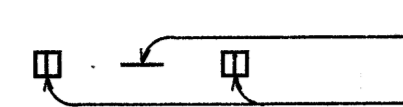







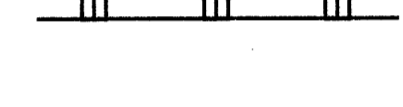

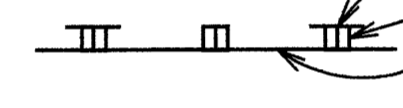



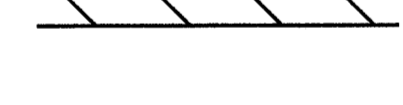





FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	65	84

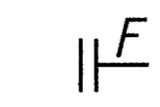
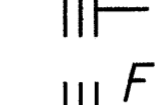

LEGEND

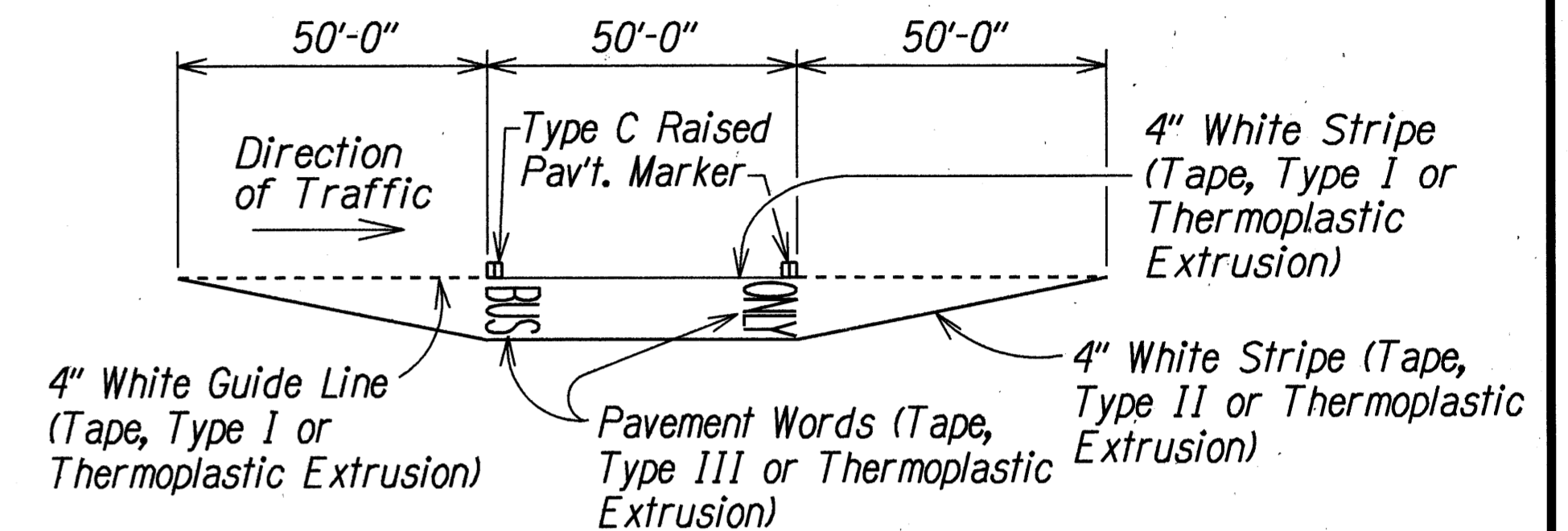
-  4 each Type A Raised Pavement Markers
Type C Raised Pavement Markers @ 40'-0" o.c.
-  4 each Type J Raised Pavement Markers
Type D Raised Pavement Markers @ 40'-0" o.c.
-  8" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
-  4" Double Solid 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)
-  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

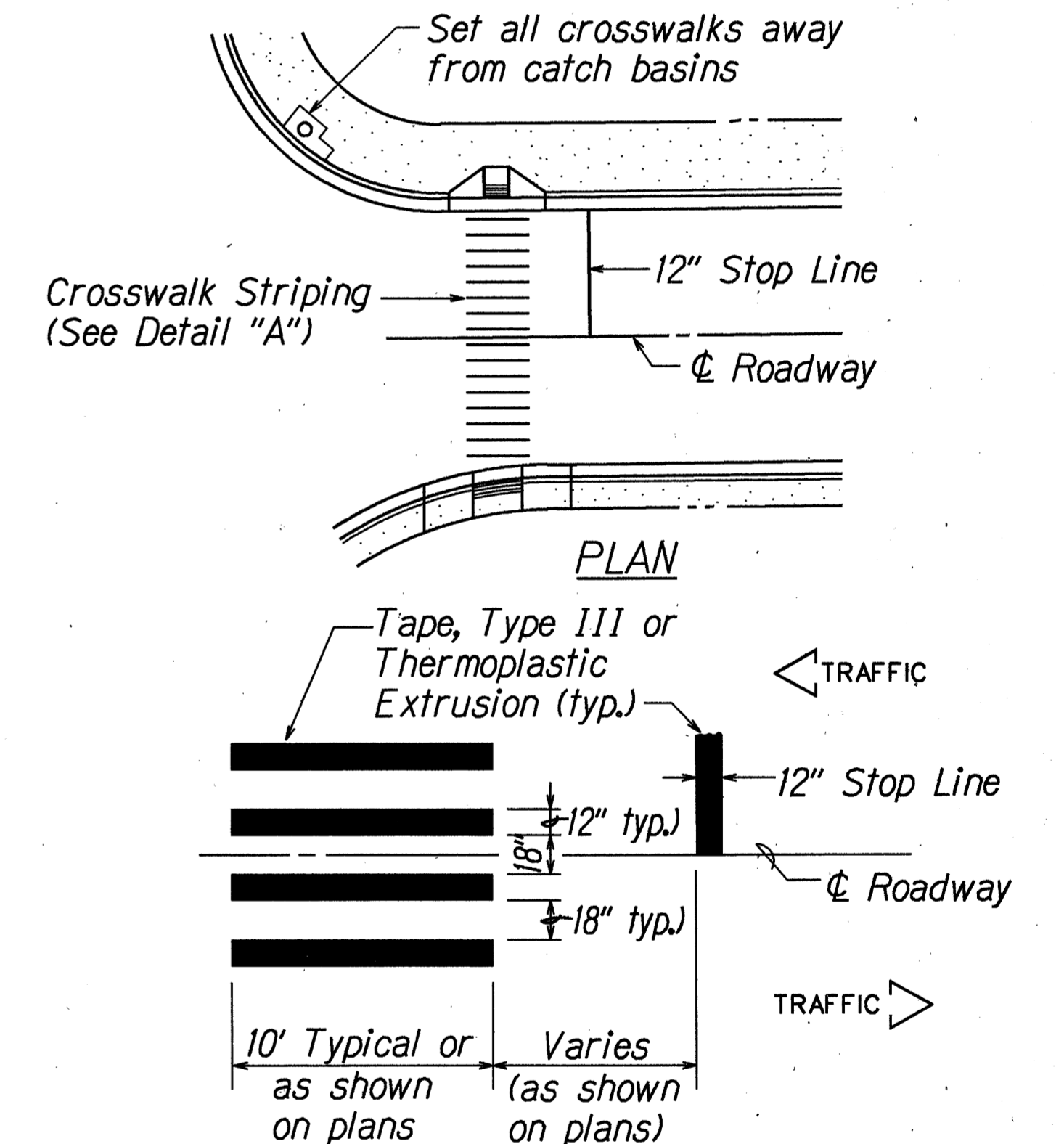
1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
2. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer. Costs shall be incidental to the various pavement 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 621 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 clear width of 36 inches from sidewalk edge to provide for wheelchair accessibility.
17. 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.
18. Removing existing signs and reinstalling on new post shall not be paid for separately, but shall be considered incidental to the various signing items.
19. Remove and reinstalling existing Street Name Signs on Regulatory and Warning Sign shall not be paid for separately but shall be considered incidental to the various signing items. Reinstalling shall include all new necessary hardware, equipment, tools, labor, materials and other incidentals for the installation of the new sign brackets.

REFLECTOR MARKER LEGEND

-  RM-2 Reflector Marker w/Flexible Delineator Post
-  RM-3 Reflector Marker w/Steel Post
-  RM-3 Reflector Marker w/Flexible Delineator Post



TYPICAL BUS BAY STRIPING
Not to Scale

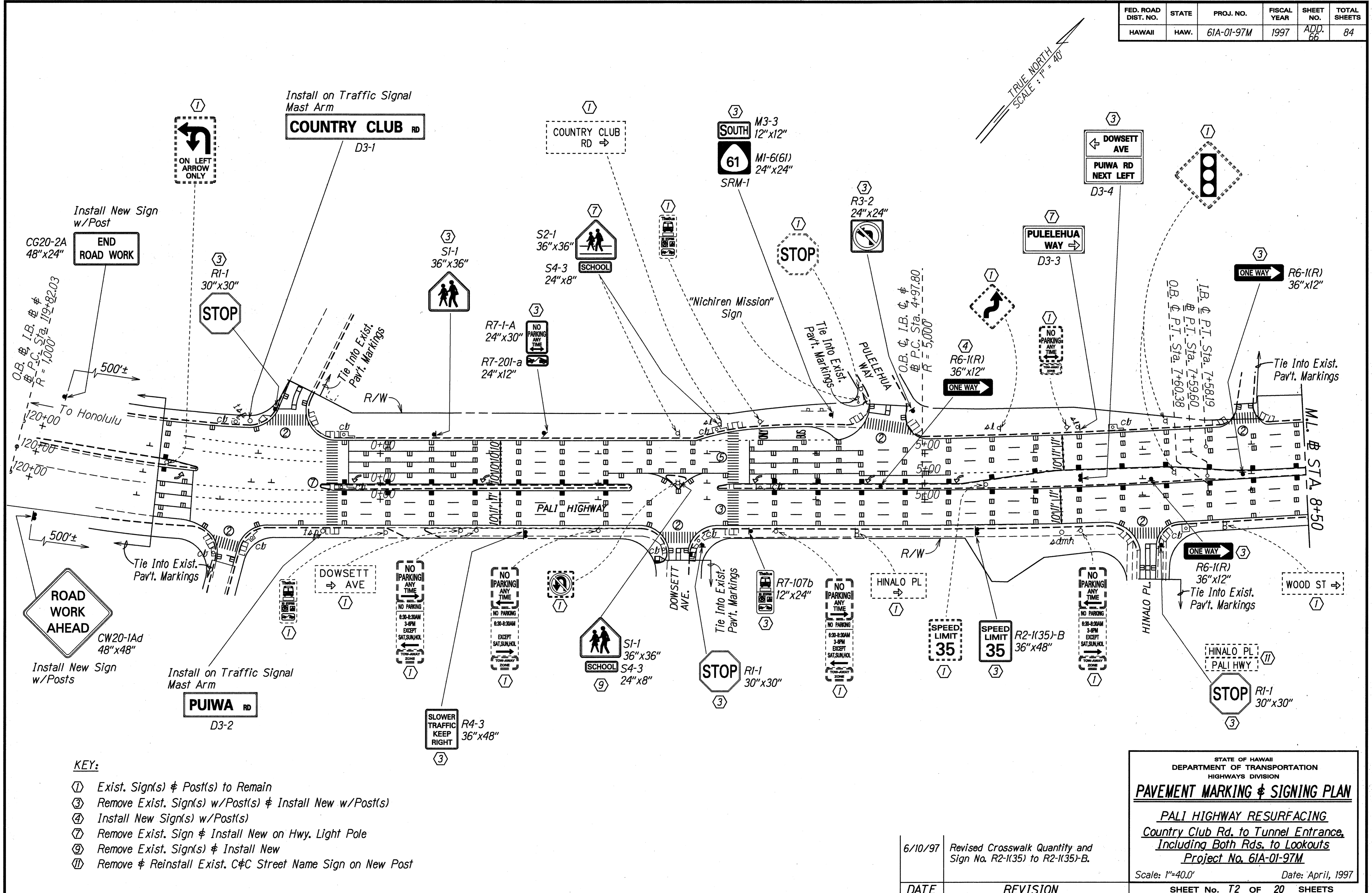


CROSSWALK STRIPING DETAIL
Not to Scale

DATE	5/2/97
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
RELATIVE	
NO. 50119	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKING
LEGEND, DETAILS & NOTES
PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M
Scale: As Noted Date: April, 1997
SHEET No. 71 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	ADD. 66	84



- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑦ Remove Exist. Sign & Install New on Hwy. Light Pole
 - ⑨ Remove Exist. Sign(s) & Install New
 - ⑩ Remove & Reinstall Exist. C&C Street Name Sign on New Post

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO. 101	
NO. 102	
NO. 103	
NO. 104	
NO. 105	

DATE	REVISION
6/10/97	Revised Crosswalk Quantity and Sign No. R2-1(35) to R2-1(35)-B.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

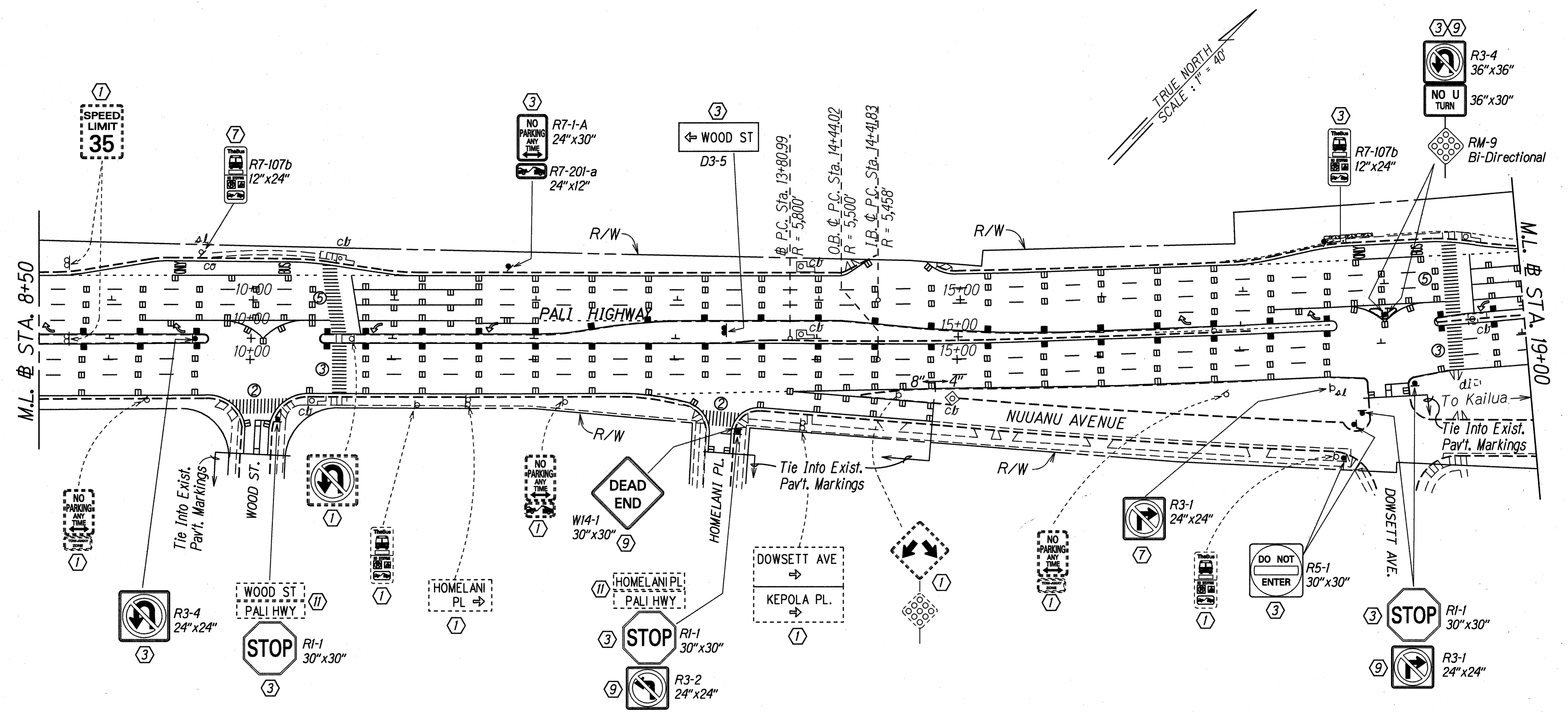
PAVEMENT MARKING & SIGNING PLAN

PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M

Scale: 1"=40.0' Date: April, 1997

SHEET NO. T2 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	ADD. 67	84



DATE	5/29/97
SURVEY PLOTTED BY	
DRAWN BY	E. A. H.
NOTED BY	G. K. B.
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO. 5011/02	

- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New w/Post(s)
 - ⑦ Remove Exist. Sign & Install New on Hwy. Light Pole
 - ⑨ Remove Exist. Sign(s) & Install New
 - ⑪ Remove & Reinstall Exist. C&C Street Name Sign on New Post

6/10/97 Revised Crosswalk Quantity and Added Key Number to Sign No. R3-4.

DATE	REVISION
6/10/97	Revised Crosswalk Quantity and Added Key Number to Sign No. R3-4.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

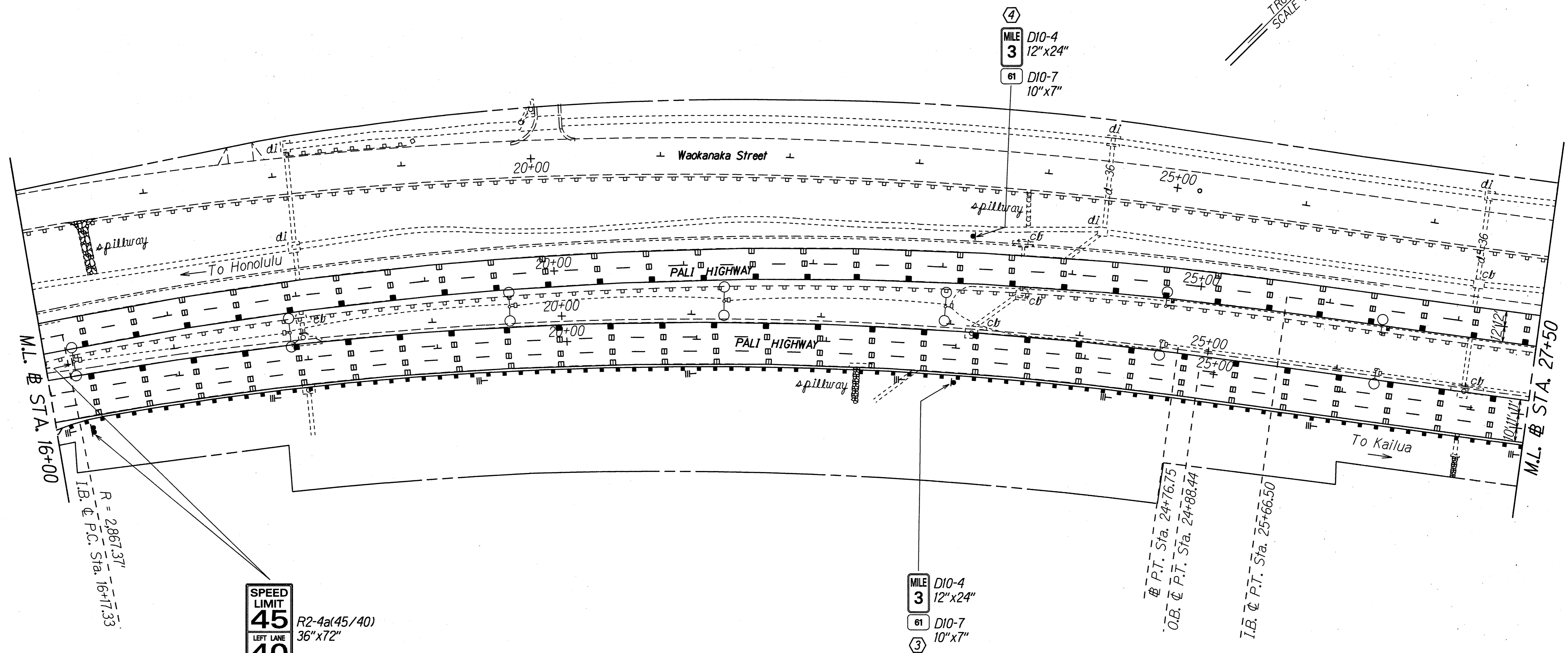
*PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M*

Scale: 1"=40.0' Date: April, 1997

SHEET No. T3 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	ADD. 69	84

TRUE NORTH
SCALE: 1" = 40'



SPEED LIMIT
45
LEFT LANE
40
MINIMUM

R2-4a(45/40)
36"x72"

③⑦

DATE	4/23/97
SURVEY PLOTTED BY	
DRAWN BY	E. A. G.
TRACED BY	G. K. G.
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
FILE NO.	
CHECKED BY	

- KEY:**
- ③ Remove Exist. Sign(s) w/Post(s) & Install New w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑦ Remove Exist. Sign & Install New on Hwy. Light Pole

6/10/97 Added Key No. to Sign No. R2-4a(45/40).

DATE REVISION

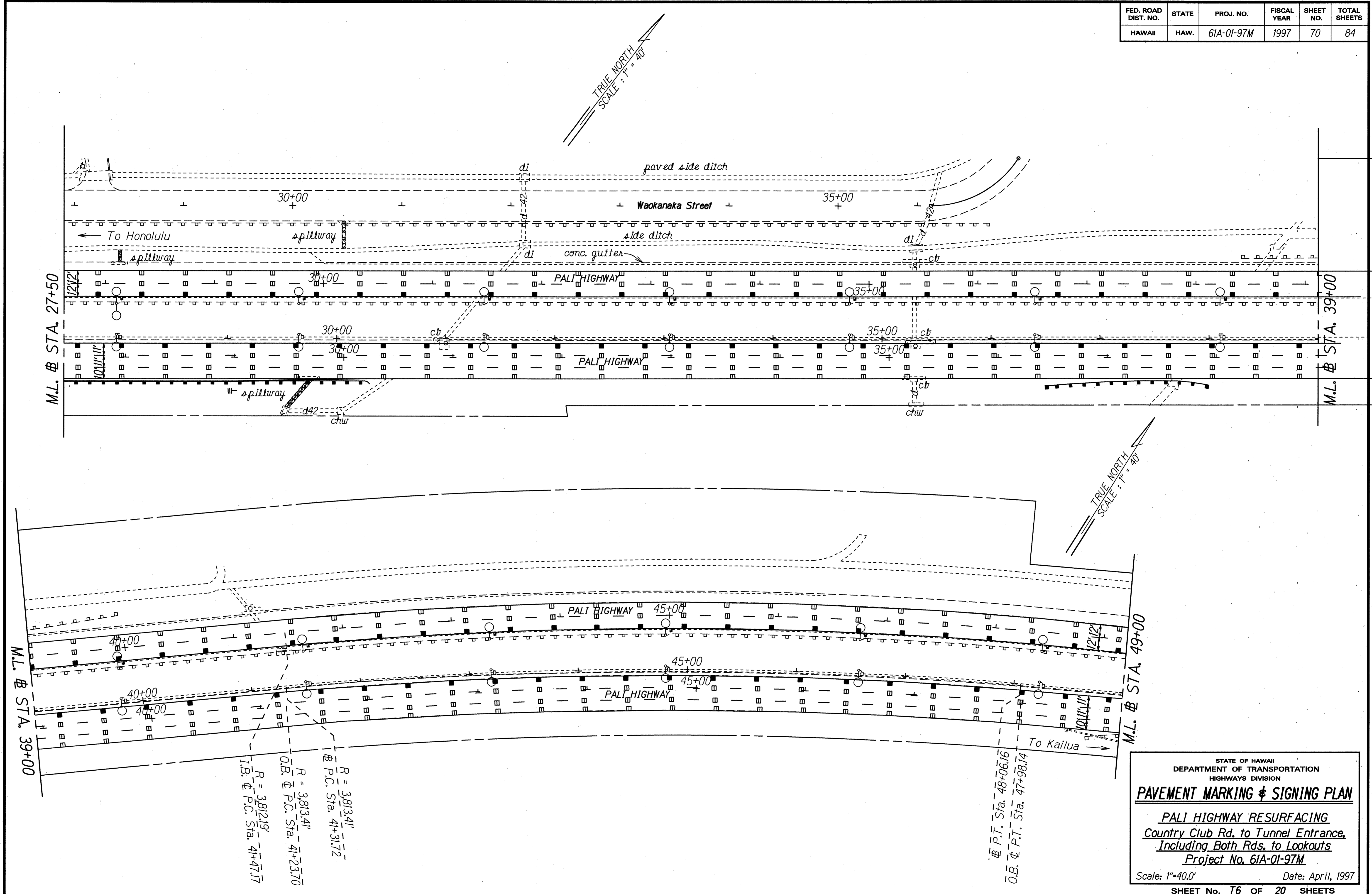
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKING & SIGNING PLAN

PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M

Scale: 1"=40.0' Date: April, 1997

SHEET NO. T5 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	70	84



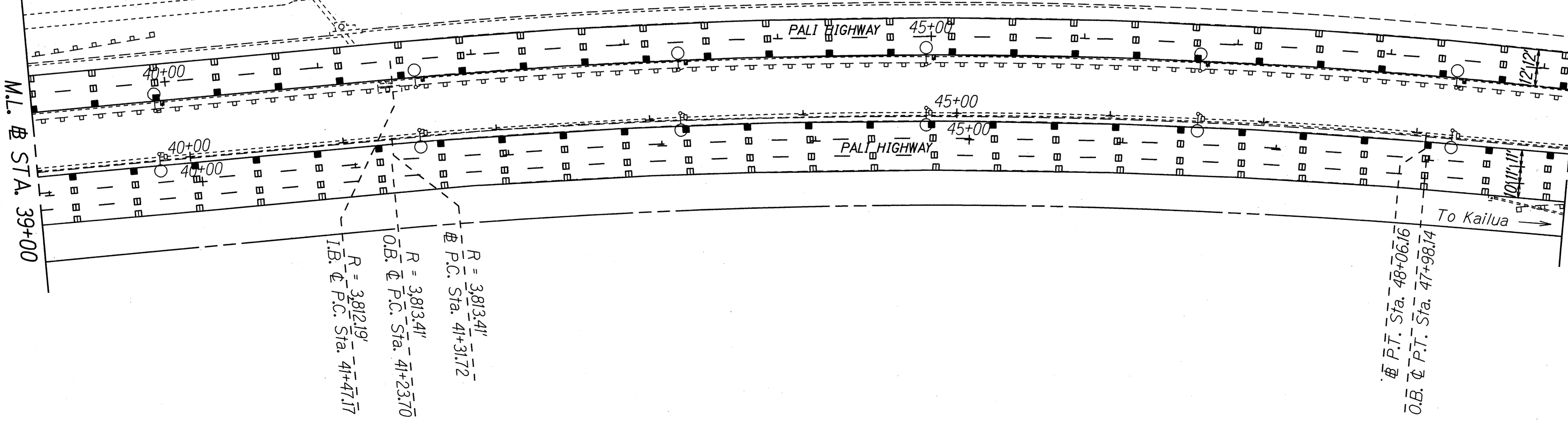
SURVEY PLOTTED BY	DATE
DRAWN BY	4/23/97
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
rol/rub	
4/23/97	

M.L. # STA. 39+00

M.L. # STA. 27+50

M.L. # STA. 39+00

M.L. # STA. 49+00



$R = 3,813.41'$
 O.B. P.C. Sta. 41+23.70
 $R = 3,813.41'$
 P.C. Sta. 41+31.72
 $R = 3,812.19'$
 I.B. P.C. Sta. 41+47.17

P.T. Sta. 48+06.16
 P.T. Sta. 47+98.74

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

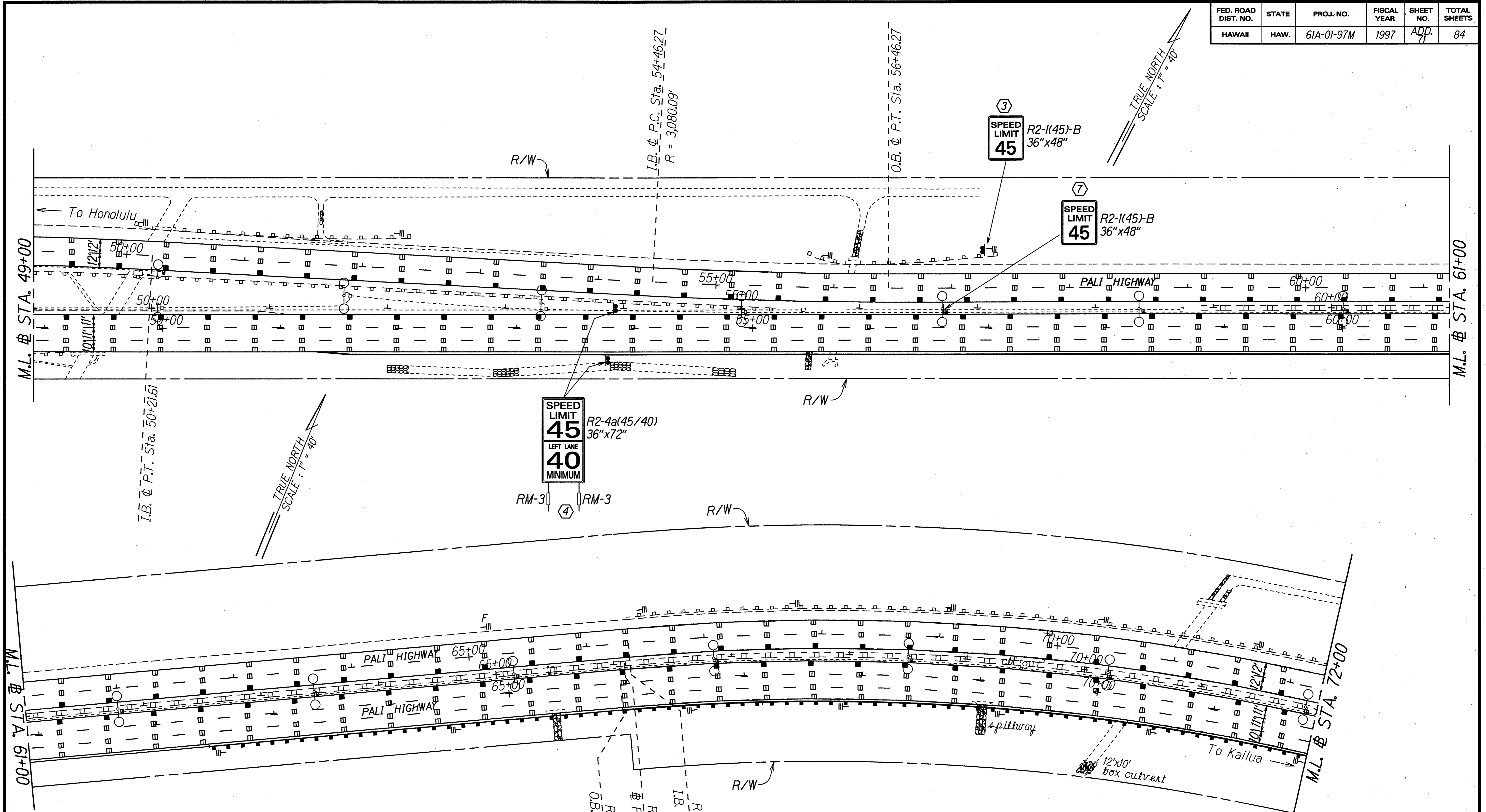
PAVEMENT MARKING & SIGNING PLAN

PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M

Scale: 1"=40.0' Date: April, 1997

SHEET No. T6 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	ADD. 71	84



SURVEY PLOTTED BY	DATE
DRAWN BY	7/23/97
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
FOR R/W	
CHECKED BY	

- KEY:**
- ③ Remove Exist. Sign(s) w/Post(s) & Install New w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑦ Remove Exist. Sign & Install New on Hwy. Light Pole

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

*PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M*

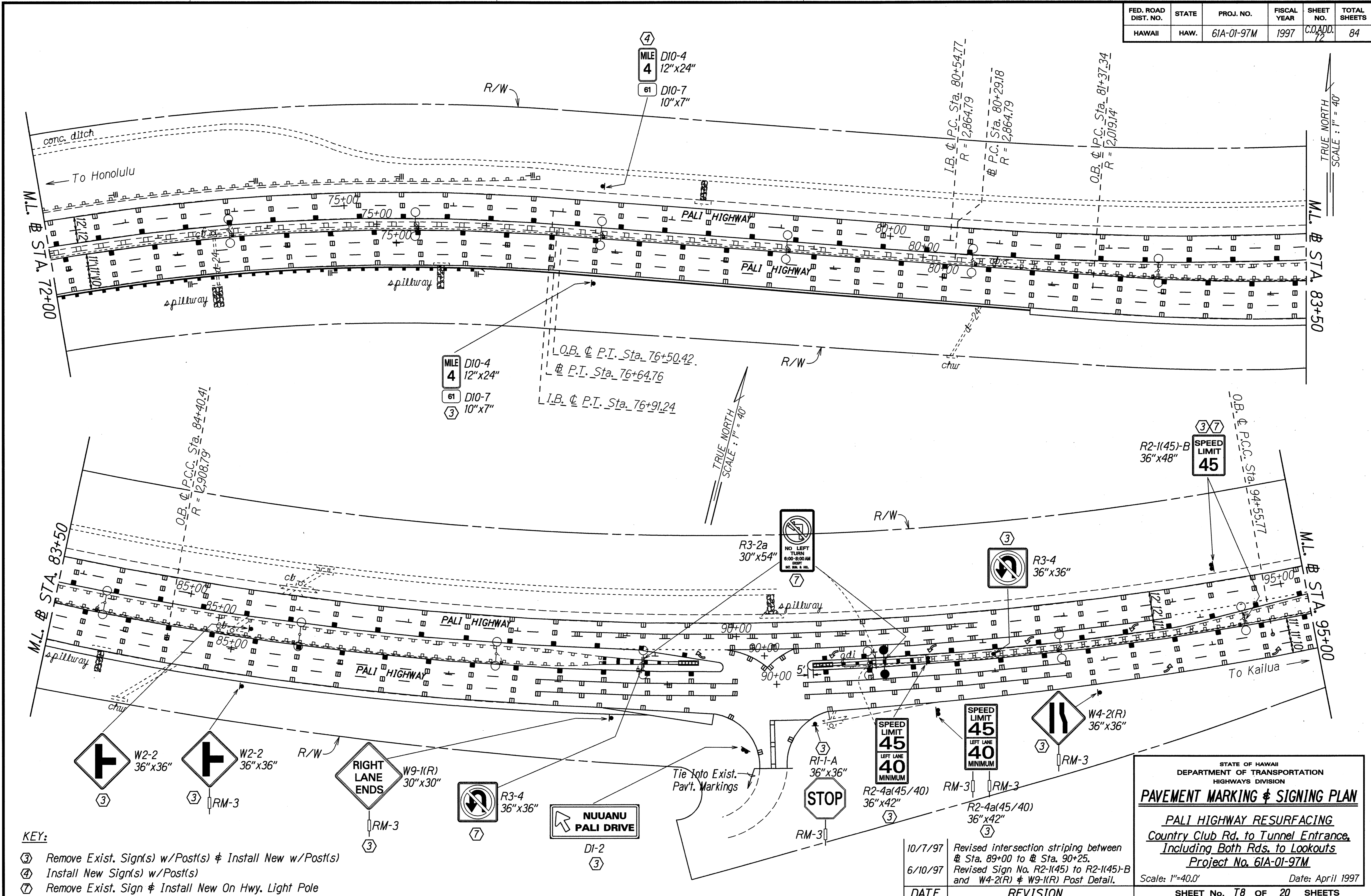
Scale: 1"=40.0' Date: April, 1997

SHEET No. 71 OF 20 SHEETS

6/10/97	Revised Sign No. R2-1(45) to R2-1(45)-B.
DATE	REVISION

ADD. 71

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	C.O. ADD. 72	84



SURVEY PLOTTED BY	DATE	4/23/97
DRAWN BY	BY	JL
DESIGNED BY	BY	G. Kakehi
QUANTITIES BY	BY	
CHECKED BY	BY	
ORIGINAL PLAN		
NOTE BOOK		
REVISION		
DATE		
BY		

- KEY:**
- ③ Remove Exist. Sign(s) w/Post(s) & Install New w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑦ Remove Exist. Sign & Install New On Hwy. Light Pole

DATE	REVISION
10/7/97	Revised intersection striping between Sta. 89+00 to Sta. 90+25.
6/10/97	Revised Sign No. R2-1(45) to R2-1(45)-B and W4-2(R) & W9-1(R) Post Detail.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

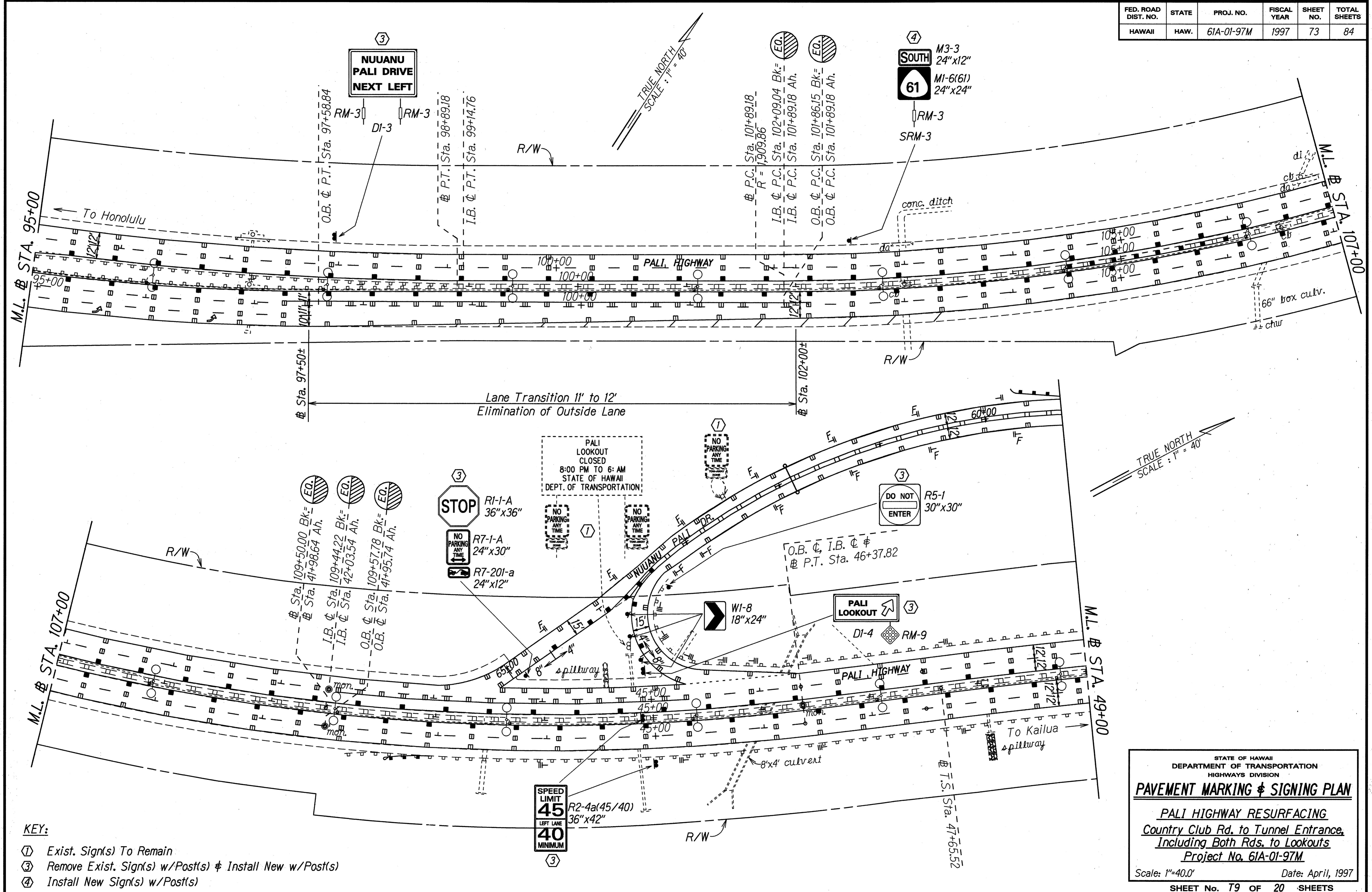
*PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M*

Scale: 1"=40.0' Date: April 1997

SHEET No. T8 OF 20 SHEETS

C.O. ADD. 72

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	73	84



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	4/29/97
DRAWN BY	E. A. C.
TRACED BY	G. K. S.
NOTES BOOK	
QUANTITIES BY	
CHECKED BY	

- KEY:**
- ① Exist. Sign(s) To Remain
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New w/Post(s)
 - ④ Install New Sign(s) w/Post(s)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

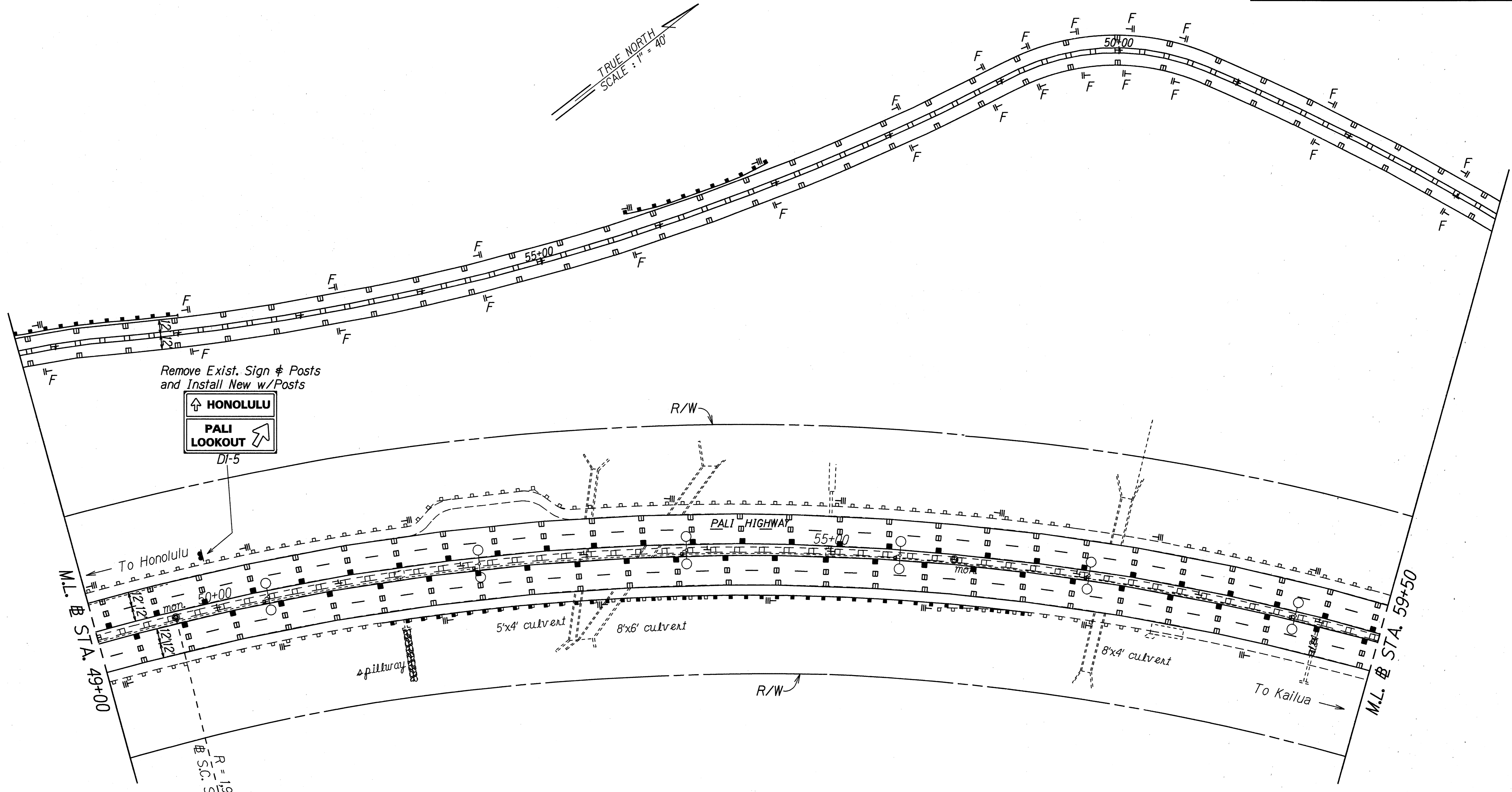
*PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M*

Scale: 1"=40.0' Date: April, 1997

SHEET NO. T9 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	74	84

TRUE NORTH
SCALE: 1" = 40'



SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
for	
DATE	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

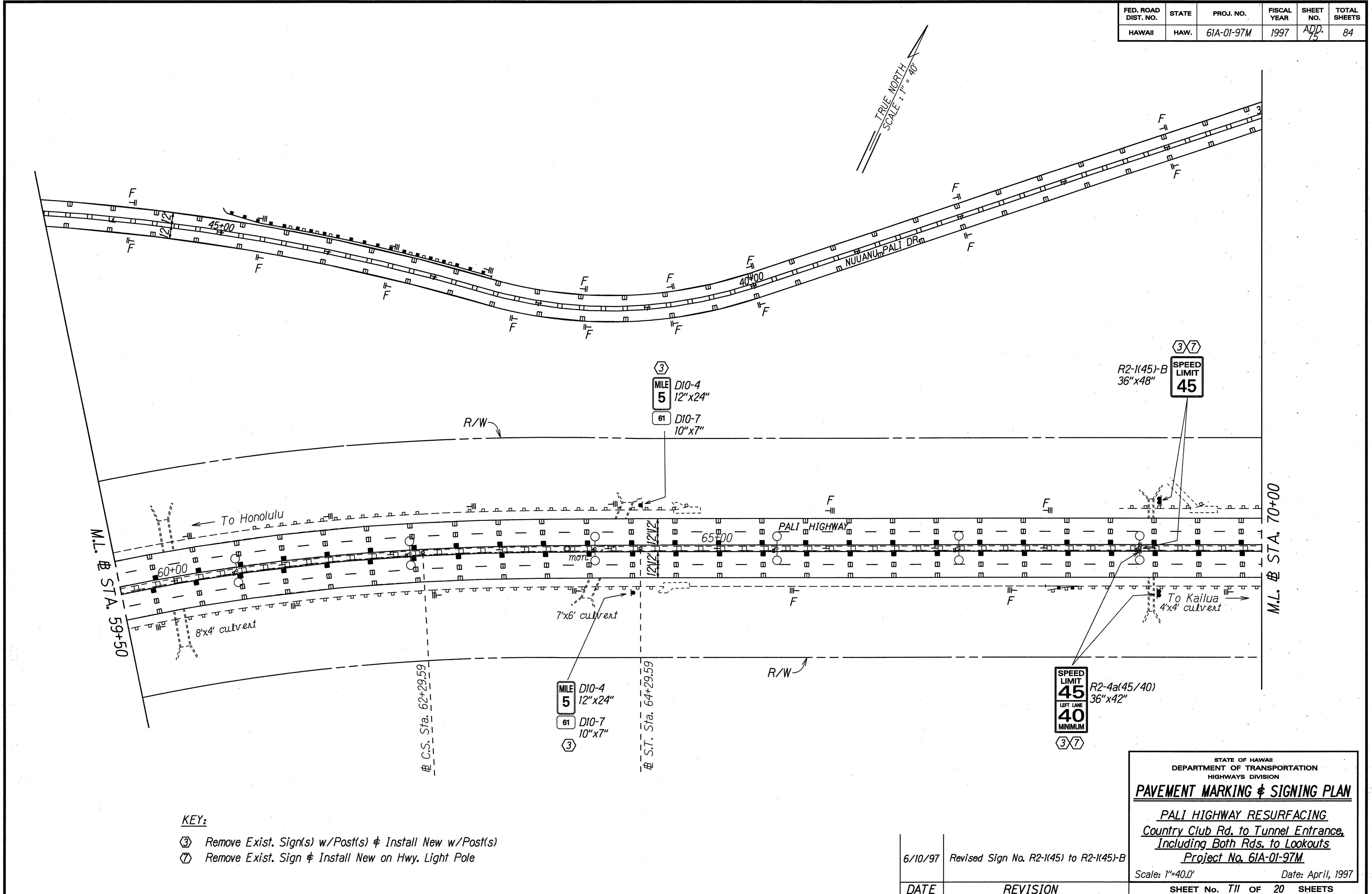
PAVEMENT MARKING & SIGNING PLAN

*PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M*

Scale: 1"=40.0' Date: April, 1997

SHEET No. 74 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	ADD. 75	84



TRUE NORTH
SCALE: 1" = 40'

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

- KEY:**
- ③ Remove Exist. Sign(s) w/Post(s) & Install New w/Post(s)
 - ⑦ Remove Exist. Sign & Install New on Hwy. Light Pole

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

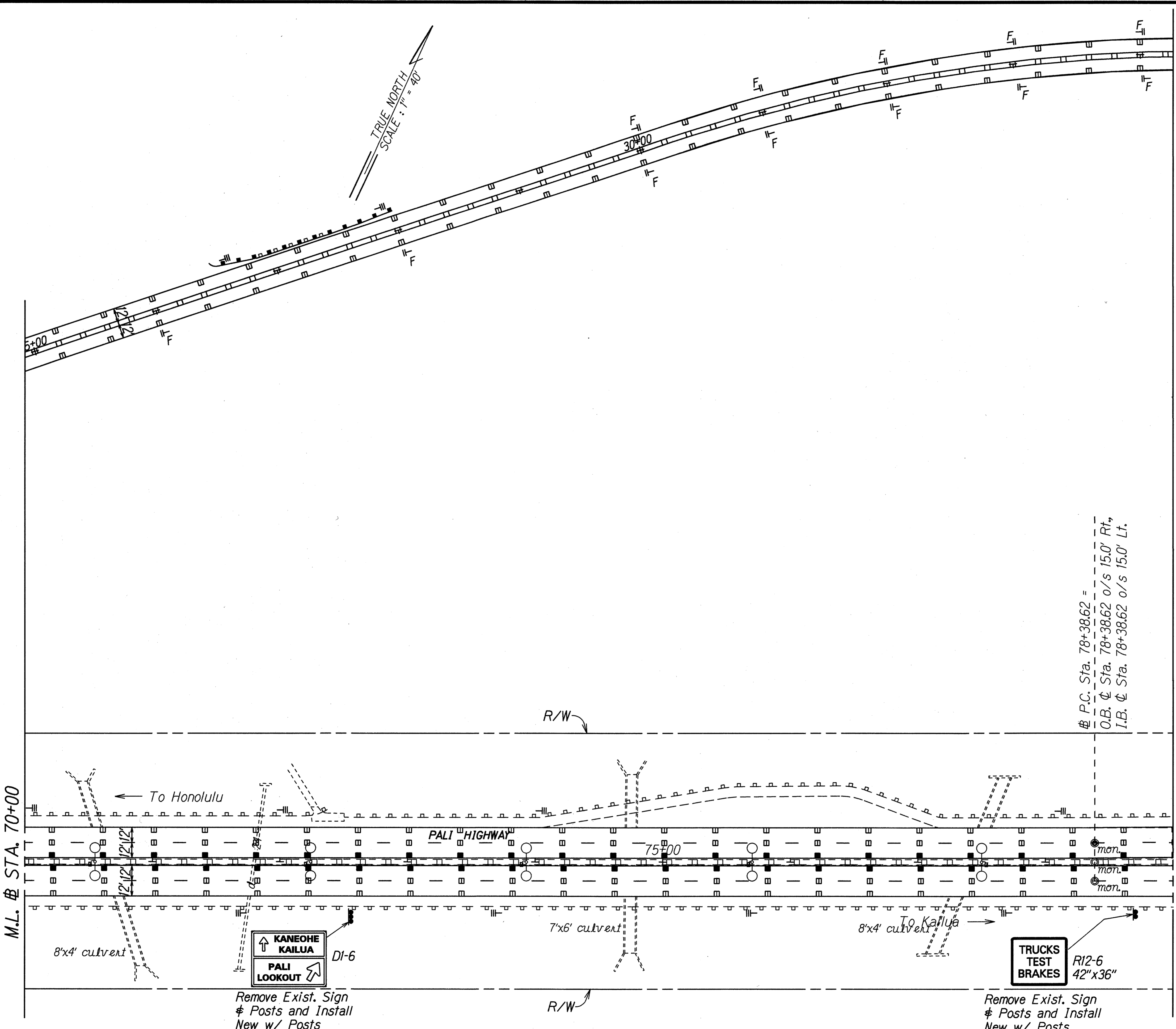
*PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M*

Scale: 1"=40.0' Date: April, 1997

SHEET No. 75 OF 20 SHEETS

6/10/97	Revised Sign No. R2-1(45) to R2-1(45)-B
DATE	REVISION

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	76	84



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	4/24/97
DRAWN BY	R. Aoki
TRACED BY	G. Katochi
NOTES BOOK	
101/101	
QUANTITIES BY	
4-5/11/97	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

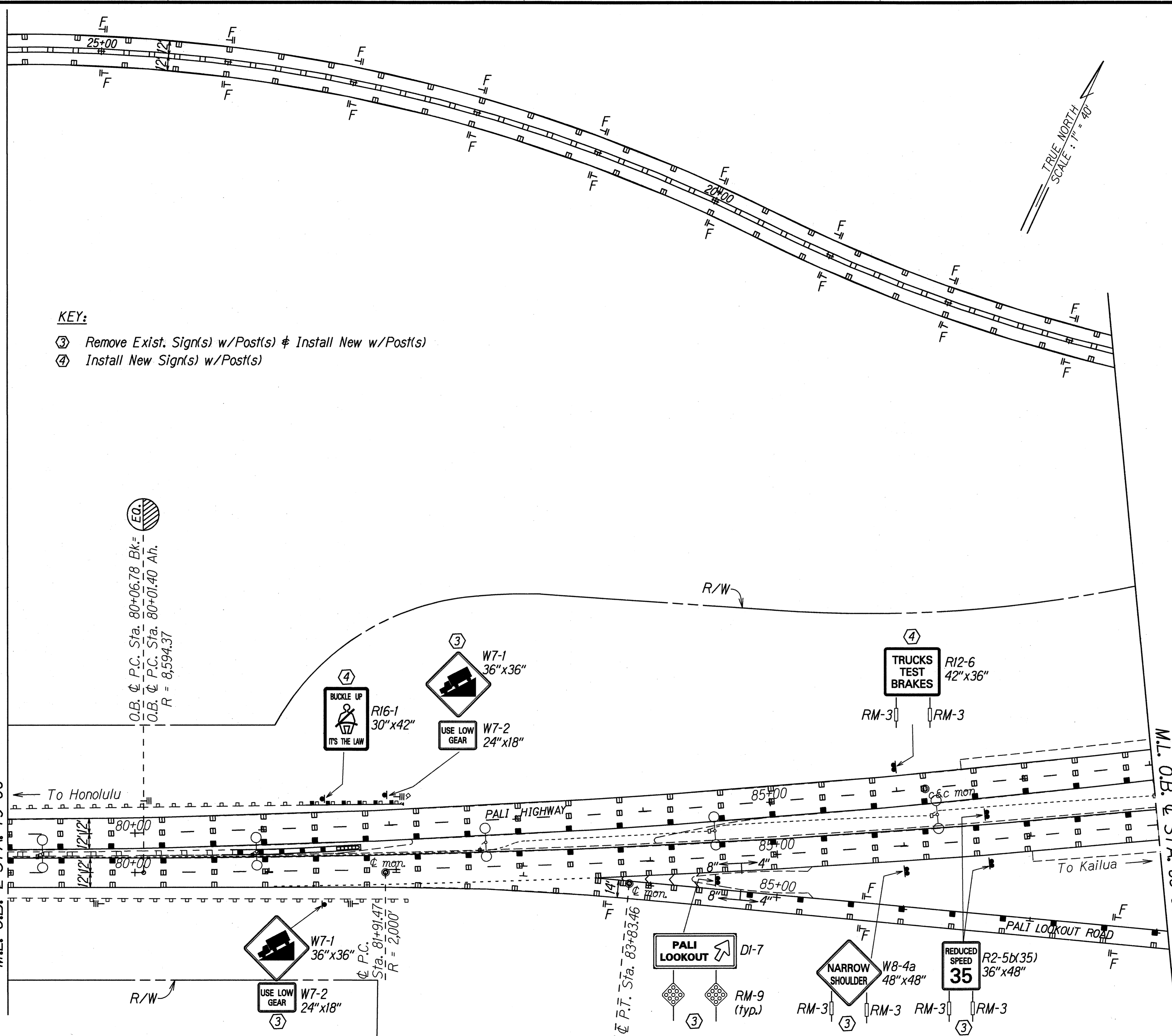
PAVEMENT MARKING & SIGNING PLAN

PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M

Scale: 1"=40.0' Date: April, 1997

SHEET No. 76 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	77	84



KEY:

③ Remove Exist. Sign(s) w/Post(s) & Install New w/Post(s)

④ Install New Sign(s) w/Post(s)

O.B. ϕ P.C. Sta. 80+06.78 Bk.=
 O.B. ϕ P.C. Sta. 80+01.40 Ah.
 R = 8,594.37

W7-1
36"x36"

USE LOW GEAR
W7-2
24"x18"

ϕ P.C. Sta. 81+91.47
 R = 2,000'

TRUCKS TEST BRAKES
R12-6
42"x36"

RM-3 RM-3

PALI LOOKOUT
D1-7

RM-9 (typ.)

NARROW SHOULDER
W8-4a
48"x48"

RM-3 RM-3 RM-3 RM-3

REDUCED SPEED
35
R2-5b(35)
36"x48"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTES BOOK	DRAWN BY R. Aili	4/29/97
FOR RUBY	DESIGNED BY G. Kageni	
NA Spill/2	CHECKED BY	

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

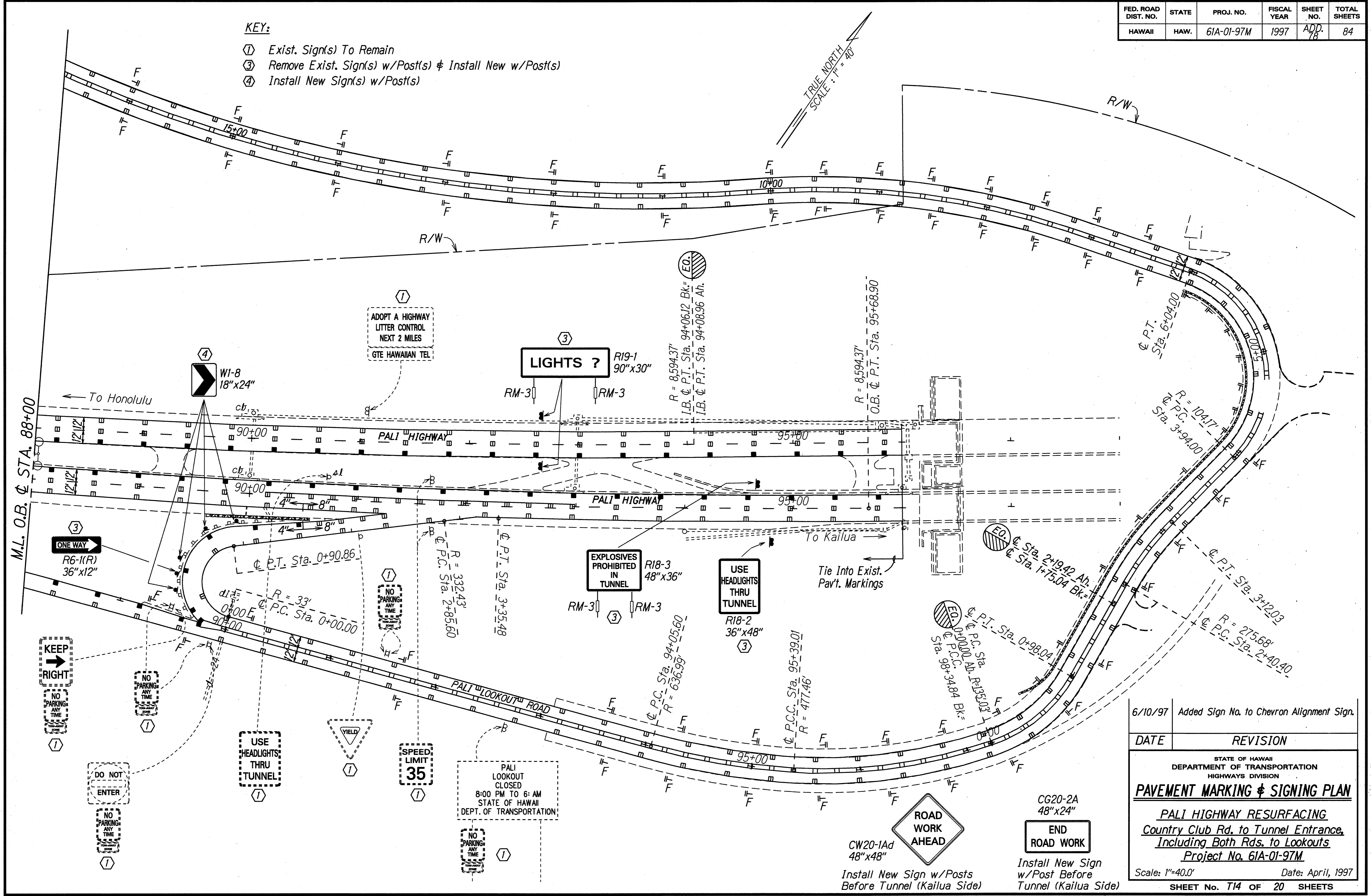
*PALI HIGHWAY RESURFACING
 Country Club Rd. to Tunnel Entrance,
 Including Both Rds. to Lookouts
 Project No. 61A-01-97M*

Scale: 1"=40.0' Date: April, 1997

SHEET No. 77 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	ADD. 78	84

- KEY:**
- ① Exist. Sign(s) To Remain
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New w/Post(s)
 - ④ Install New Sign(s) w/Post(s)



DATE: 4/24/97
 SURVEY PLOTTED BY: [Blank]
 DRAWN BY: B. Ahi
 CHECKED BY: G. Keleni
 ORIGINAL PLAN: [Blank]
 NOTES BOOK: [Blank]
 QUANTITIES BY: [Blank]
 CHECKED BY: M. Sullips

DATE	REVISION
6/10/97	Added Sign No. to Chevron Alignment Sign.

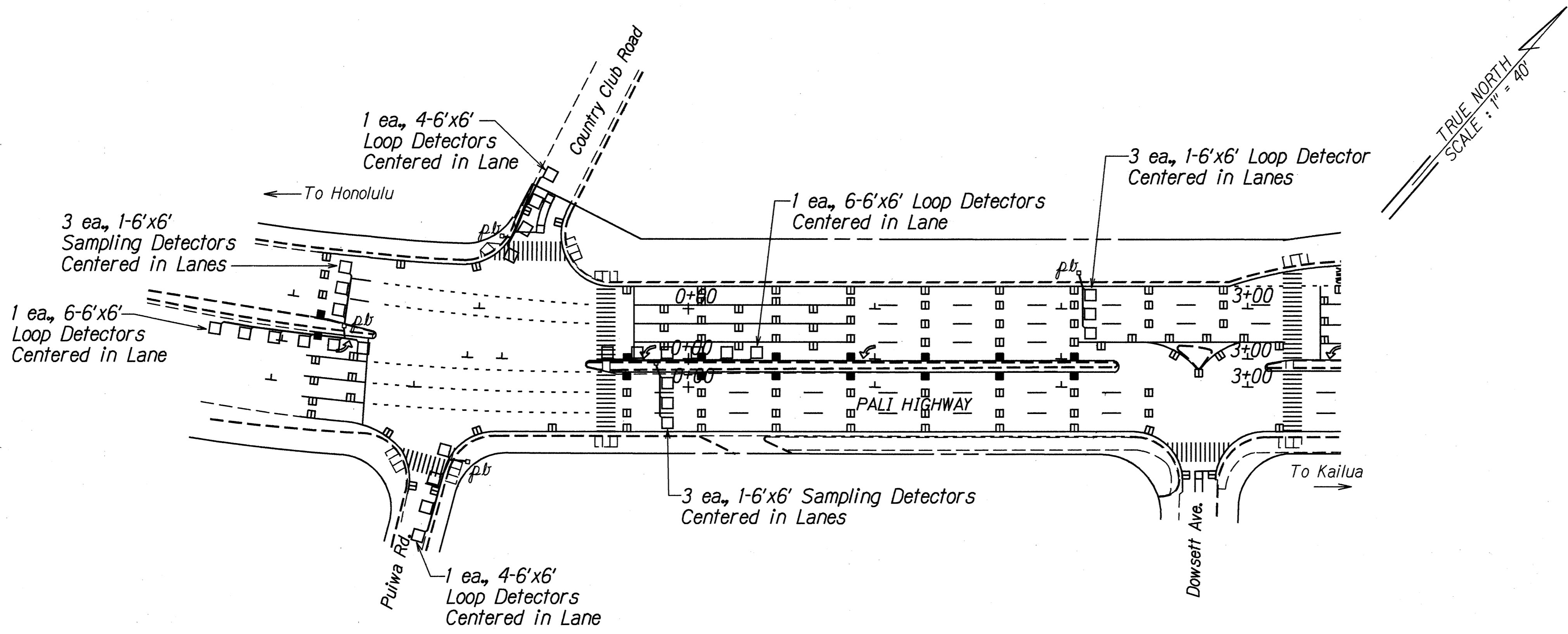
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

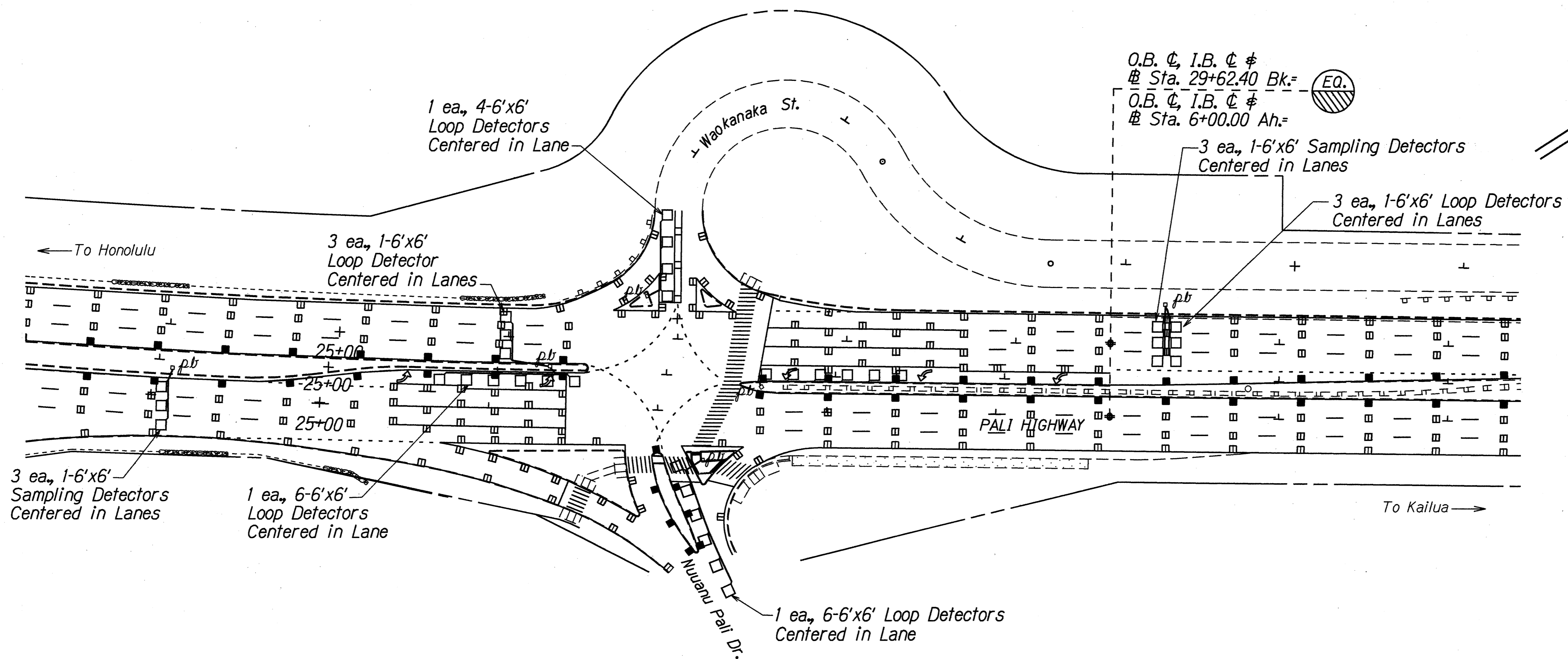
PALI HIGHWAY RESURFACING
 Country Club Rd. to Tunnel Entrance,
 Including Both Rds. to Lookouts
 Project No. 61A-01-97M

Scale: 1"=40.0' Date: April, 1997
 SHEET NO. T14 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	79	84



INTERSECTION - COUNTRY CLUB RD./PUIWA RD. AND PALI HWY.



INTERSECTION - WAOKANAKA ST./NUUANU PALI DR. AND PALI HWY.

SURVEY PLOTTED BY	DATE
DRAWN BY	5/2/97
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

TRUE NORTH
SCALE: 1" = 40'

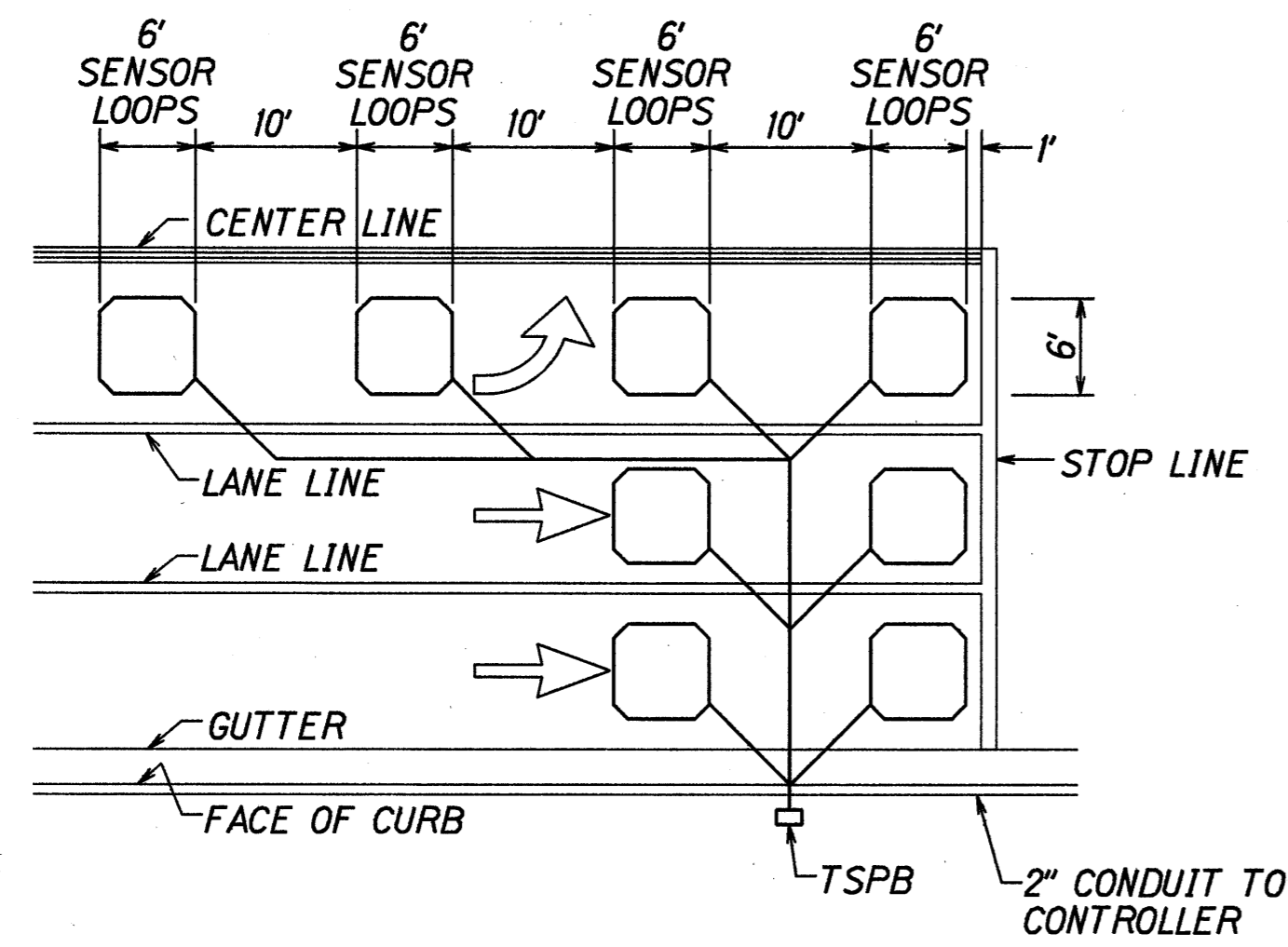
O.B. C, I.B. C #
Sta. 29+62.40 Bk.= EQ.
O.B. C, I.B. C #
Sta. 6+00.00 Ah.=

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOOP DETECTOR PLAN
PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M

Scale: 1"=40.0' Date: May, 1997
SHEET No. T15 OF 20 SHEETS

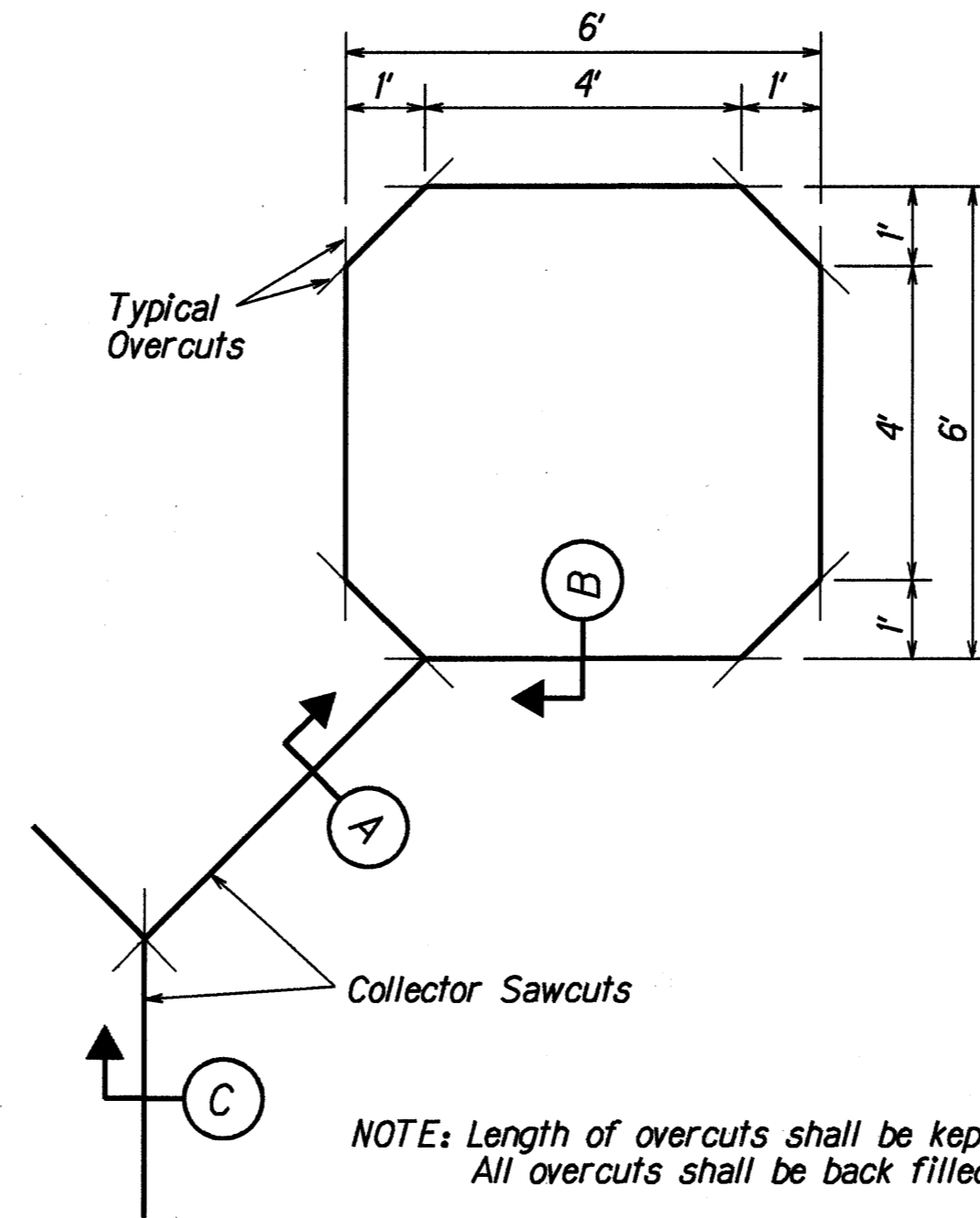
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	80	84



NOTES:

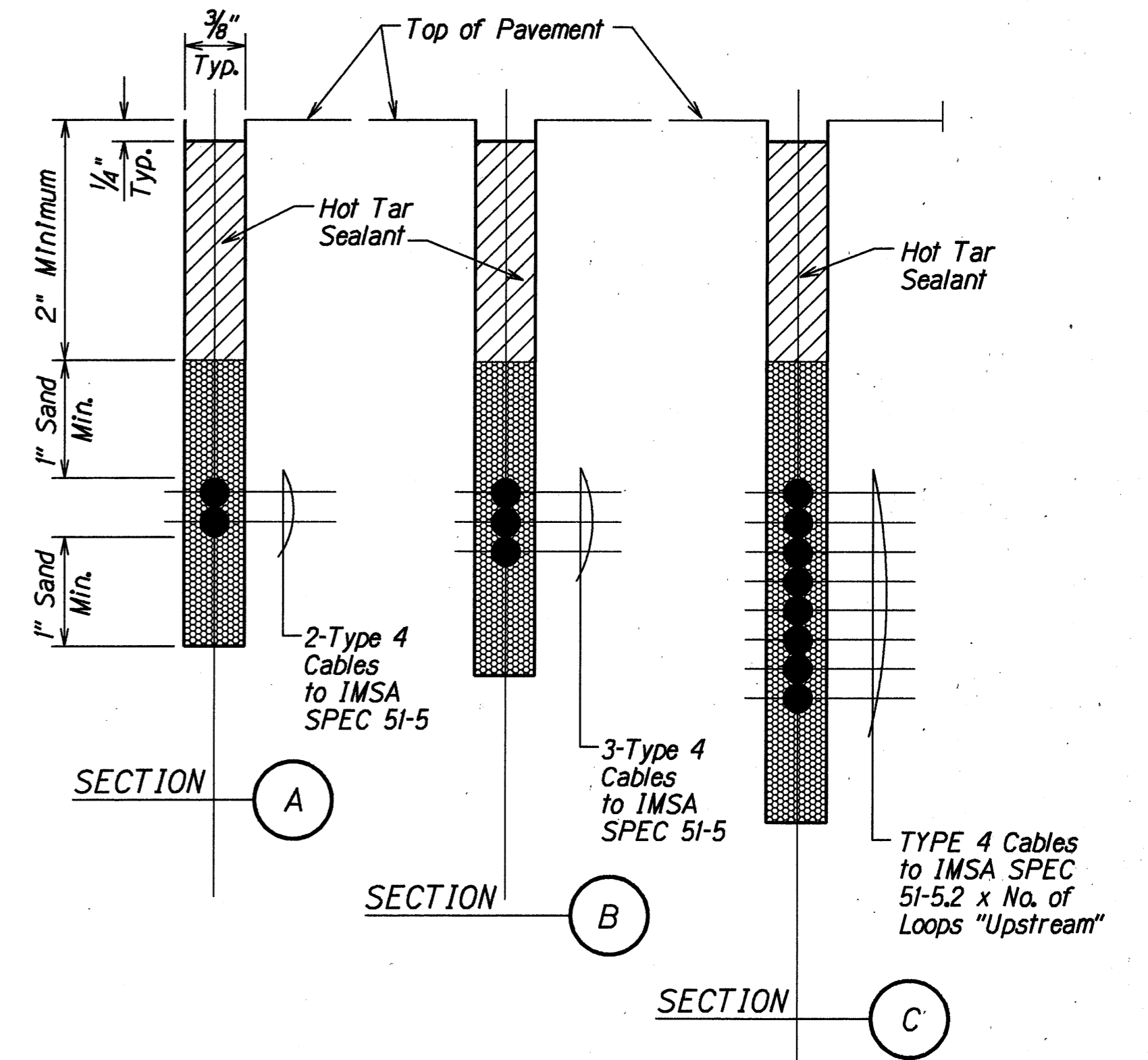
1. Center sensor loops in lanes.
2. Collector cables shall be twisted 2 turns per foot.
3. Number of loops and locations vary. See project plans.
4. Number and locations of collector sawcuts may be varied in the field to suit.

TYPICAL SENSOR LOOP LAYOUT

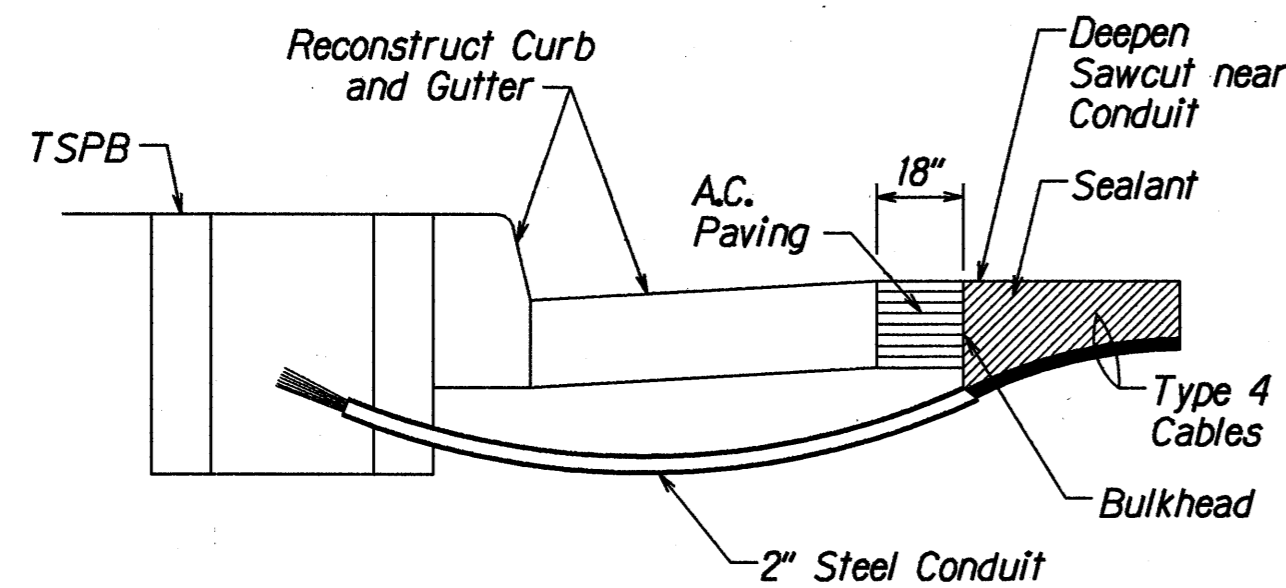


NOTE: Length of overcuts shall be kept to a minimum. All overcuts shall be back filled with hot tar.

TYPICAL SENSOR LOOP SAWCUT DETAIL



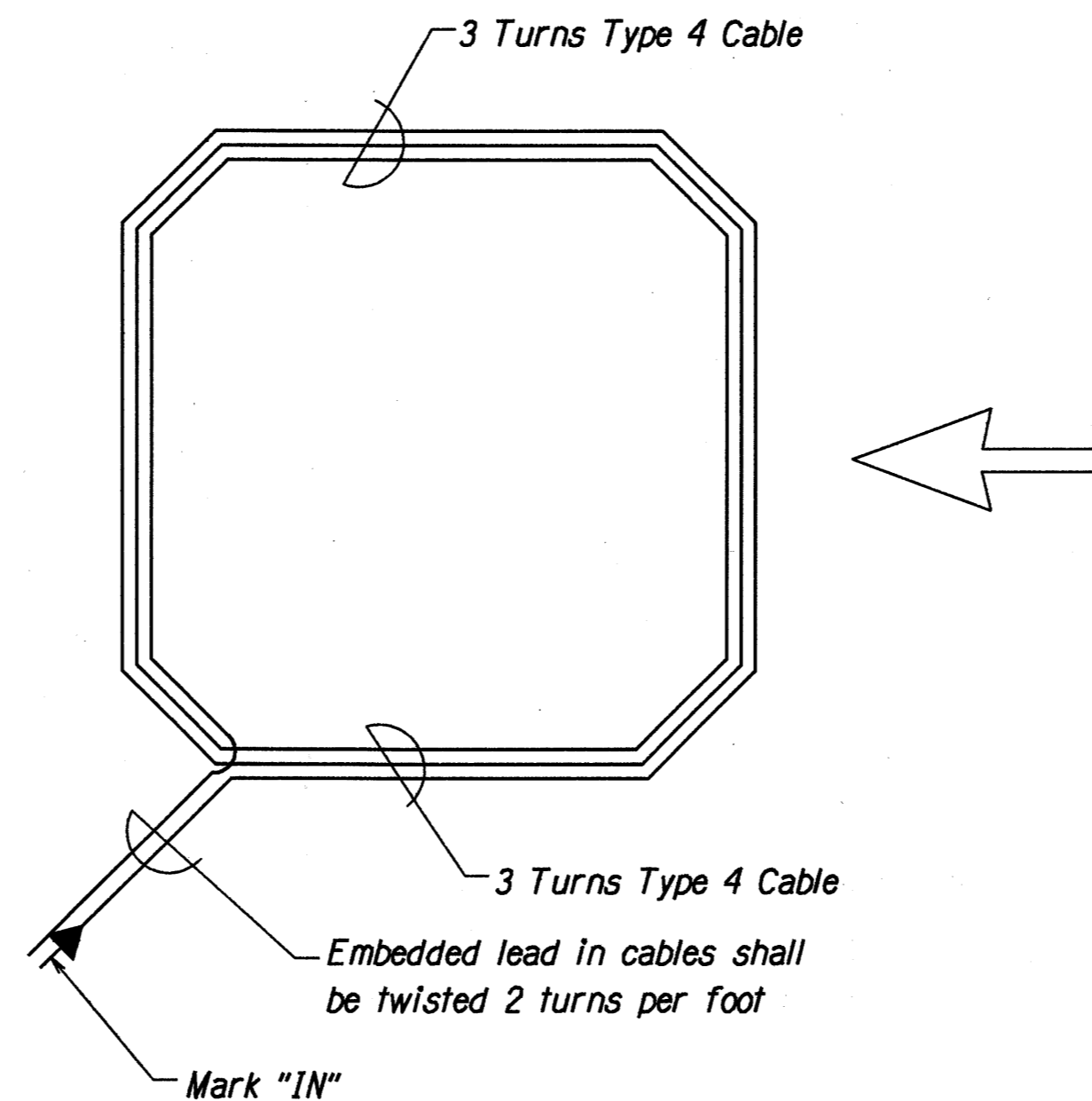
TYPICAL SECTION THROUGH SENSOR LOOP



NOTES ON CONSTRUCTION AT END OF SAWCUT

1. Seal roadway end of conduit after installation of conductors.
2. Install bulkhead across conduit trench.
3. Place hot tar in sawcut.
4. Backfill over conduit with new A.C.
5. Reconstruct curb and gutter as required.

DETAIL OF SENSOR LOOP INSTALLATION AT EDGE OF ROADWAY



TYPICAL SENSOR LOOP WIRING DIAGRAM

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	5/2/97
NOTES MOVED TO	CHECKED BY	
10-10-97	REVISIONS BY	
11-10-97	CHECKED BY	

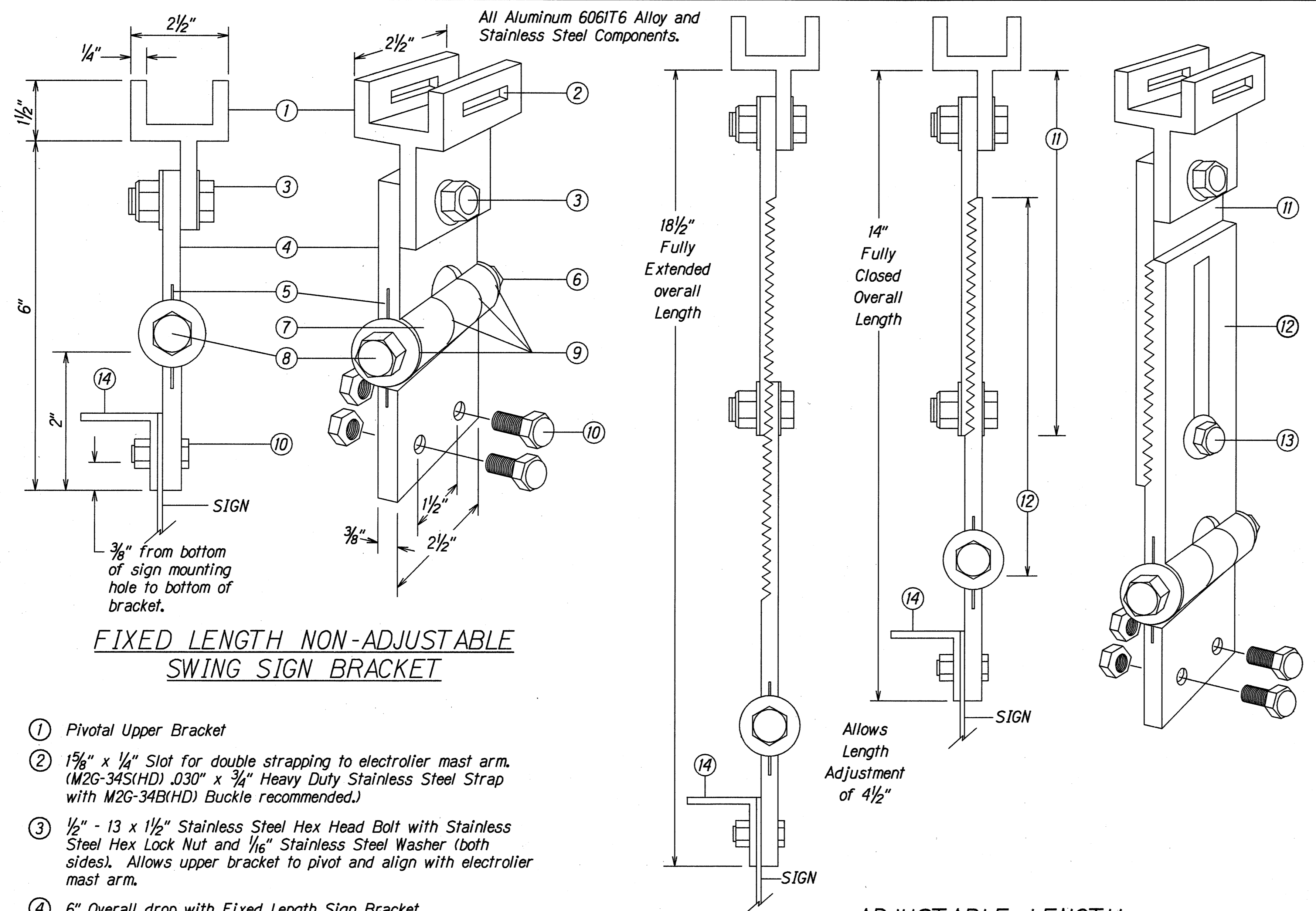
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOOP DETECTOR DETAILS
PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M

Not to Scale Date: May, 1997

SHEET No. T16 OF 20 SHEETS

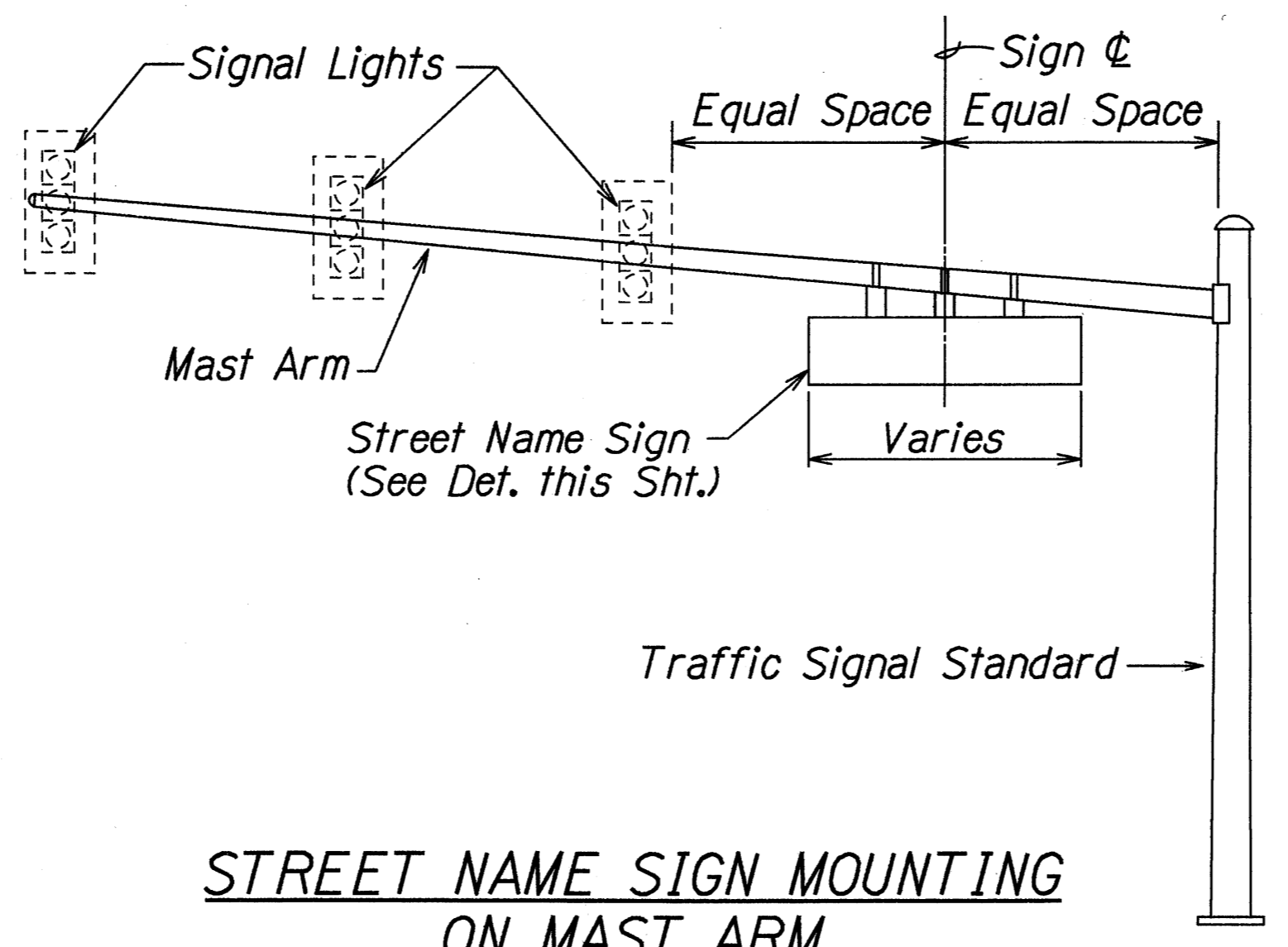
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	81	84



FIXED LENGTH NON-ADJUSTABLE SWING SIGN BRACKET

ADJUSTABLE LENGTH SWING SIGN BRACKET

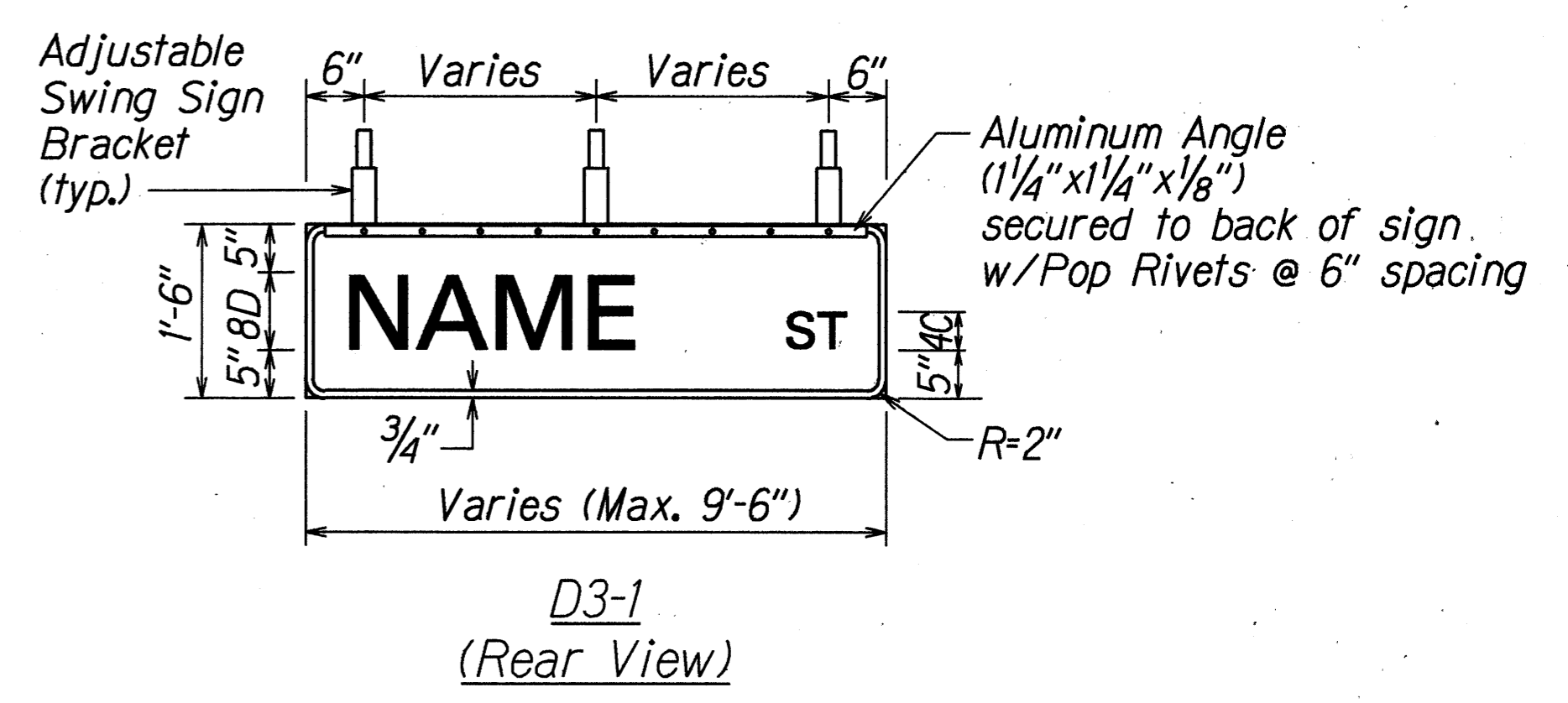
- ① Pivotal Upper Bracket
- ② 1 5/8" x 1/4" Slot for double strapping to electrolier mast arm. (M2G-34S(HD) .030" x 3/4" Heavy Duty Stainless Steel Strap with M2G-34B(HD) Buckle recommended.)
- ③ 1/2" - 13 x 1 1/2" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut and 1/16" Stainless Steel Washer (both sides). Allows upper bracket to pivot and align with electrolier mast arm.
- ④ 6" Overall drop with Fixed Length Sign Bracket
- ⑤ Stainless Steel Dampener Spring (Removable)
- ⑥ Stainless Steel Hex Lock Nut with 1/16" Stainless Steel Washer
- ⑦ 1" O.D. Axle Housing
- ⑧ 1/2" - 13 x 4" Stainless Steel Hex Head Bolt with 1/16" Stainless Steel Washer
- ⑨ Oilite Bushing
- ⑩ 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 1/2" centers provide positive lock sign mounting to bracket.
- ⑪ 8 1/4" overall length Upper Adjustable Sign Bracket section
- ⑫ 9" overall length Lower Adjustable Sign Bracket section, including Axle Housing (8" overall length to top of Axle Housing)
- ⑬ 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.
- ⑭ 1 1/4" x 1 1/4" x 1/8" Aluminum Angle



STREET NAME SIGN MOUNTING ON MAST ARM

STREET NAME (D3) SIGN NOTES:

1. Sign D3-1, D3-2, D3-7, and D3-8 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.
2. Colors:
Legend - White (Reflectorized)
Background - Green (Reflectorized)
3. All panels shall be reflectorized with Type III or IV retroreflective sheeting in accordance with Section - 712.20 of the Standard Specifications.
4. All signs shall conform to section 621 of the Standard Specifications 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"
5. Borders and messages shall conform to details as shown on the plans and as specified in the MUTCD.
6. 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.
7. Number of Swing Sign Brackets required per Sign Panel:
3 Brackets - Panel length 7' or less
4 Brackets - Panel length greater than 7' with a maximum length of 9'-6"
8. Diacritical marks for Street Name are not authorized.



PANEL & SWING BRACKET LAYOUT FOR STREET NAME SIGN

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
DESIGNED BY	
NOTES BOOK	
NO. 10111111	
NO. 10111111	

Note: Dimensions may vary slightly.

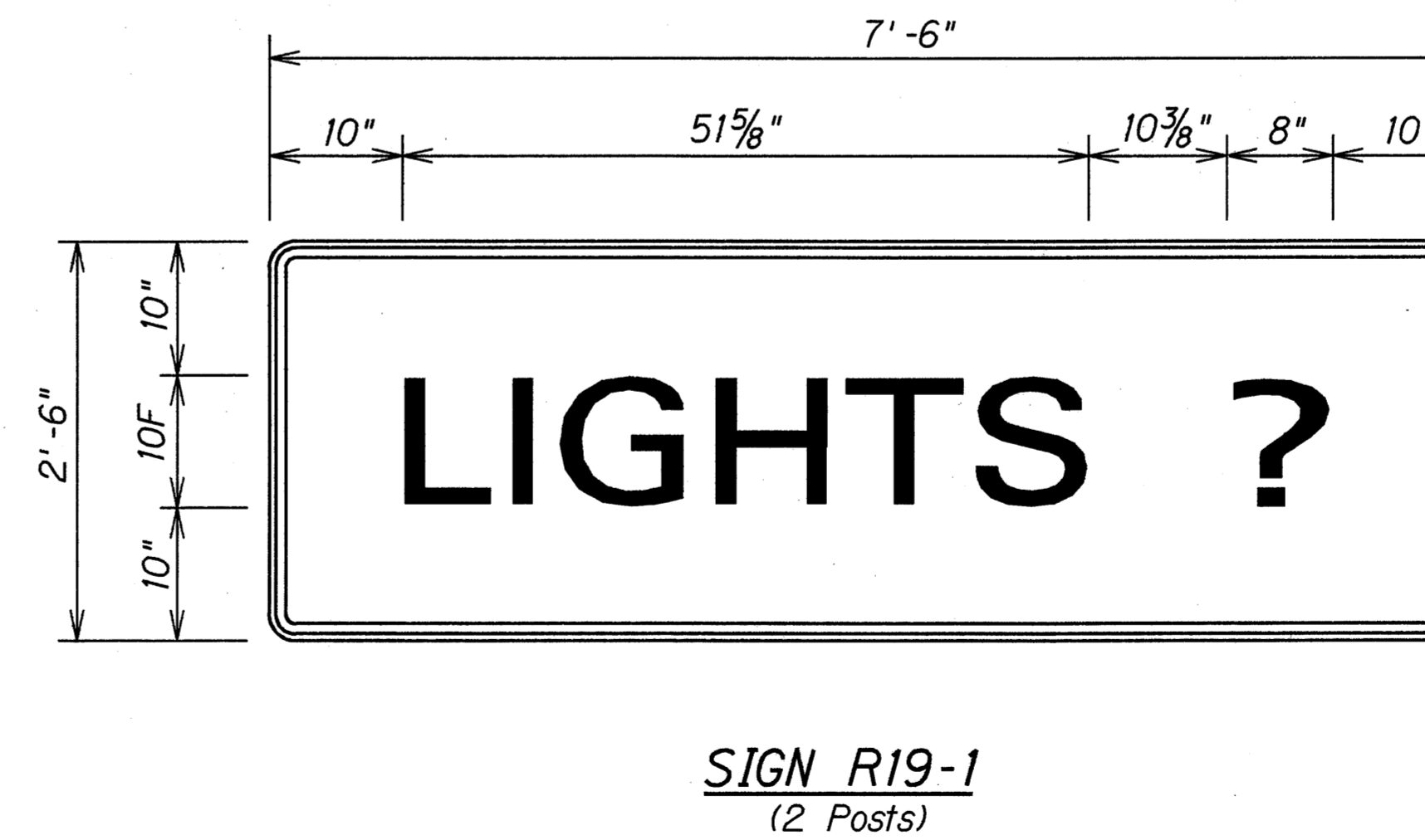
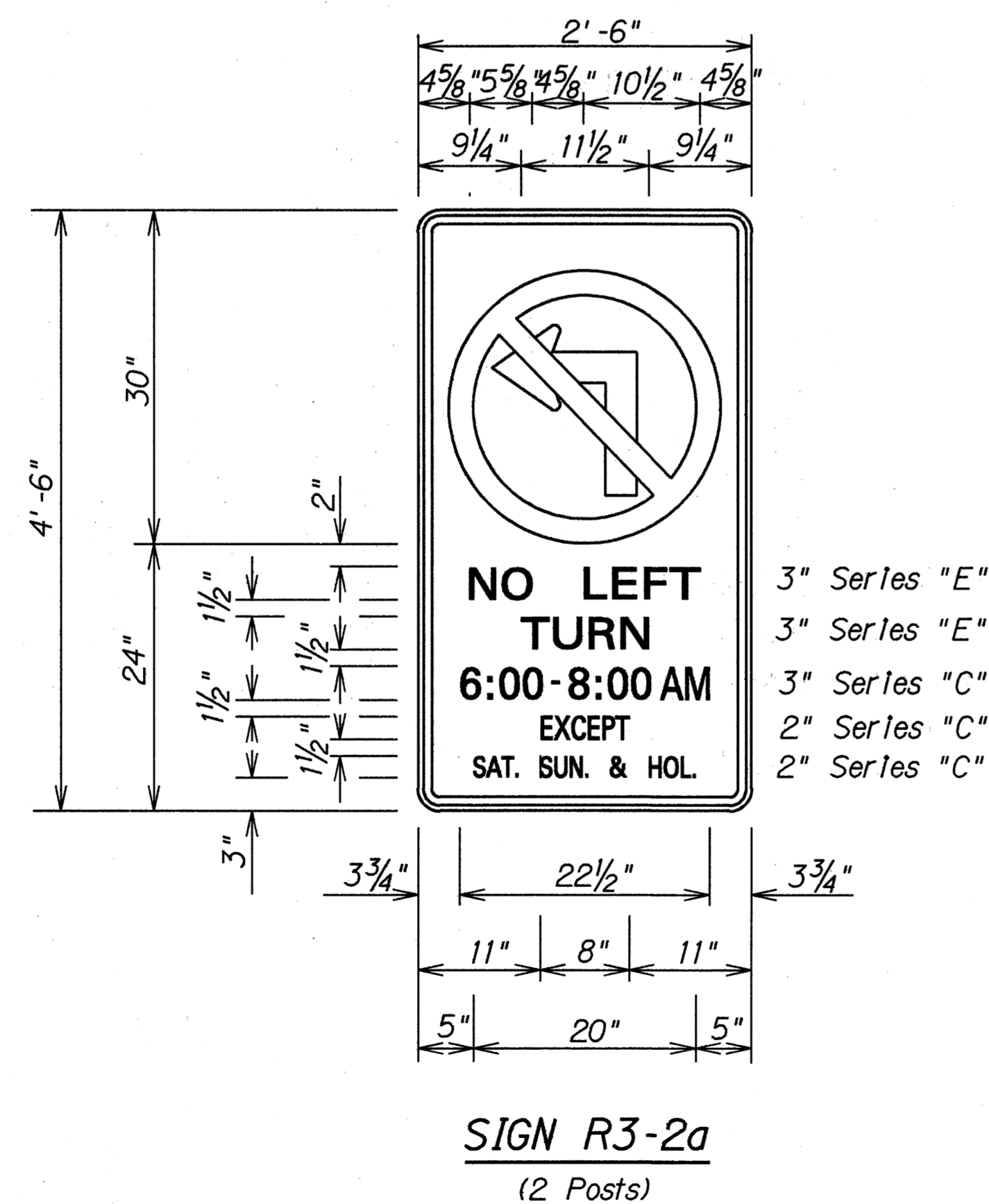
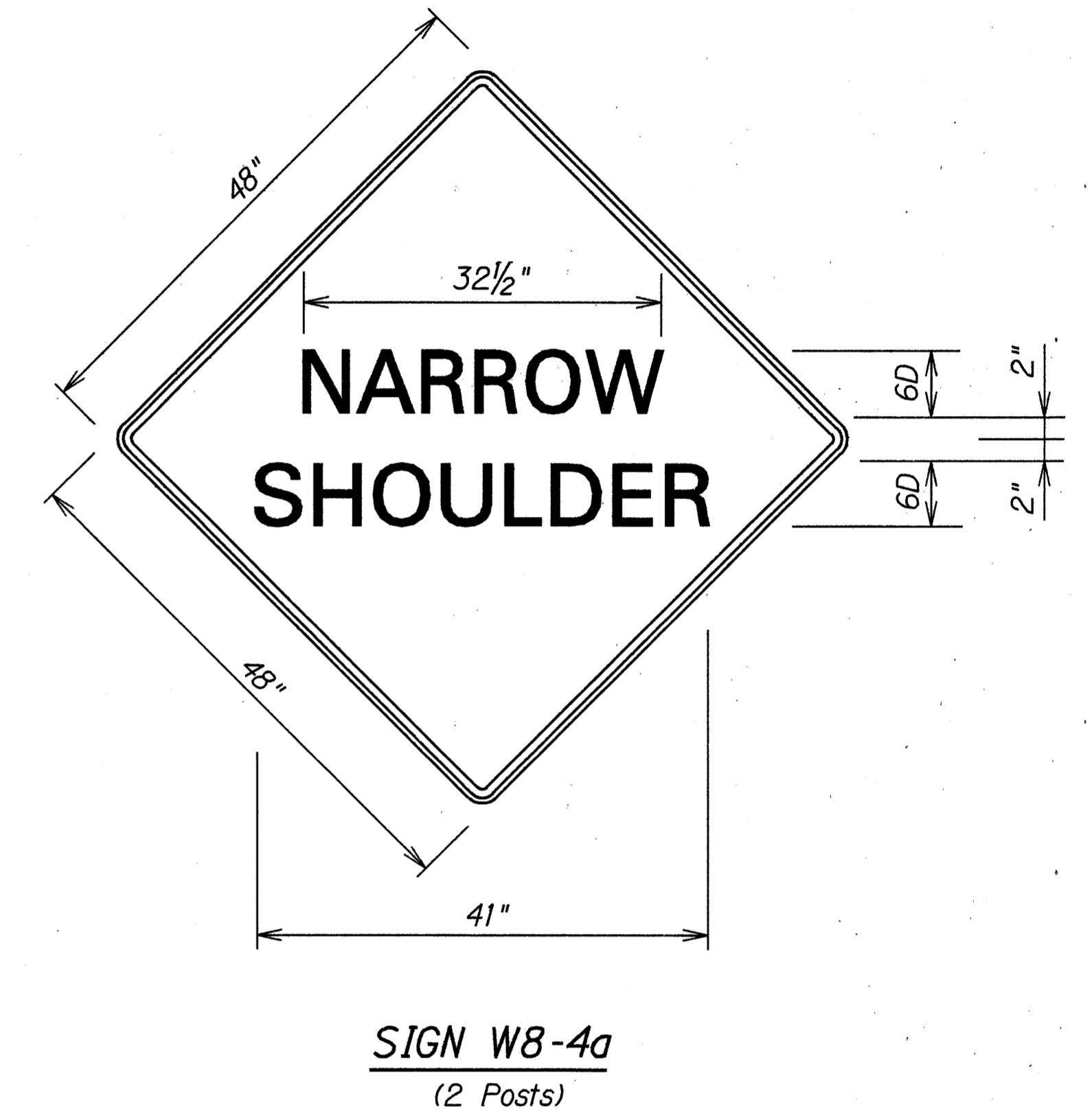
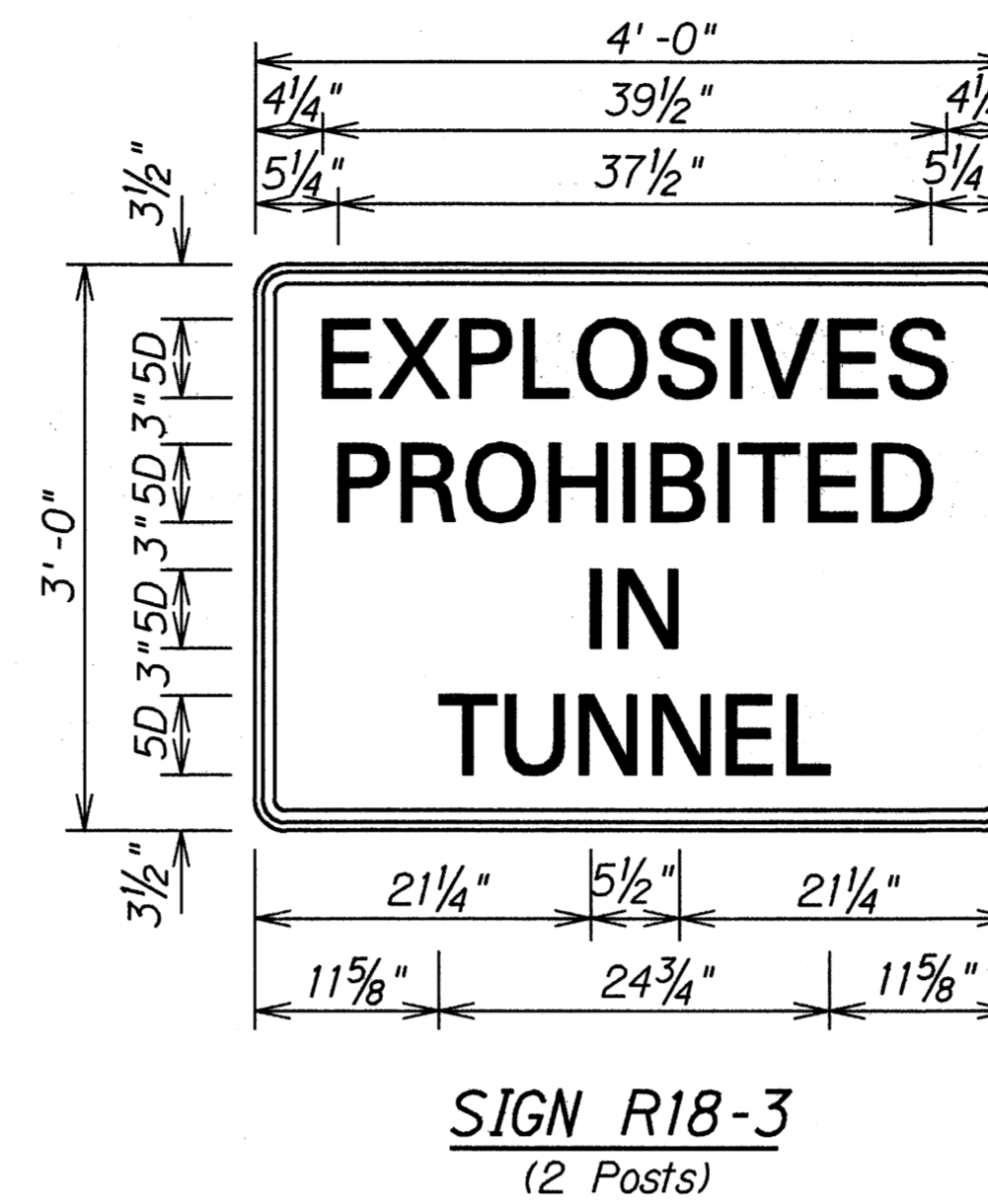
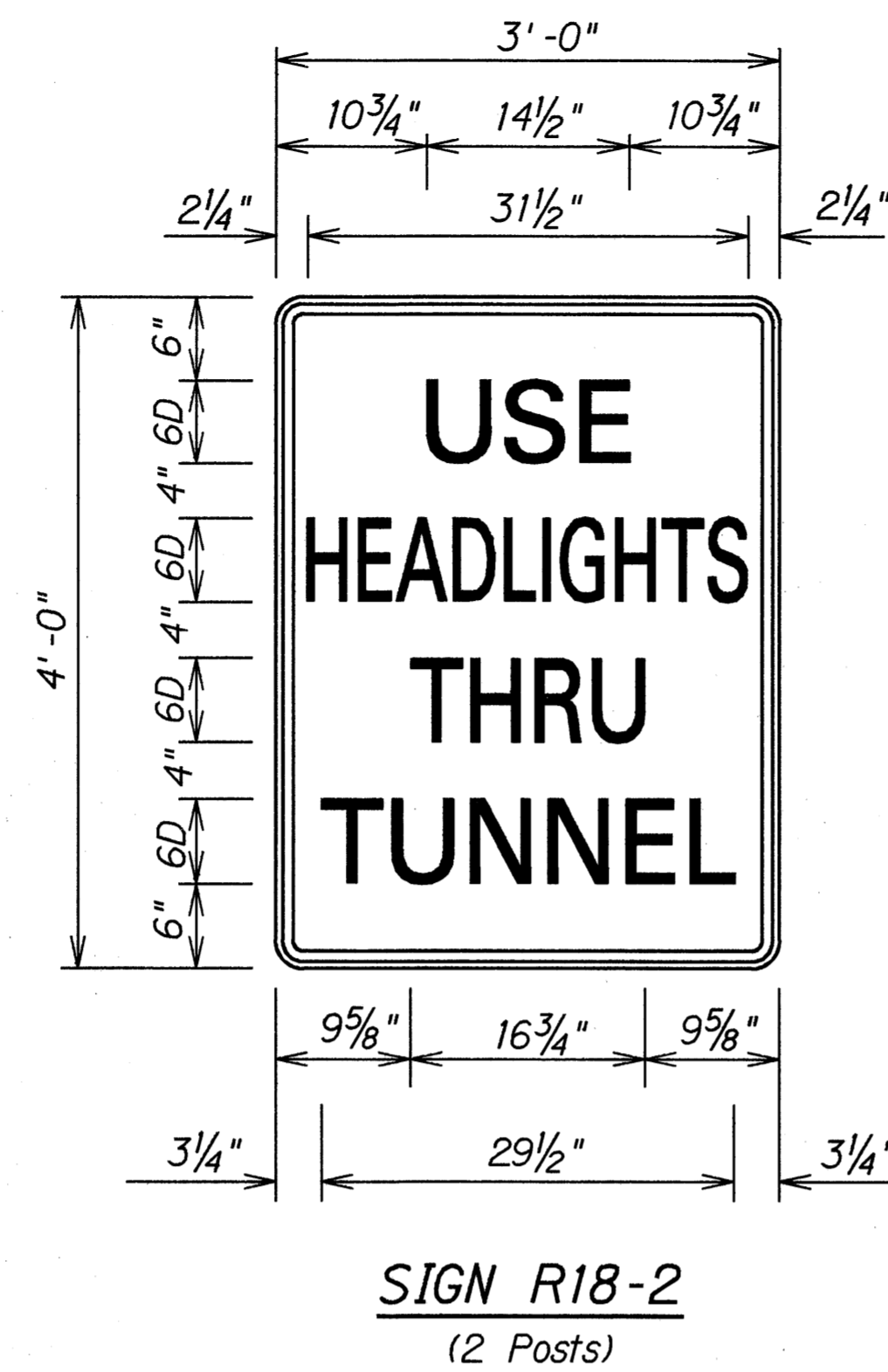
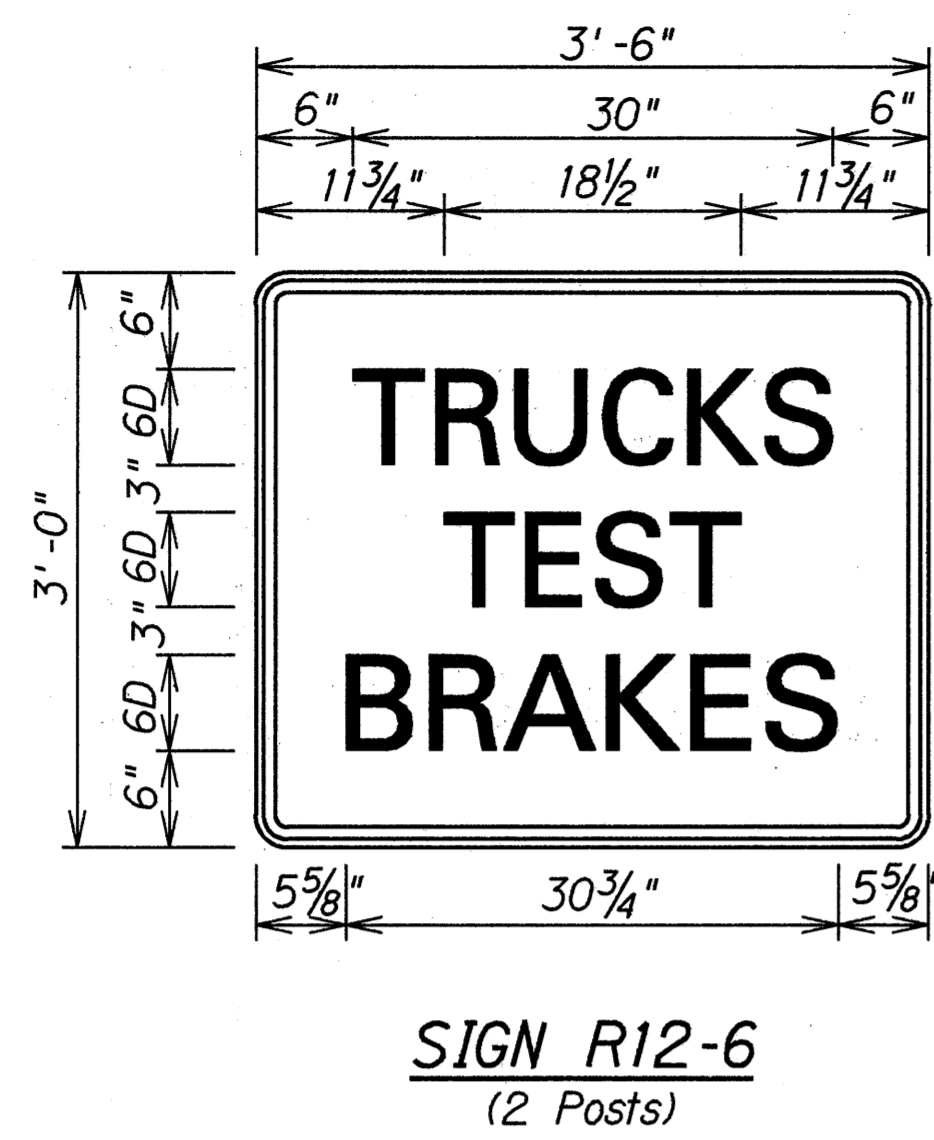
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN MOUNTING DETAIL

PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance,
Including Both Rds. to Lookouts
Project No. 61A-01-97M
Not to Scale Date: April, 1997

SHEET No. 117 OF 20 SHEETS

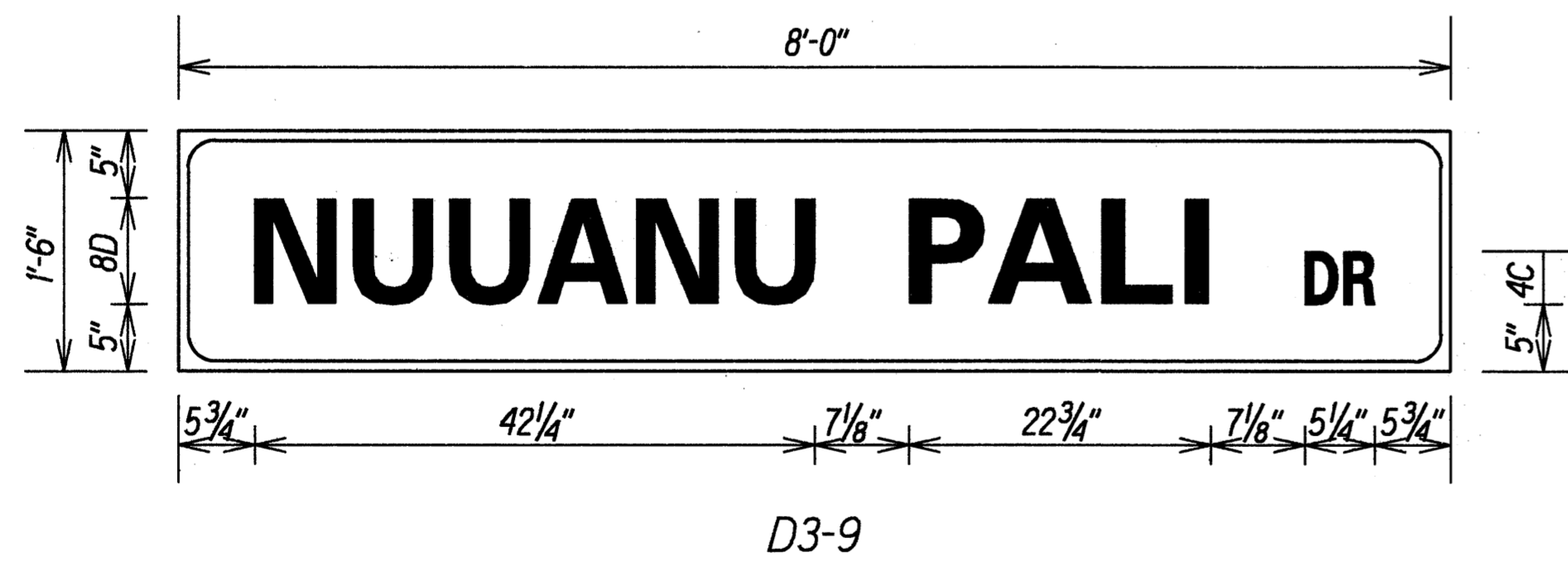
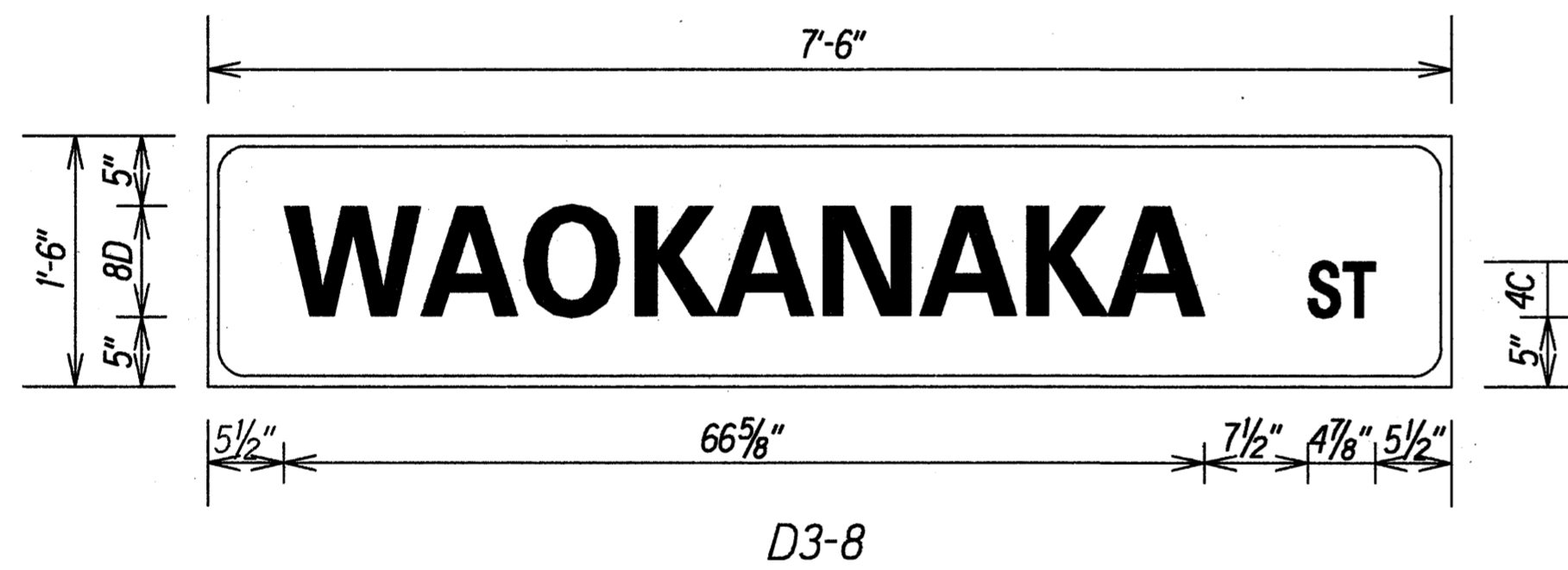
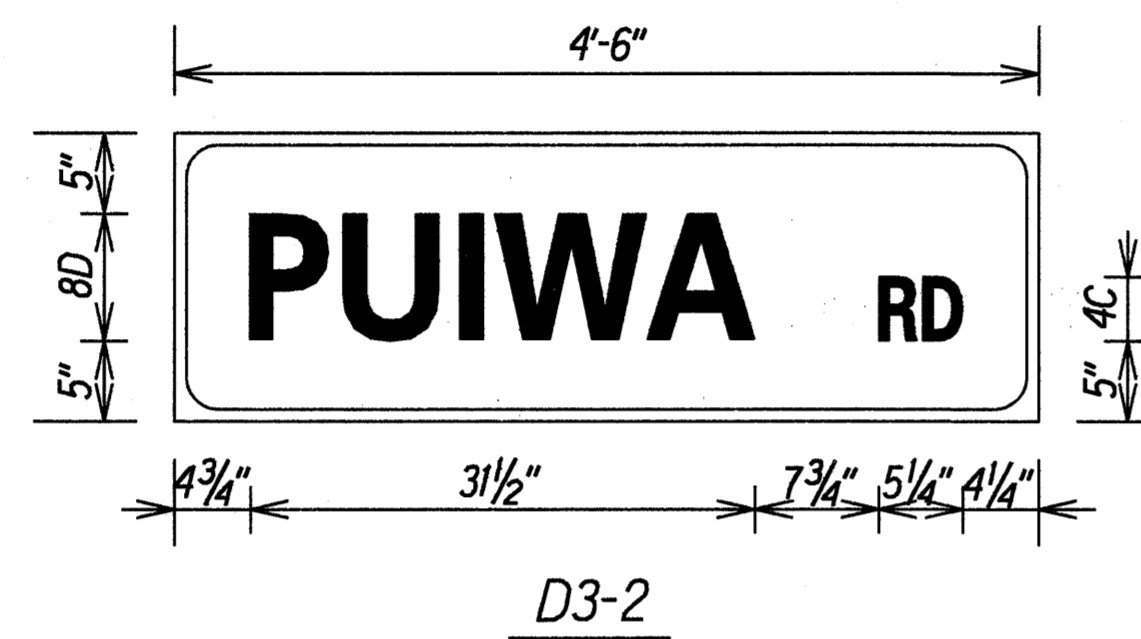
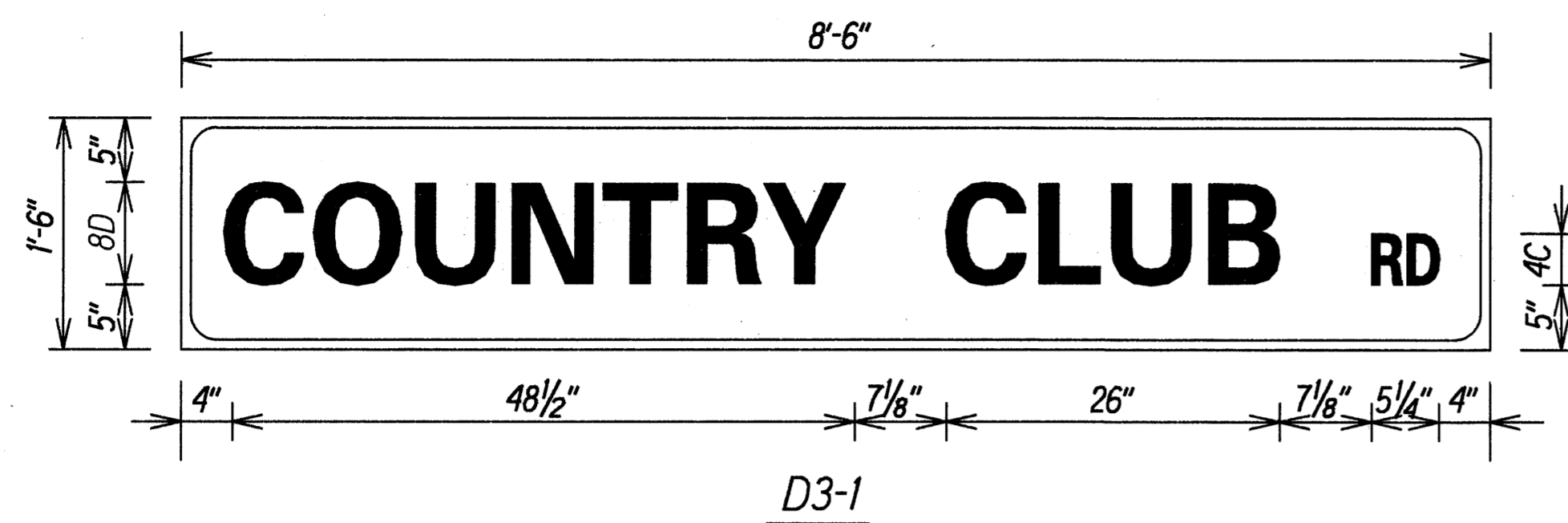
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	82	84



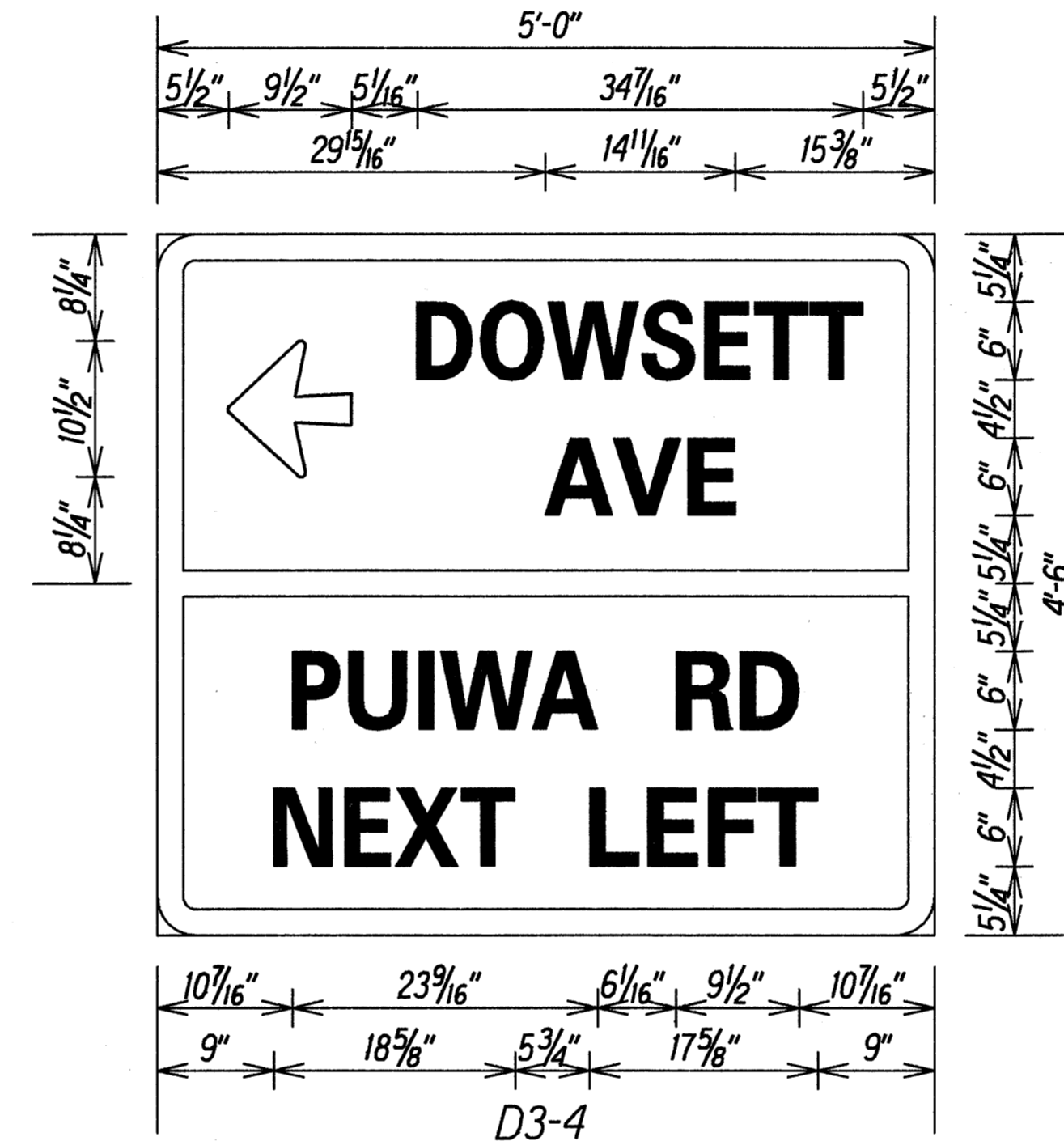
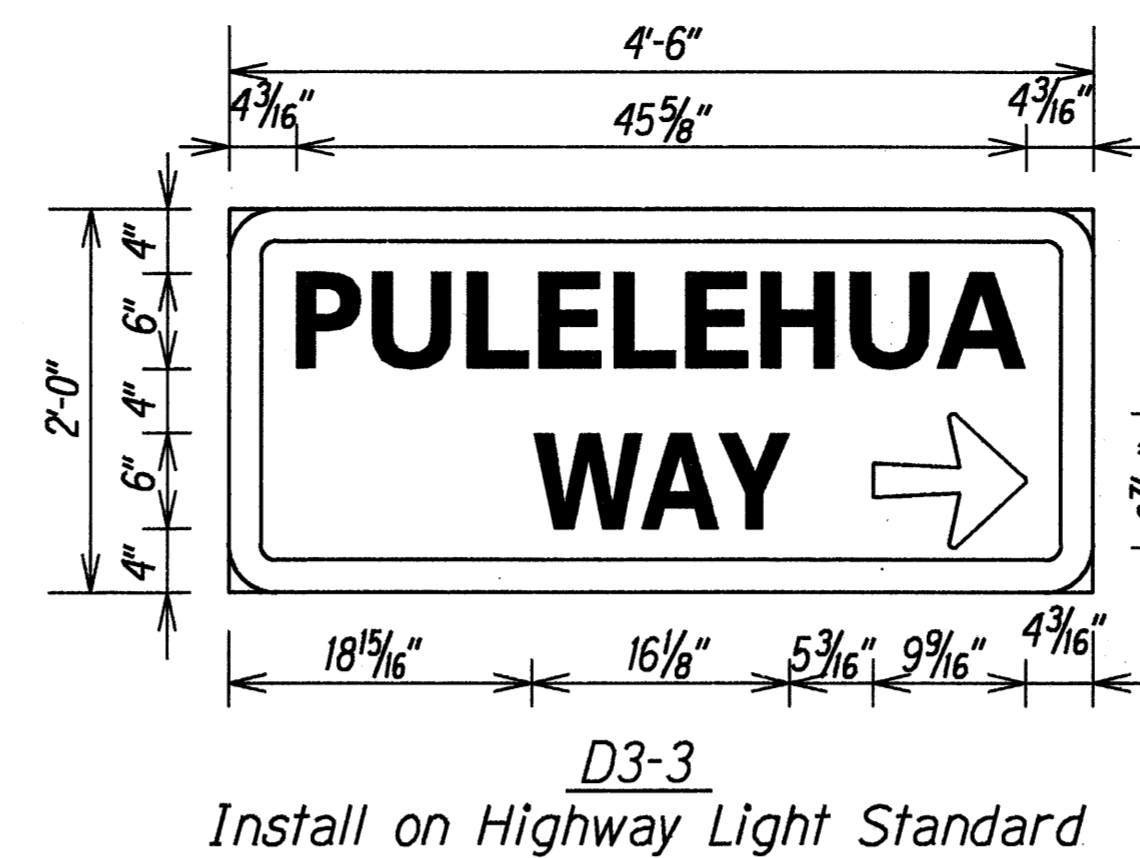
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY M. Takahashi	X
102/mey	TRACED BY GARY KAGELI	
4/21/97	DESIGNED BY	
4/21/97	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
REGULATORY & WARNING
SIGN DETAILS
PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance
Including Both Rds. to Lookouts
Project No. 61A-01-97M
Scale: 1"=1'-0" Date: April, 1997
SHEET No. T18 OF 20 SHEETS

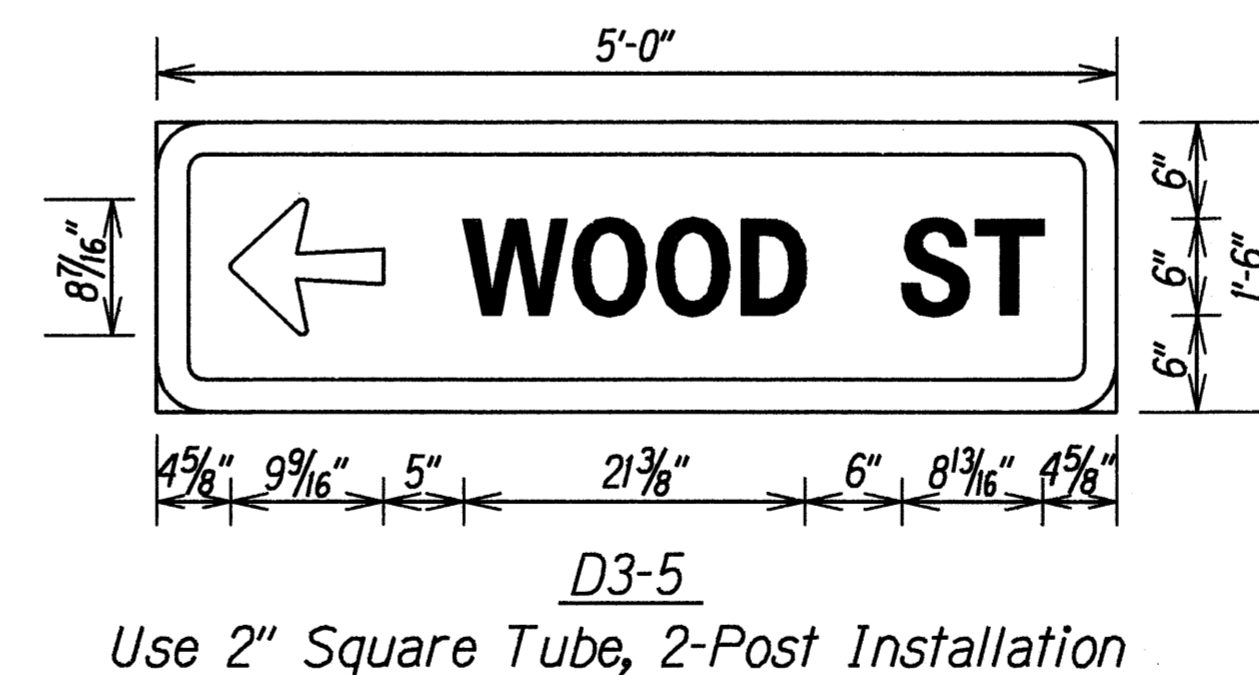
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	ADD. 83	84



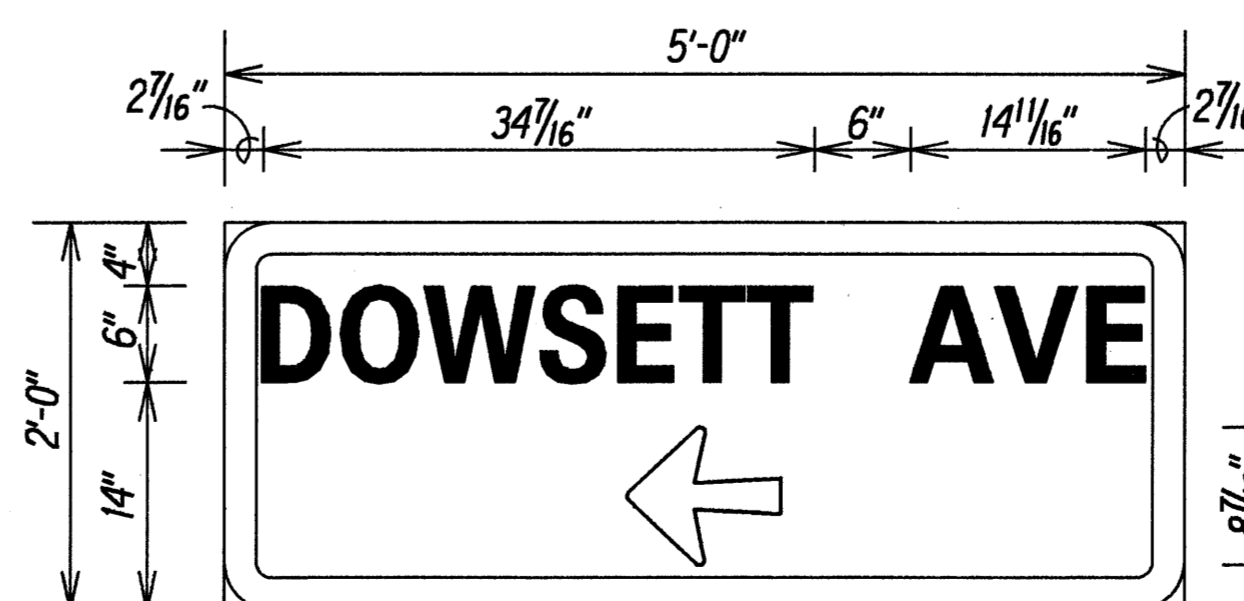
Mount Street Name Signs on Traffic Signal Mast Arm



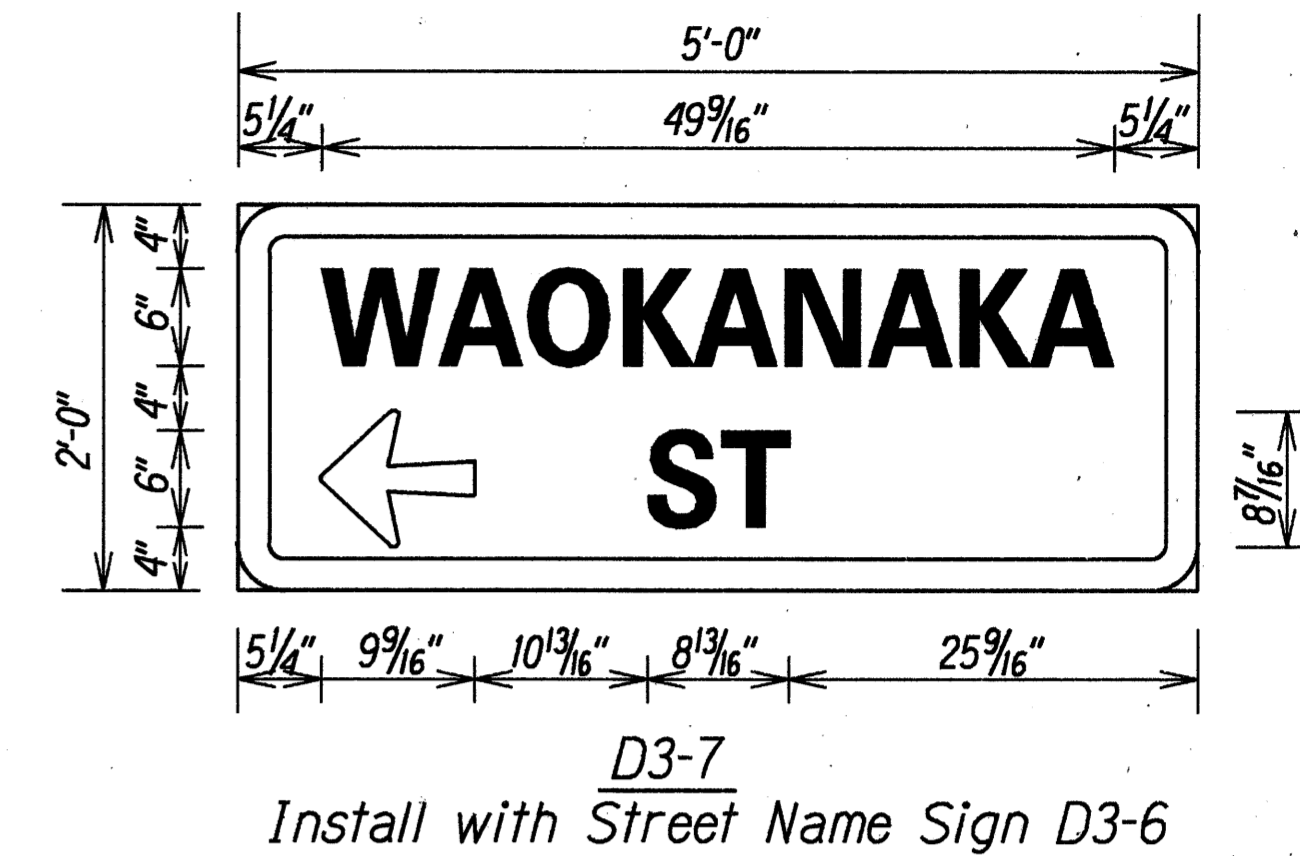
Use 4.00 Lbs./Ft. Flanged Channel, 2-Post Installation



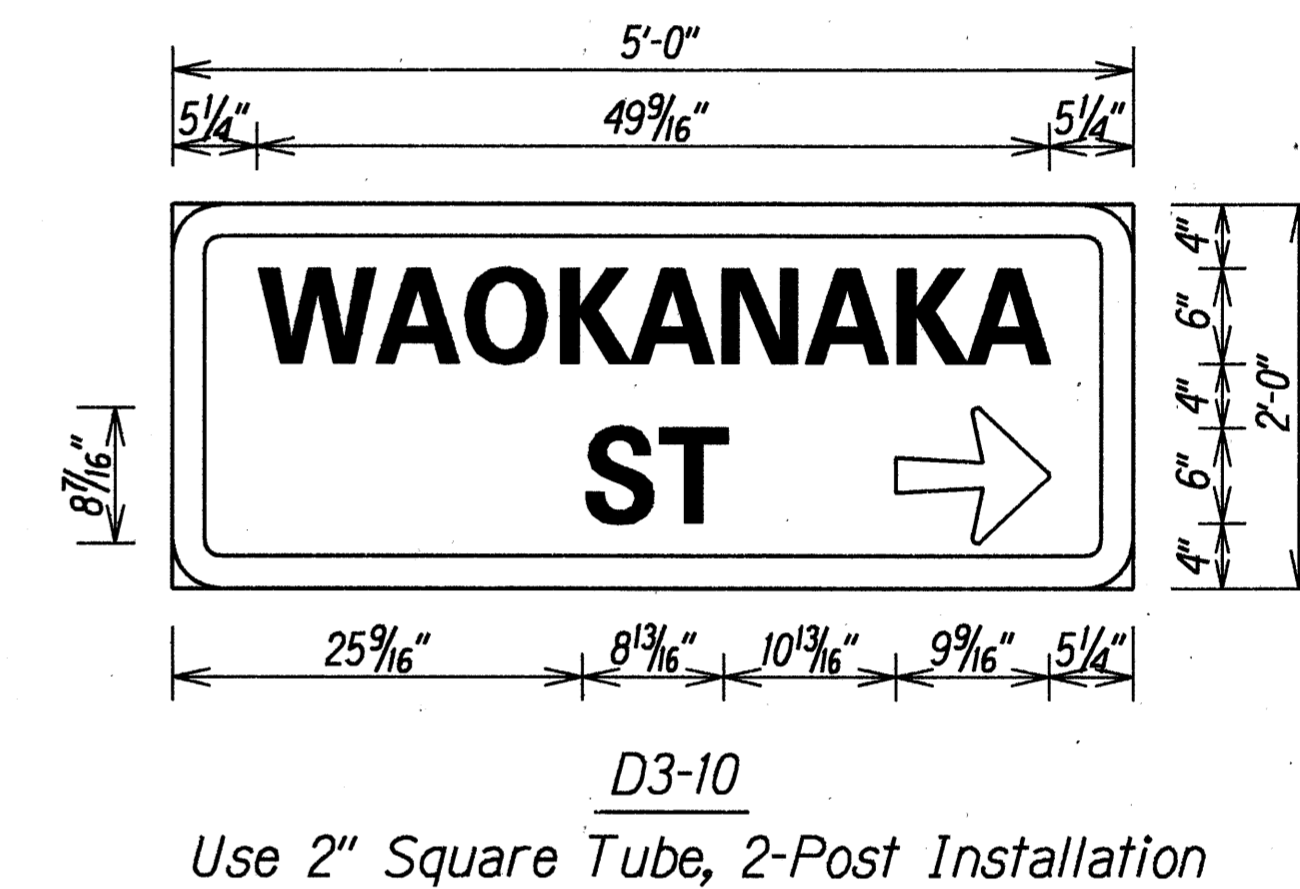
Use 2" Square Tube, 2-Post Installation



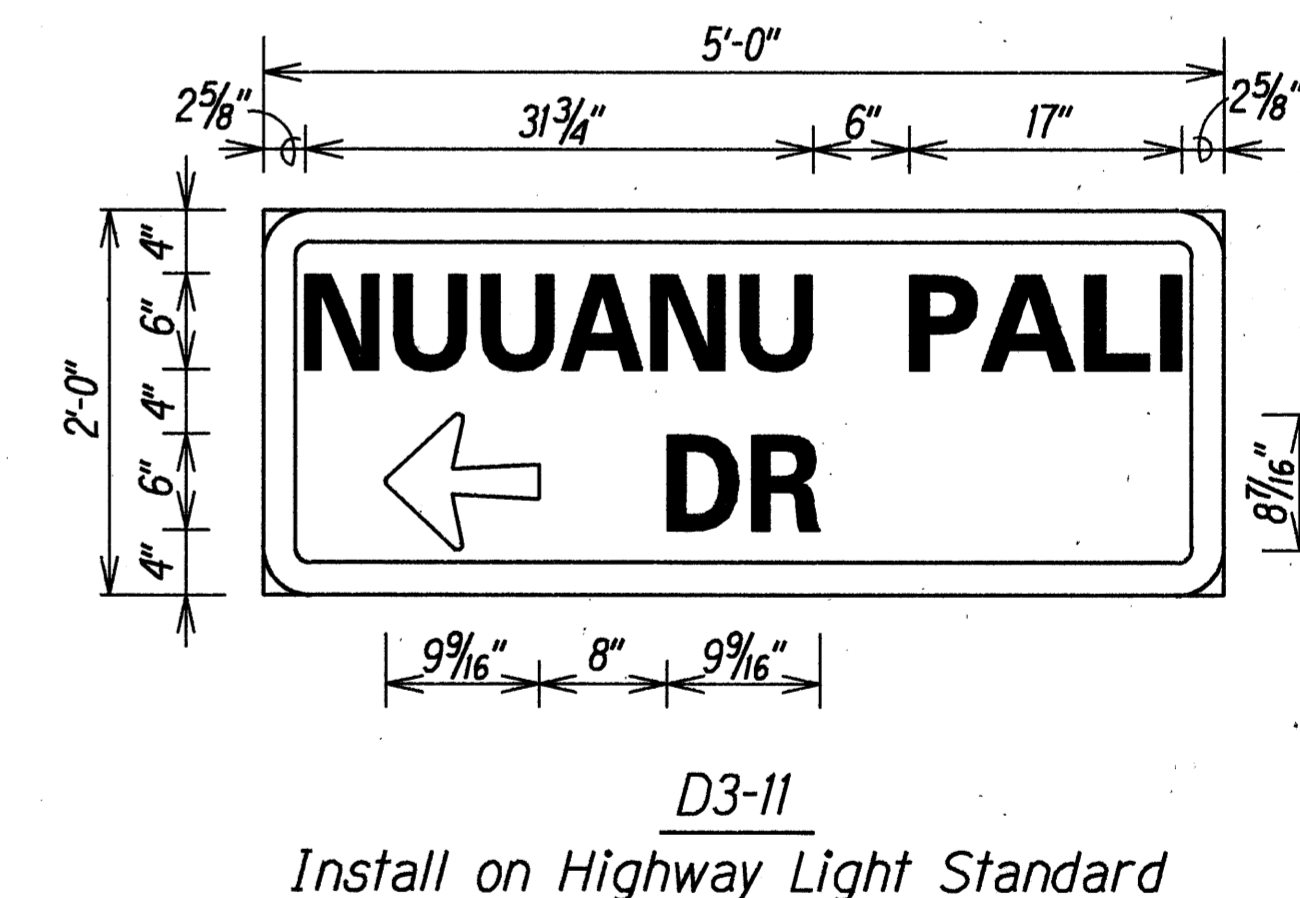
Use 2" Square Tube, 2-Post Installation



Install with Street Name Sign D3-6



Use 2" Square Tube, 2-Post Installation



Install on Highway Light Standard

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

DATE	REVISION
6/10/97	Sign Installation Notes Added to Plan.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

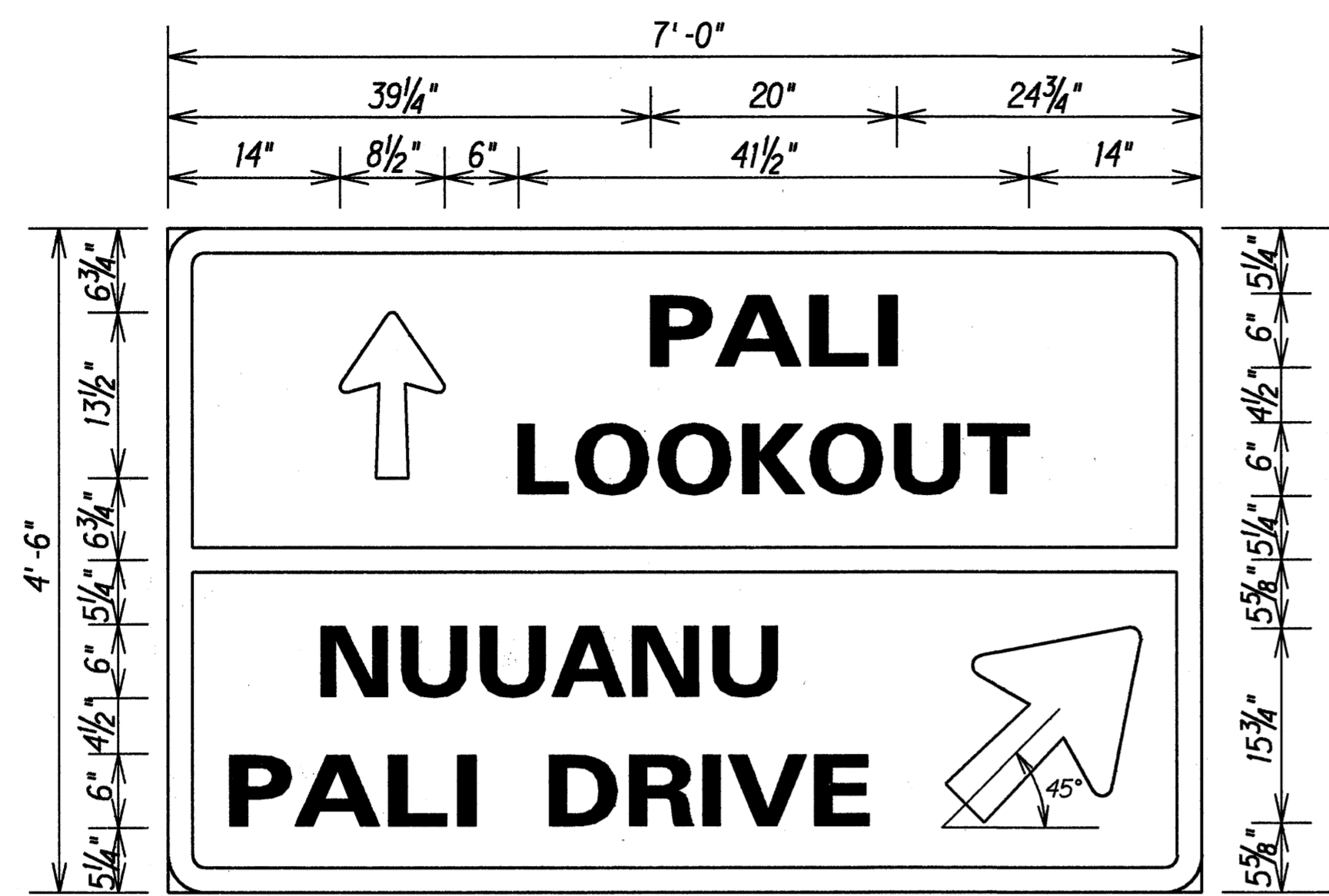
STREET NAME SIGN DETAILS

PALI HIGHWAY RESURFACING
Country Club Rd. to Tunnel Entrance
Including Both Rds. to Lookouts
Project No. 61A-01-97M

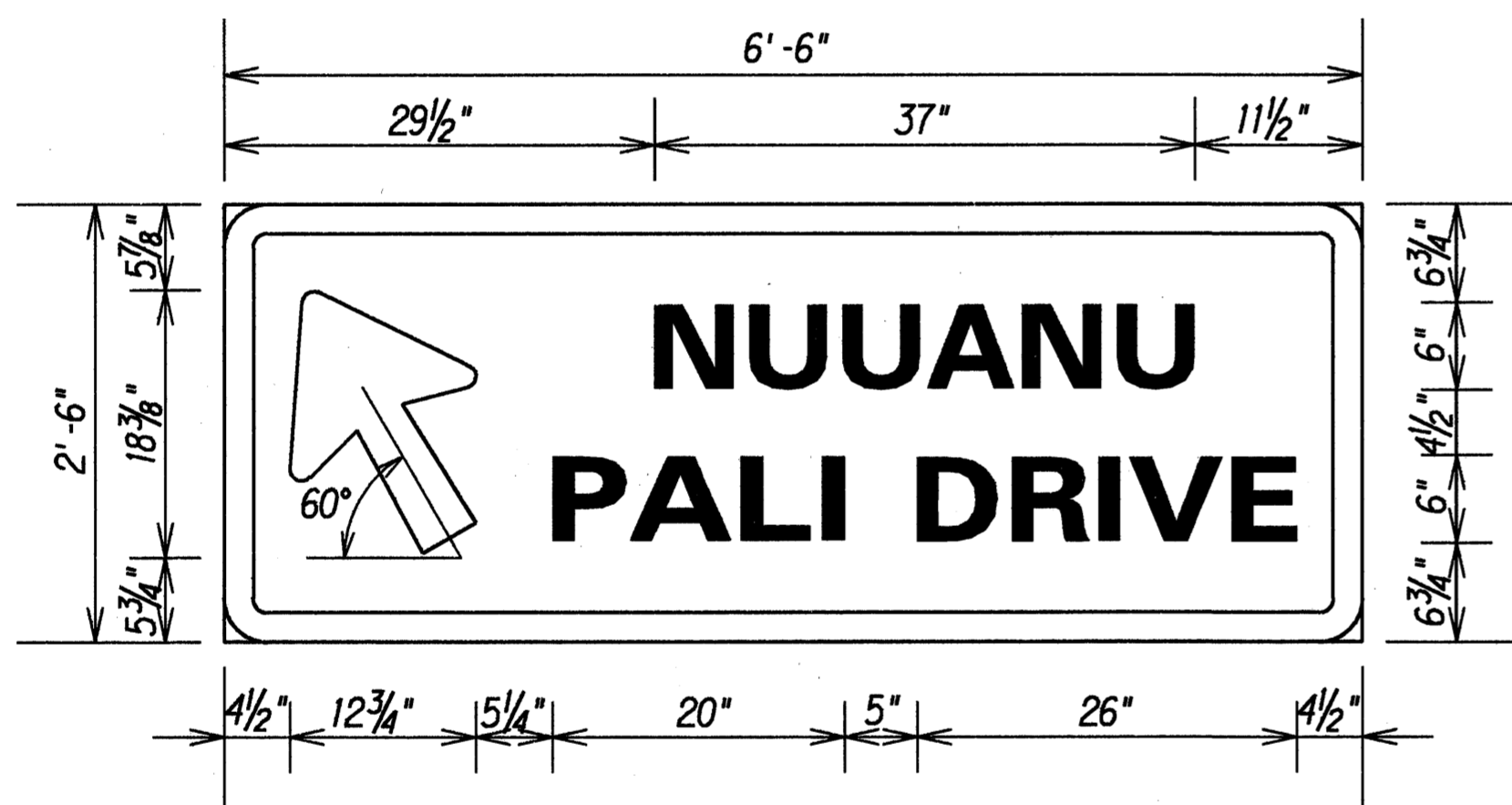
Scale: 1"=1'-0" Date: April, 1997

SHEET No. T19 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	61A-01-97M	1997	ADD. 84	84



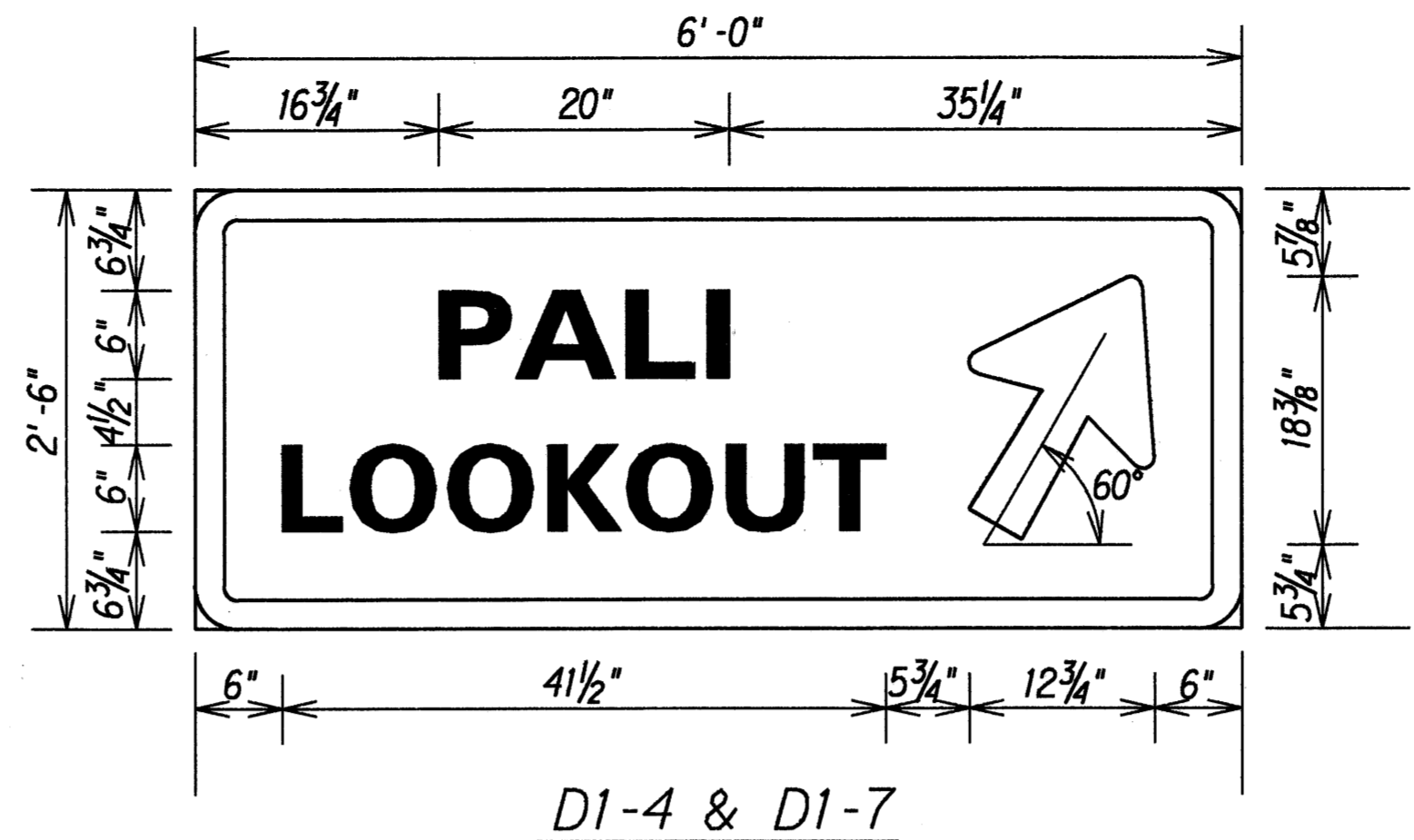
D1-1



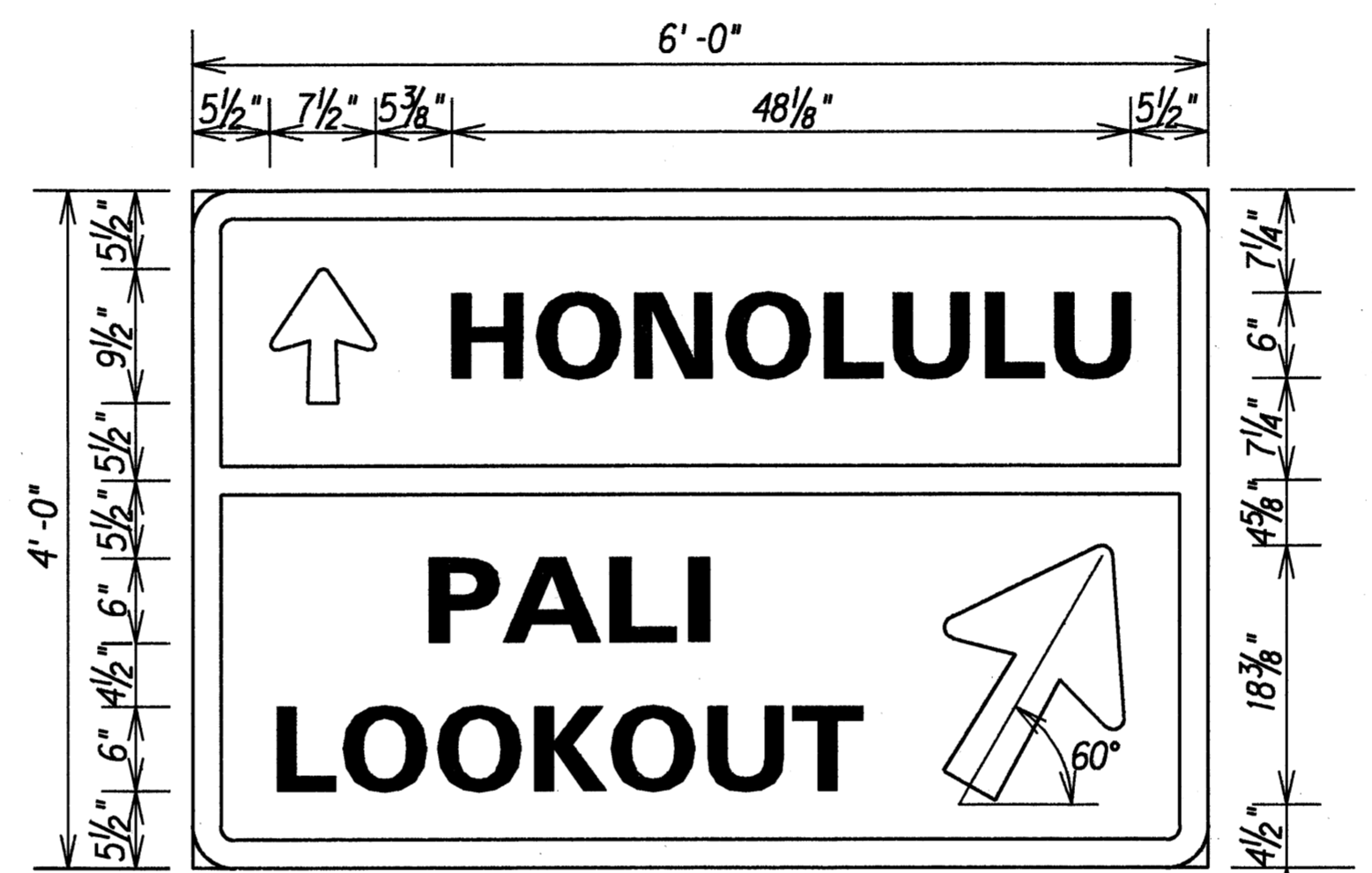
D1-2



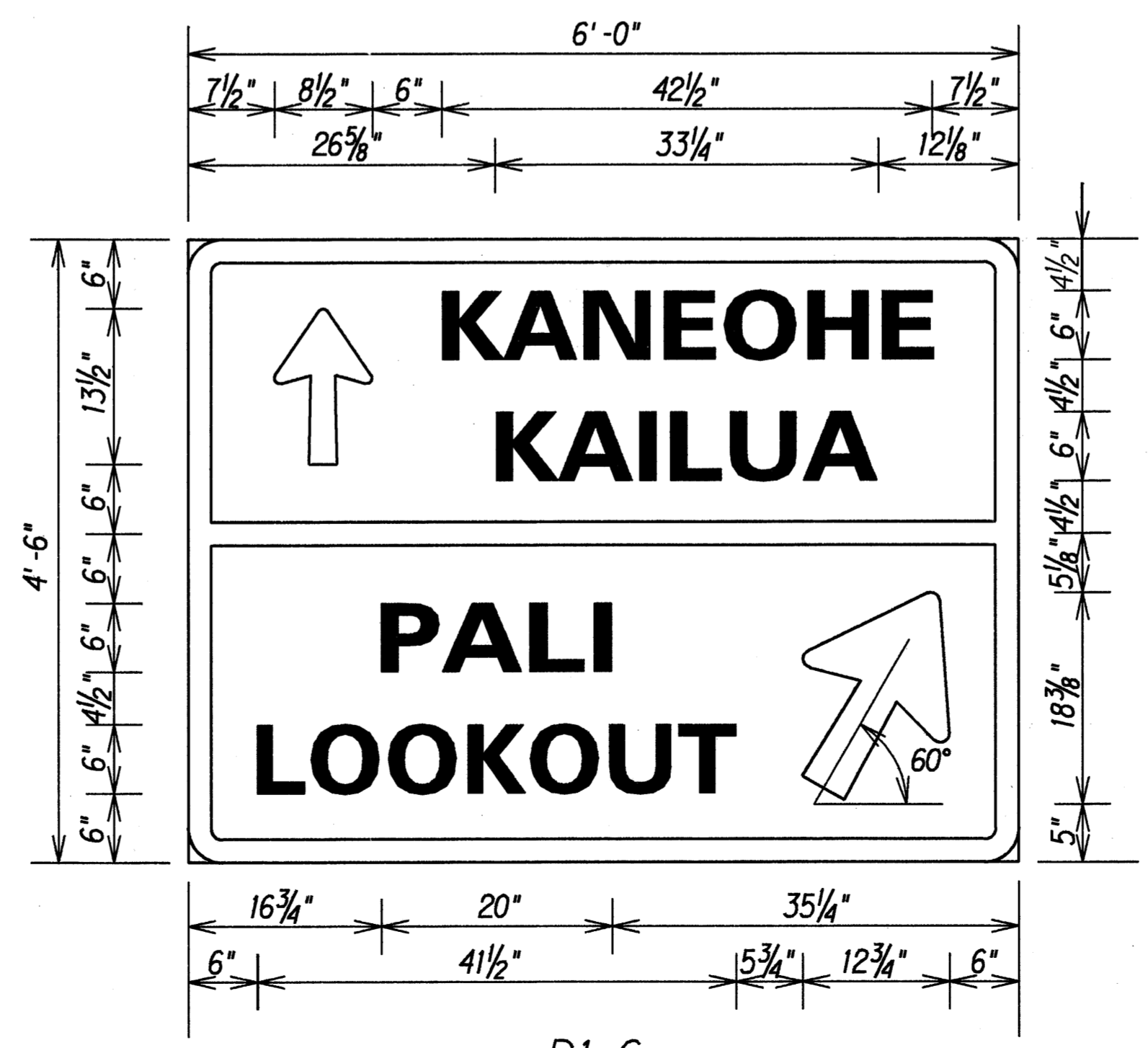
D1-3



D1-4 & D1-7



D1-5



D1-6

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.
- Sign messages shall be as indicated on the plans.
- All panels shall be reflectorized in accordance with Section 712.20 of the Standard Specifications.
- Use 2 1/2" Galvanized Square Tube, 2-Post Installation for Sign D1-3.
- Use 2.50 Lbs./Ft. Flanged Channel, 3-Post Installation for Signs D1-2, D1-4 and D1-7.
- Use 4.00 Lbs./Ft. Flanged Channel, 3-Post Installation for Signs D1-1, D1-5 and D1-6.

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
NO. 6/11/97	

6/10/97	Added General Notes 5, 6, and 7.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DESTINATION SIGN DETAILS	
PALI HIGHWAY RESURFACING Country Club Rd. to Tunnel Entrance Including Both Rds. to Lookouts Project No. 61A-01-97M	
Scale: 1"=1'-0"	Date: April, 1997
SHEET No. T20 OF 20 SHEETS	

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	10			
R1-2	YIELD	1			
R2-1(35)-B	SPEED LIMIT 35	1		1	1
R2-1(45)-B	SPEED LIMIT 45			3	3
R2-4a(45/40)	SPEED LIMIT 45 LEFT LANE 40 MINIMUM			9	3
R2-5b(35)	REDUCED SPEED 35			3	1
R3-1			3		
R3-2		1	1		
R3-2a	NO LEFT TURN 6:00-8:00 AM EXCEPT SAT SUN & HOL				2
R3-4	NO U TURN	2	1	1	1
R4-3	SLOWER TRAFFIC KEEP RIGHT			1	
R4-5	TRUCKS USE RIGHT LANE	1			
R4-5-A	TRUCKS USE RIGHT LANE			1	
R4-7-B				1	
R5-1		3			
R6-1(R)		4			
R7-1-A	NO PARKING ANYTIME	2	3		
R7-107b		3	2		
R7-210a			3		
R7-201-A	TOW-AWAY ZONE		3		
R9-3a		1	1		
R9-3b(R)	USE CROSSWALK		2		
R12-6	TRUCKS TEST BRAKES			2	
R16-1	BUCKLE UP ITS THE LAW	1			
R17-1			2		
R18-2	USE HEADLIGHTS THRU TUNNEL			1	
R18-3	EXPLOSIVES PROHIBITED IN TUNNEL			1	
R19-1	LIGHTS ?			2	
S1-1		2			
S2-1			1		
S4-3	SCHOOL		2		
W1-8		7			
W2-2		2			
W3-3		1	1		
W4-2(R)		1			
W7-1		2			
W7-2	USE LOW GEAR		2		
W8-4a	NARROW SHOULDER			1	
W9-1(R)	RIGHT LANE ENDS	1			
W14-1	DEAD END		1		
TOTAL		46	28	27	11

PAVEMENT MARKING SUMMARY

DESCRIPTION	QUANTITY
PAVEMENT MARKERS	
TYPE A	3,642 EA.
TYPE C	2,817 EA.
TYPE D	382 EA.
TYPE H	813 EA.
TAPE - TYPE I OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE)	1,850 L.F.
4-INCH PAVEMENT STRIPE (YELLOW)	340 L.F.
8-INCH PAVEMENT STRIPE (WHITE)	2,530 L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW)	7,550 L.F.
TAPE - TYPE II OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE)	53,700 L.F.
4-INCH PAVEMENT STRIPE (YELLOW)	35,340 L.F.
8-INCH PAVEMENT STRIPE (WHITE)	1,610 L.F.
12-INCH PAVEMENT STRIPE (WHITE)	50 L.F.
12-INCH PAVEMENT STRIPE (YELLOW)	20 L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW)	120 L.F.
TAPE - TYPE III OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE)	2,690 L.F.
4-INCH PAVEMENT STRIPE (YELLOW)	320 L.F.
12-INCH PAVEMENT STRIPE (WHITE)	660 L.F.
CROSSWALK MARKINGS	59 LANES
PAVEMENT ARROW	29 EA.
PAVEMENT WORD	6 EA.

TEMPORARY PAVEMENT MARKING SUMMARY

DESCRIPTION	QUANTITY
PAVEMENT MARKERS	
TEMPORARY TYPE A	832 EA.
TEMPORARY TYPE C	483 EA.
TEMPORARY TYPE H	226 EA.
TEMPORARY STRIPING	
4-INCH PAVEMENT STRIPE (WHITE)	8,900 L.F.
4-INCH PAVEMENT STRIPE (YELLOW)	8,930 L.F.
8-INCH PAVEMENT STRIPE (WHITE)	1,310 L.F.
12-INCH PAVEMENT STRIPE (WHITE)	250 L.F.

SURVEY PLOTTED BY _____ DATE _____
 DRAWN BY _____
 CHECKED BY _____
 ORIGINAL PLAN _____
 NOTE BOOK _____
 R. Arif
 P. Gullitsumil

6/10/97 Added Summary Plan
 DATE REVISION

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

TRAFFIC SUMMARIES

PALI HIGHWAY RESURFACING
 Country Club Rd. to Tunnel Entrance,
 Including Both Rds. to Lookouts
 Project No. 61A-01-97M
 Date: May, 1997

SHEET No. 1 OF 2 SHEETS

CONSTRUCTION SIGN SUMMARY			
SIGN NO.	LOCATION	MESSAGE	W/POSTS
CG20-2A	# STA. 117+00± LT.	END ROAD WORK	1
CW20-1Ad	# STA. 117+00± RT.	ROAD WORK AHEAD	1
CW20-1Ad	BEFORE TUNNEL (Kailua Side)	ROAD WORK AHEAD	1
CG20-2A	BEFORE TUNNEL (Kailua Side)	END ROAD WORK	1
TOTAL			4

MILEPOST MARKER SUMMARY				
LOCATION	SIGN NO. AND MESSAGE	QUANTITY		
		W/POST	W/O POST	
# STA. 24+00± Lt. # Rt.	D10-4 3	2		
	D10-7 61			
# STA. 77+00± LT. # RT.	D10-4 4	2		
	D10-7 61			
# STA. 64+20± LT. # RT.	D10-4 5	2		
	D10-7 61			
TOTAL		6		

ROUTE MARKER SUMMARY				
SIGN ASSEMBLY	LOCATION	SIGN NO. AND MESSAGE	TYPE A ASSEMBLY	
			W/POST	W/O POST
SRM-1	I.B. STA. 4+20± LT.	M3-3 SOUTH	1	
		MI-6(61) 61		
SRM-2	O.B. STA. 10+00± RT.	M3-1 NORTH	1	
		MI-6(61) 61		
SRM-3	I.B. STA. 102+50± LT.	M3-3 SOUTH	1	
		MI-6(61) 61		
TOTAL			3	

TYPE	REFLECTOR MARKER SUMMARY					
	QUANTITY					
	W/O POST		W/FLEXIBLE POST		W/STEEL POST	
	YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE
RM-9	5					
RM-3	33			5	89	
RM-2				152		

STREET NAME 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
D3-1	COUNTRY CLUB RD *				
D3-2	PUIWA RD *				
D3-3	PULELEHUA WAY ⇨		1		
D3-4	⇨ DOWSETT AVE PUIWA RD NEXT LEFT			1	
D3-5	⇨ WOOD ST	1			
D3-6	DOWSETT AVE ⇨	1			
D3-7	WAOKANAKA ST ⇨		1		
D3-8	WAOKANAKA ST *				
D3-9	NUUANU PALI DR *				
D3-10	WAOKANAKA ST ⇨	1			
D3-11	NUUANU PALI DR ⇨		1		
TOTAL		3	3	1	

* PAYMENT TO BE MADE UNDER ITEM NO. 621.0300
STREET NAME SIGN ON TRAFFIC SIGNAL MAST ARM

DESTINATION SIGN SUMMARY				
SIGN NO.	MESSAGE	SIZE	NEW PANEL AREA (SQ. FT.)	
			W/O POST	W/POSTS
DI-1	↑ PALI LOOKOUT NUUANU PALI DRIVE ⇨	7'-0" x 4'-6"	31.50	
DI-2	⇨ NUUANU PALI DRIVE	6'-6" x 2'-6"	16.25	
DI-3	NUUANU PALI DRIVE NEXT LEFT	5'-0" x 3'-6"	17.50	
DI-4	PALI LOOKOUT ⇨	6'-0" x 2'-6"	15.00	
DI-5	↑ HONOLULU PALI LOOKOUT ⇨	6'-0" x 4'-0"	24.00	
DI-6	↑ KANEHOE KAILUA PALI LOOKOUT ⇨	6'-0" x 4'-6"	27.00	
DI-7	PALI LOOKOUT ⇨	6'-0" x 2'-6"	15.00	
TOTAL			146.25	

SURVEY PLOTTED BY: DATE: 5/3/97
 DRAWN BY: H. A. C.
 CHECKED BY: G. K. K.
 ORIGINAL PLAN: 6/1/97
 NOTE BOOK: 10/1/97
 QUANTITIES BY: 6/1/97

6/10/97	Added Summary Plan
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TRAFFIC SUMMARIES PALI HIGHWAY RESURFACING Country Club Rd. to Tunnel Entrance, Including Both Rds. to Lookouts Project No. 61A-01-97M Date: May, 1997	
SHEET No. 2 OF 2 SHEETS	