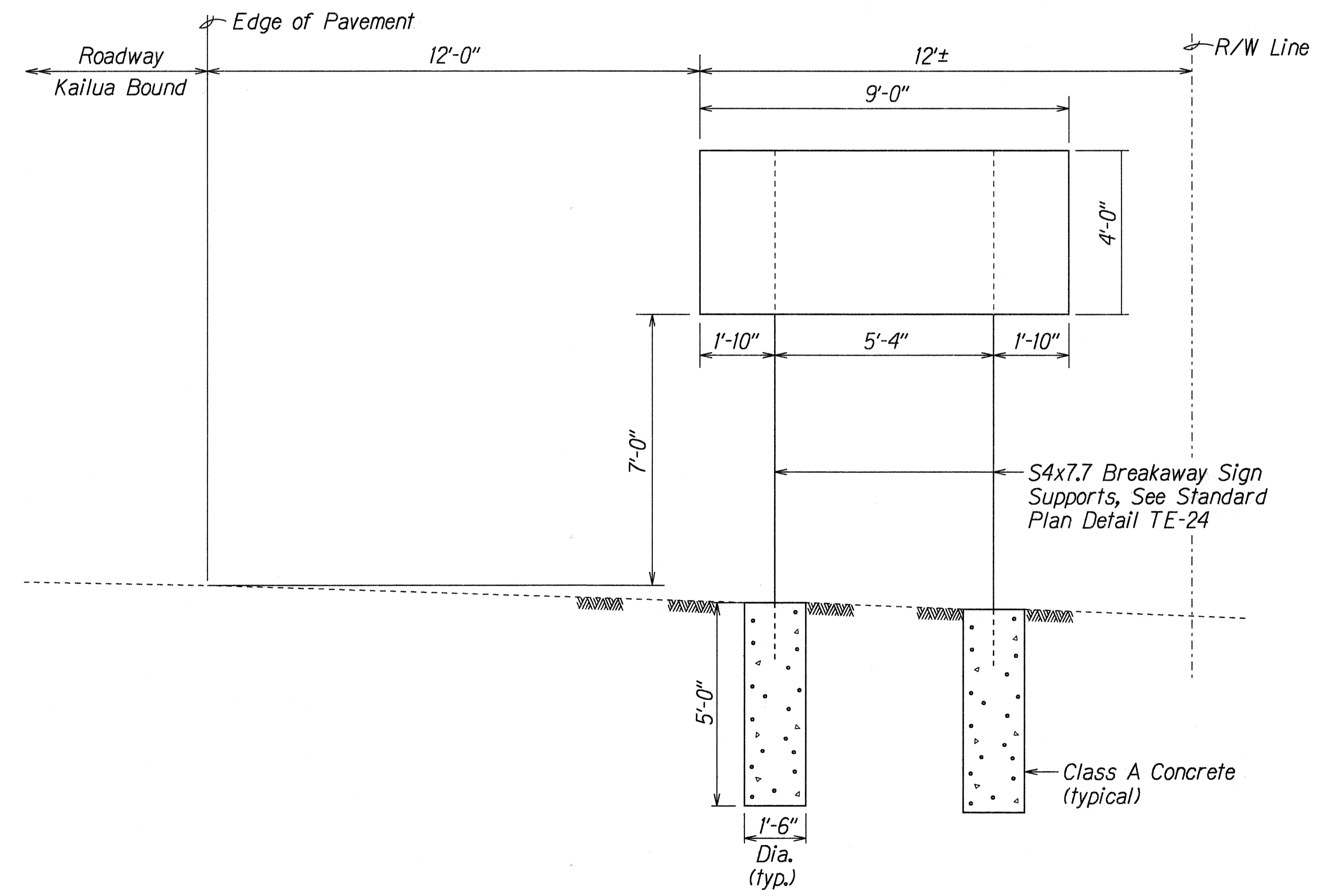
Scale: 1"=40' Date: May, 1996

SHEET No. 115 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	40	55



D-1



SIGN D-1 FRAME LAYOUT
 @ STA. 5+00± LT.
 Scale: 1/2" = 1'-0"

GENERAL NOTES

- All signs shall conform to section 621 of the Special Provisions and the latest editions amendments of the following FHWA publications:
 - "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD)
 - "Standard Highway Signs"
 - "Standard Alphabets for Highway Signs"
- Borders, messages, arrows, symbols and shield conform to details as shown on the plans and as specified in the MUTCD.
- Signs messages shall be as indicated on the plans.
- All panels shall be reflectorized in accordance with Section 712.20 of the Standard Specifications.

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	4/10/96
DESIGNED BY	
NOTE BOOK	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

SIGN DETAIL & FRAME LAYOUT

KALANIANA'OLE HIGHWAY RESURFACING
 Kailua Rd. to Hilu St.
 Project No. 72A-01-96M

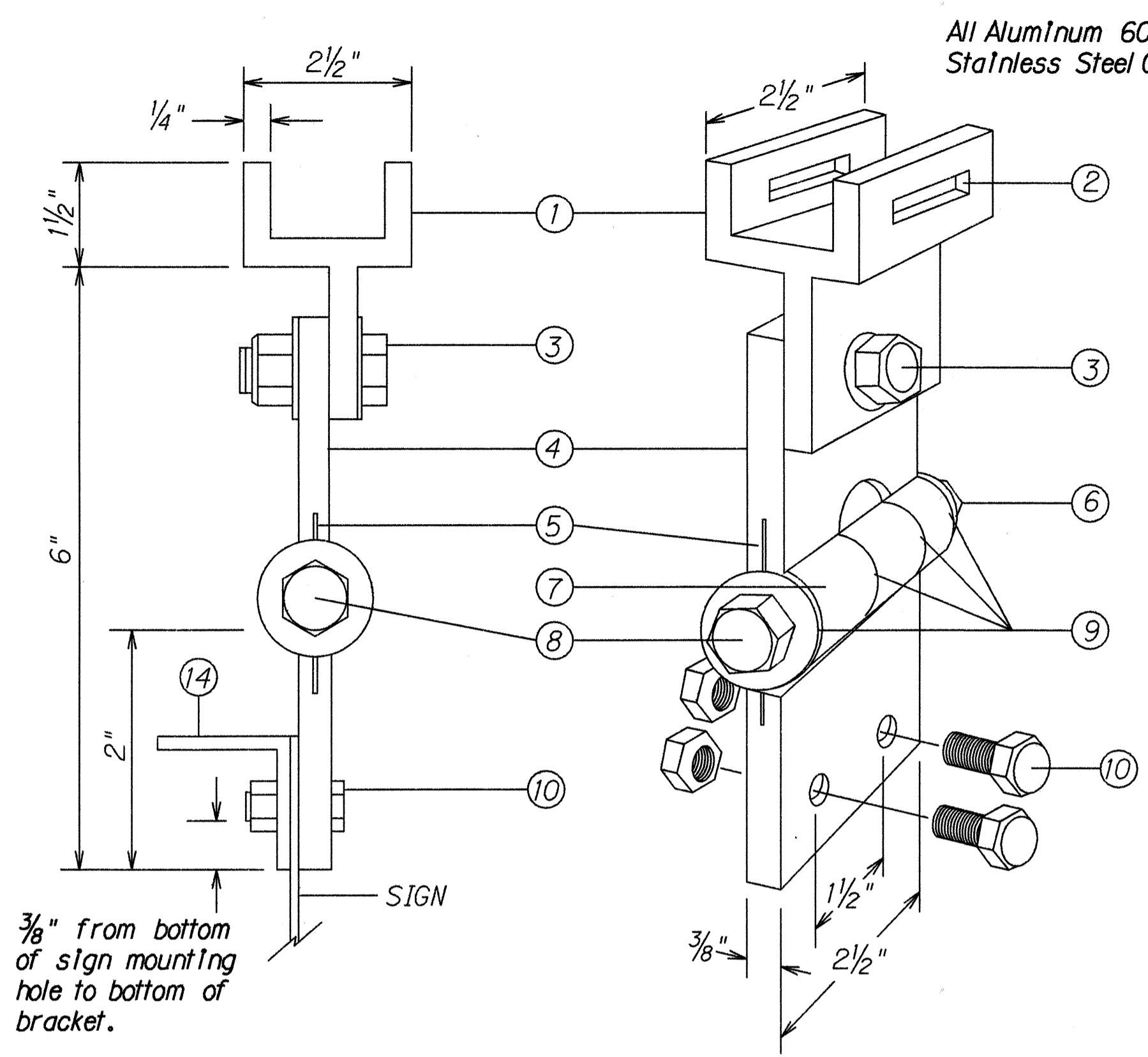
Scale: As Noted Date: May, 1996

SHEET No. 116 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	41	55

NOTES:

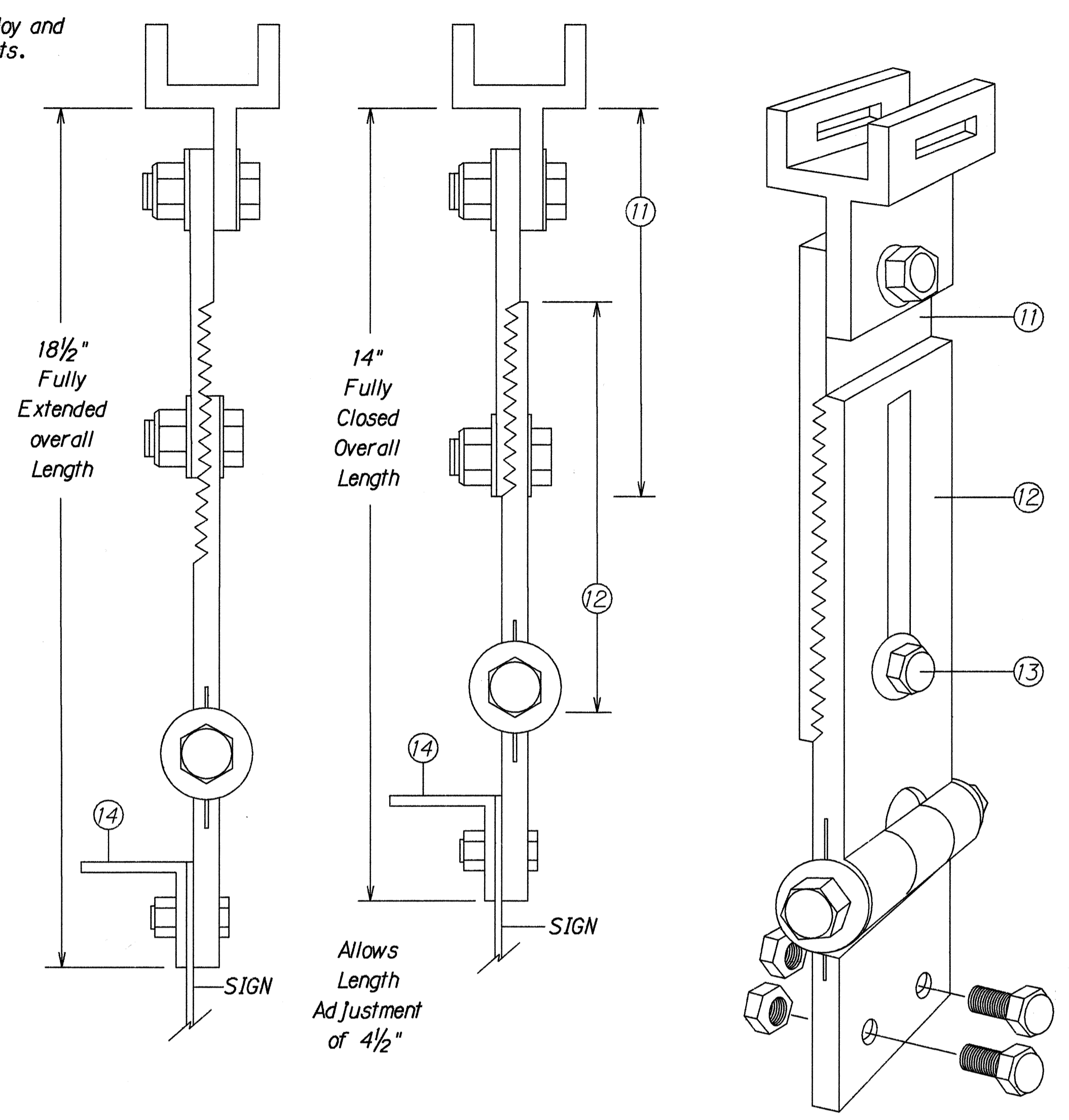
- Sign D3-1 shall be new Street Name Signs. The Contractor shall provide the same message on the front and back side of the sign. Payment will not be made separately but shall be considered as one unit.
- Colors:
Legend - White (Reflectorized)
Background - Green (Reflectorized)
- All panels shall be reflectorized with Type B reflective sheeting in accordance with Section 712.20 of the Standard Specifications.
- Borders and messages shall conform to details as shown on the plans and as specified in the MUTCD.
- Sign mounting brackets, aluminum angle, fixtures, fasteners, and all necessary hardware, and equipment, tools, labor, materials and other incidentals for installation, will not be paid for separately but shall be considered incidental to street name sign installation.
- All signs shall conform to section 621 of the Standard Specifications and the latest editions and amendments of the following FHWA publications:
 - "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD)
 - "Standard Highway Signs"
 - "Standard Alphabets for Highway Signs"
- The two diacritical marks the glottal stop, a break shown by the apostrophe (') and the macron (-), which serves two functions, used on all long vowels, and on one-syllable words and particles that are always stressed, shall be installed on the new Street Name Signs in accordance with the book entitled, "Hawaiian Street Names", The Hawaiian Dictionary and History of Oahu Street Names.



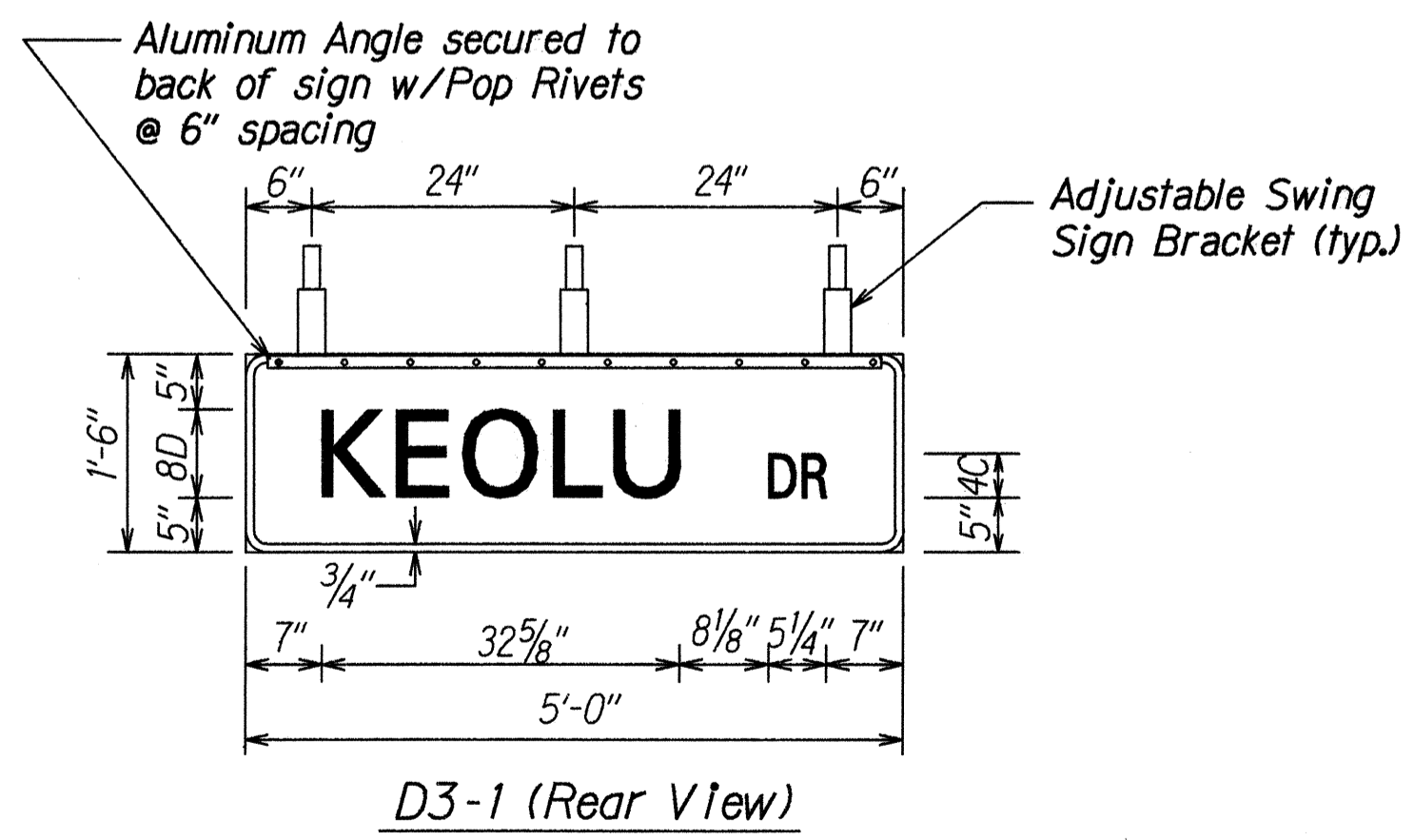
FIXED LENGTH NON-ADJUSTABLE SWING SIGN BRACKET

- Pivotal Upper Bracket
- 1 5/8" x 1/4" Slot for double strapping to electrolier mast arm. (M2G-34S(HD) .030" x 3/4" Heavy Duty Stainless Steel Strap with M2G-34B(HD) Buckle recommended.)
- 1/2" - 13 x 1 1/2" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut and 1/16" Stainless Steel Washer (both sides). Allows upper bracket to pivot and align with electrolier mast arm.
- 6" Overall drop with Fixed Length Sign Bracket
- Stainless Steel Dampener Spring (Removable)
- Stainless Steel Hex Lock Nut with 1/16" Stainless Steel Washer
- 1" O.D. Axle Housing
- 1/2" - 13 x 4" Stainless Steel Hex Head Bolt with 1/16" Stainless Steel Washer
- Ollite Bushing
- Sign Mounting Sets, consisting of two each 5/16" - 18 x 1" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut. Two holes on 1 1/2" centers provide positive lock sign mounting to bracket.
- 8 1/4" overall length Upper Adjustable Sign Bracket section
- 9" overall length Lower Adjustable Sign Bracket section, including Axle Housing (8" overall length to top of Axle Housing)
- 1/2" - 13 x 1 1/2" Stainless Steel Hex Bolt with Stainless Steel Hex Lock Nut and 1/16" Stainless Steel Washers (both sides). Loosen lock nut, adjust bracket teeth to level sign.
- 1 1/4" x 1 1/4" x 1/8" Aluminum Angle

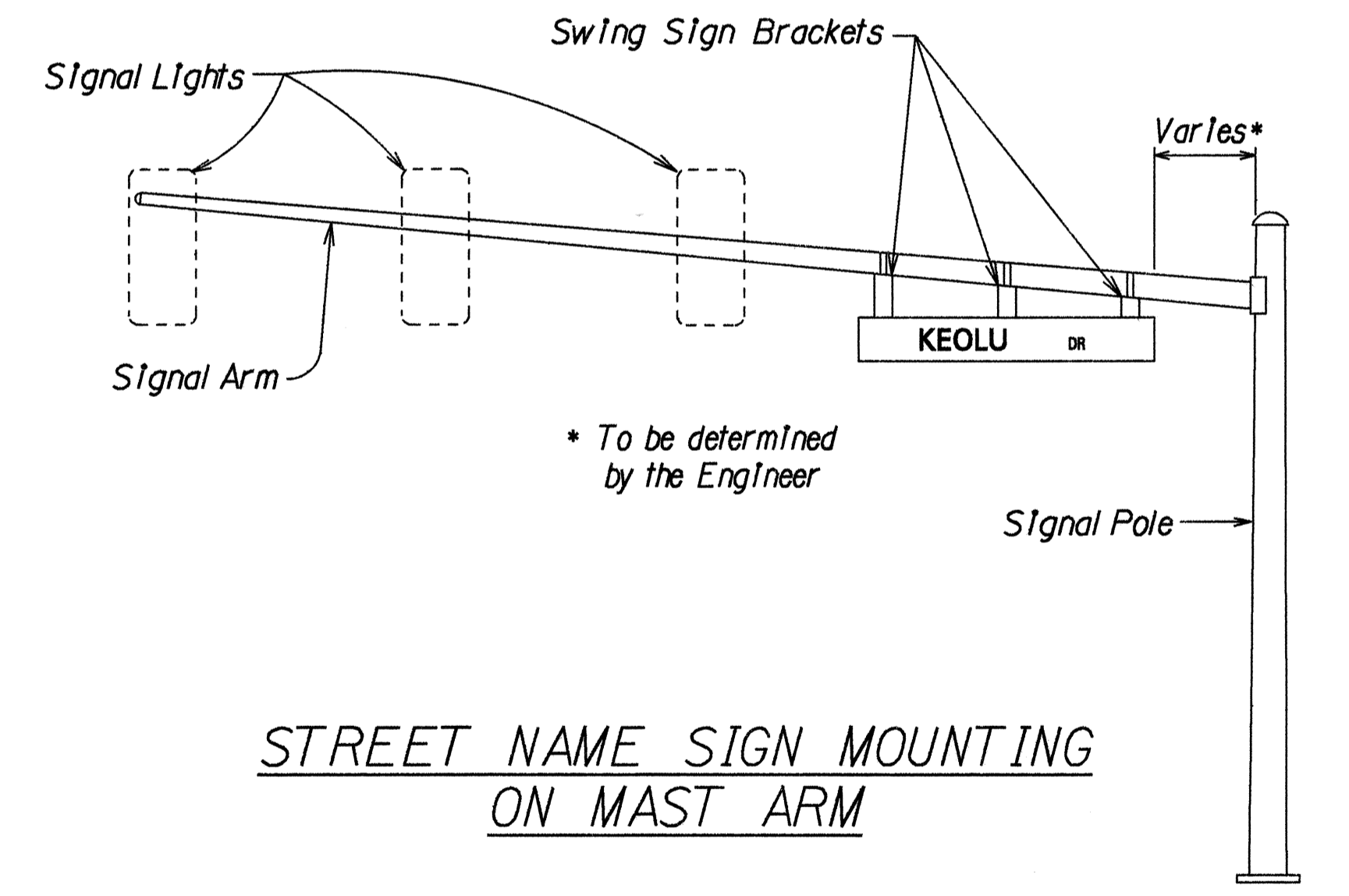
Note: Dimensions may vary slightly.



ADJUSTABLE LENGTH SWING SIGN BRACKET



TYPICAL PANEL & SWING BRACKET LAYOUT FOR STREET NAME SIGN



STREET NAME SIGN MOUNTING ON MAST ARM

SURVEY PLOTTED BY	DATE
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SWING SIGN BRACKET





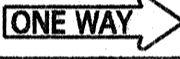
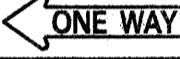



















KALANIANA'OLE HIGHWAY RESURFACING
Kailua Rd. to Hilo St.
Project No. 72A-01-96M

Not to Scale Date: May, 1996

SHEET No. T17 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	42	55

TRAFFIC SIGN SUMMARY

SIGN NO.	MESSAGE	QUANTITY			
		10 SQ. FT. OR LESS		GREATER THAN 10 SQ. FT.	
		W/POST	W/O POST	W/POSTS	W/O POSTS
R1-1	STOP	13			
R1-2	YIELD	2			
R2-1(25)	SPEED LIMIT 25	5			
R2-1(25)-B	SPEED LIMIT 25			1	
R2-1(35)	SPEED LIMIT 35	5			
R2-1(45)	SPEED LIMIT 45	1			
R2-1(45)-B	SPEED LIMIT 45			6	
R2-5b(35)-A	REDUCED SPEED 35			2	1
R3-1	 6:00 A.M. TO 8:30 A.M. SCHOOL DAYS ONLY	4			
R3-4		2	1		
R3-24			1		
R4-7		2	1		
R5-1	DO NOT ENTER	1			
R6-1(R)		1	2		
R6-1(L)		1	2		
R7-4-A	NO STOPPING OR STANDING 	1			
R7-4-A(R)	NO STOPPING OR STANDING 	1			
R7-4-A(L)	NO STOPPING OR STANDING 	1			
R7-107b	TheBus Symbol	27	5		
R8-3a	 ANY TIME 	20			
R8-3a(R)	 ANY TIME 	1			
R8-3a(L)	 ANY TIME 	1			
R9-3a-A		4			
R9-3c(L)	 USE OVERPASS		2		
R9-3c(R)	USE  OVERPASS		2		
R16-1	BUCKLE UP	2			
R17-3	 ON LEFT ARROW ONLY NO U TURN	1	1		
W1-2(R)-B		1	1		
W1-2(L)-B			1		
W1-8(L)		4			
W1-8(R)		5			
W2-2-R		2			
W6-1		1			
W11-2-A	PEDESTRIAN CROSSING SYMBOL	2			
D11-1	BIKE ROUTE SYMBOL	4			
S1-1	SCHOOL ADVANCE	2			
S5-1	SCHOOL SPEED LIMIT WHEN FLASHING		1		
S5-1(25)	SCHOOL SPEED LIMIT 25 WHEN FLASHING		1		
TOTAL		117	21	9	1

ORIGINAL PLAN
 SURVEY PLOTTED BY DATE
 DESIGNED BY
 NOTE BOOK
 DESIGNED BY
 QUANTITIES BY
 CHECKED BY

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

TRAFFIC SUMMARIES

KALANIANA'OLE HIGHWAY RESURFACING
 Kailua Rd. to Hilu St.
 Project No. 72A-01-96M

Date: May, 1996

SHEET No. 118 OF 19 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-01-96M	1996	43	55

ROUTE MARKER SUMMARY						
SIGN ASSEMBLY	LOCATION	SIGN NO. AND MESSAGE	TYPE A ASSEMBLY		TYPE B ASSEMBLY	
			W/POST	W/O POST	W/POST	W/O POST
SRM-1	# STA. 4+20±	M3-3 SOUTH M1-6(61) M6-1(L) M3-1 NORTH M1-6(C1) M6-1(R)			1	
SRM-2	# STA. 6+60± LT.	M2-1 JCT M1-6(61) 61	1			
SRM-3	# STA. 19+80± RT.	M1-6(72) 72	1			
TOTAL			2		1	

CONSTRUCTION SIGN SUMMARY		
SIGN NO.	MESSAGE	W/POSTS
CW20-1A(d)	ROAD WORK AHEAD	5
CG20-2A	END ROAD WORK	3
TOTAL		8

PAVEMENT MARKING SUMMARY		
DESCRIPTION	QUANTITY	
PAVEMENT MARKERS		
TYPE A _____	2,260	EA.
TYPE C _____	1,700	EA.
TYPE D _____	110	EA.
TYPE H _____	710	EA.
TAPE - TYPE I OR THERMOPLASTIC EXTRUSION		
4-INCH PAVEMENT STRIPE (WHITE) _____	1,700	L.F.
8-INCH PAVEMENT STRIPE (WHITE) _____	3,400	L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____	2,200	L.F.
TAPE - TYPE II OR THERMOPLASTIC EXTRUSION		
4-INCH PAVEMENT STRIPE (WHITE) _____	31,000	L.F.
4-INCH PAVEMENT STRIPE (YELLOW) _____	20,600	L.F.
8-INCH PAVEMENT STRIPE (WHITE) _____	3,600	L.F.
12-INCH PAVEMENT STRIPE (WHITE) _____	380	L.F.
12-INCH PAVEMENT STRIPE (YELLOW) _____	840	L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____	2,000	L.F.
TAPE - TYPE III OR THERMOPLASTIC EXTRUSION		
4-INCH PAVEMENT STRIPE (WHITE) _____	2,420	L.F.
4-INCH PAVEMENT STRIPE (YELLOW) _____	1,200	L.F.
12-INCH PAVEMENT STRIPE (WHITE) _____	640	L.F.
CROSSWALK MARKINGS _____	40	LANES
PAVEMENT ARROW _____	74	EA.
PAVEMENT WORD _____	13	EA.
PAINT		
ASPHALT CONCRETE CURB (YELLOW) _____	310	L.F.

DESTINATION SIGN SUMMARY					
SIGN NO.	LOCATION	MESSAGE	SIZE	NEW PANEL AREA (SQ. FT.)	
				W/O POSTS	W/POSTS
D-1	# STA. 5+00± LT.	KAILUA KANEHOE MCBH → ← KANEHOE HONOLULU	9'-0" x 4'-0"		36.00
D4-1	# STA. 95+30± LT.	P ←	2'-6" x 2'-0"		5.00
TOTAL					41.00

MILEPOST MARKER SUMMARY				
LOCATION	SIGN NO. AND MESSAGE	QUANTITY		
		W/POST	W/O POST	
# STA. 51+30 LT. # RT.	D10-4 1 D10-7 72	2		
# STA. 104+40 LT. # RT.	D10-4 2 D10-7 72	2		
# STA. 60+30 RT.	D10-4 4 D10-7 72	1	1	
# STA. 113+10 RT.	D10-4 5 D10-7 72	1	1	
TOTAL		6	2	

REFLECTOR MARKER SUMMARY		
TYPE	QUANTITY	
	W/STEEL POST	
	YELLOW	YELLOW/BLACK
RM-9	1	
RM-4(R)		2
RM-4(L)		2
RM-3	11	

SURVEY PLOTTED BY _____ DATE _____
 PLAN _____
 NOTE BOOK DESIGNED BY G. K. KANEHI
 QUANTITIES BY _____
 CHECKED BY _____
 ORIGINAL PLAN _____
 NOTE BOOK _____
 QUANTITIES BY _____
 CHECKED BY _____

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
TRAFFIC SUMMARIES
 KALANIANA'OLE HIGHWAY RESURFACING
 Kailua Rd. to Hilu St.
 Project No. 72A-01-96M
 Not to Scale Date: Apr., 1996
 SHEET No. T19 OF 19 SHEETS