

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII | HAW. | 72BC-01-97M | 1997 | 22 | 32 |

LEGEND

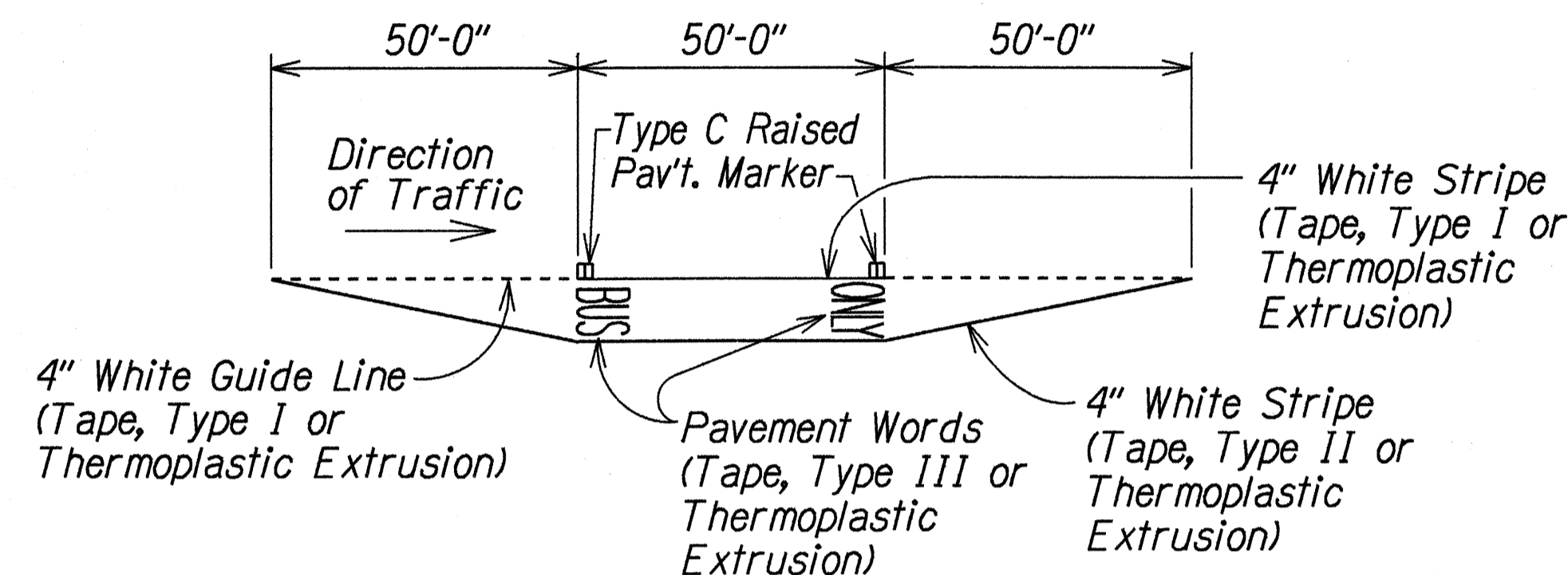
- 4 each Type A Raised Pavement Markers
- Type C Raised Pavement Markers @ 40'-0" o.c.
- 4 each Type J Raised Pavement Markers
- Type D Raised Pavement Markers @ 40'-0" o.c.
- 8" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
- 4" Double Solid 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 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 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. 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.
21. 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.

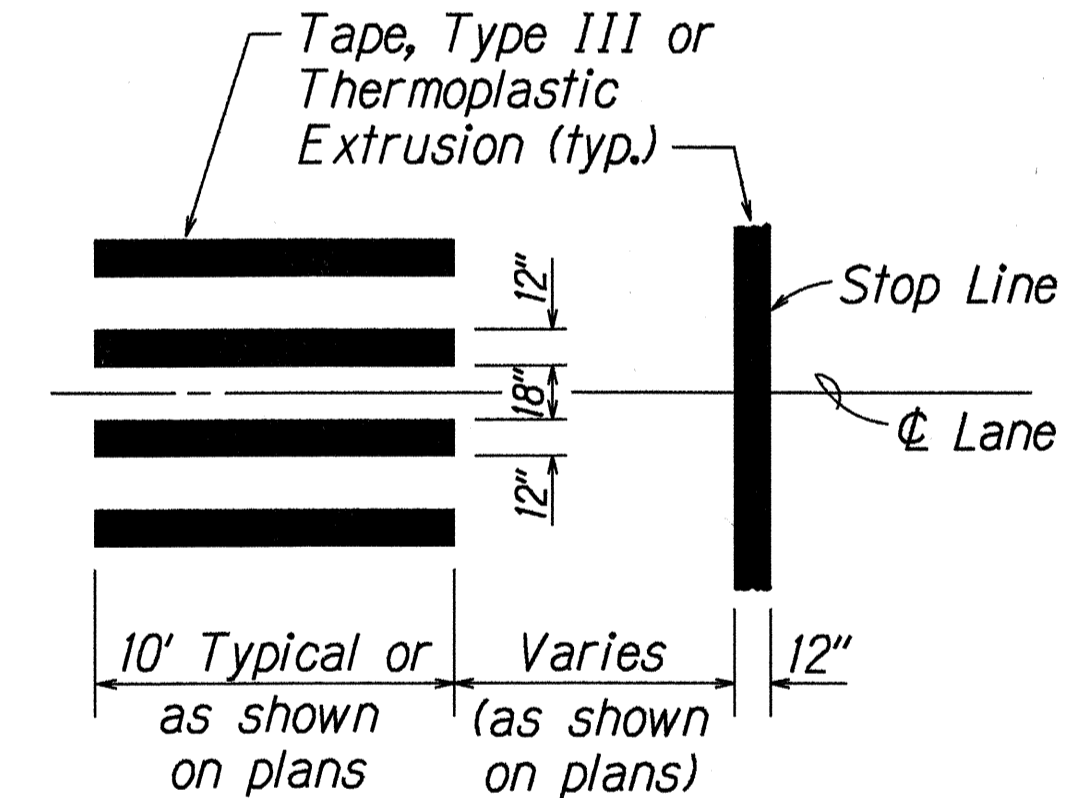
REFLECTOR MARKER LEGEND

RM-3 Reflector Marker w/Steel Post or as noted on plans.



TYPICAL BUS BAY STRIPING

Not to Scale



CROSSWALK STRIPING DETAIL

Not to Scale

| | |
|-------------------|--------------|
| DATE | _____ |
| SURVEY PLOTTED BY | _____ |
| PLAN | _____ |
| DRAWN BY | M. Takahashi |
| DESIGNED BY | _____ |
| CHECKED BY | _____ |
| DATE | _____ |
| NOTE BOOK | _____ |
| NO. 1424 | _____ |
| BY | _____ |
| CHECKED BY | _____ |
| NO. | _____ |
| DATE | _____ |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

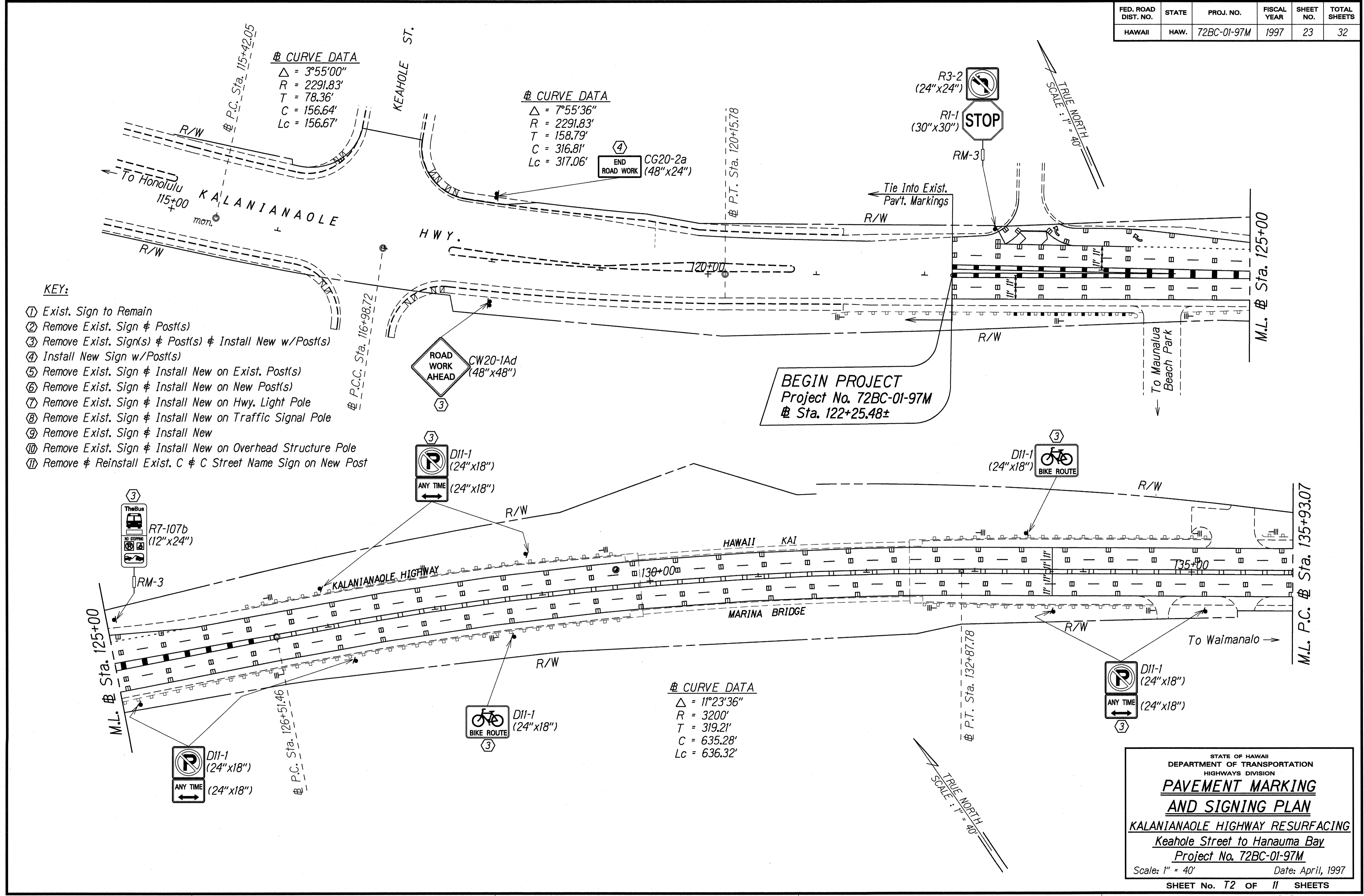
**PAVEMENT MARKING
LEGEND, DETAILS & NOTES**

KALANIANA'OLE HIGHWAY RESURFACING
Keahole Street to Hanauma Bay
Project No. 72BC-01-97M

Scale: As Shown Date: April, 1997

SHEET No. 11 OF 11 SHEETS

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII | HAW. | 72BC-01-97M | 1997 | 23 | 32 |



☯ CURVE DATA
 $\Delta = 3^{\circ}55'00''$
 $R = 2291.83'$
 $T = 78.36'$
 $C = 156.64'$
 $Lc = 156.67'$

☯ CURVE DATA
 $\Delta = 7^{\circ}55'36''$
 $R = 2291.83'$
 $T = 158.79'$
 $C = 316.81'$
 $Lc = 317.06'$

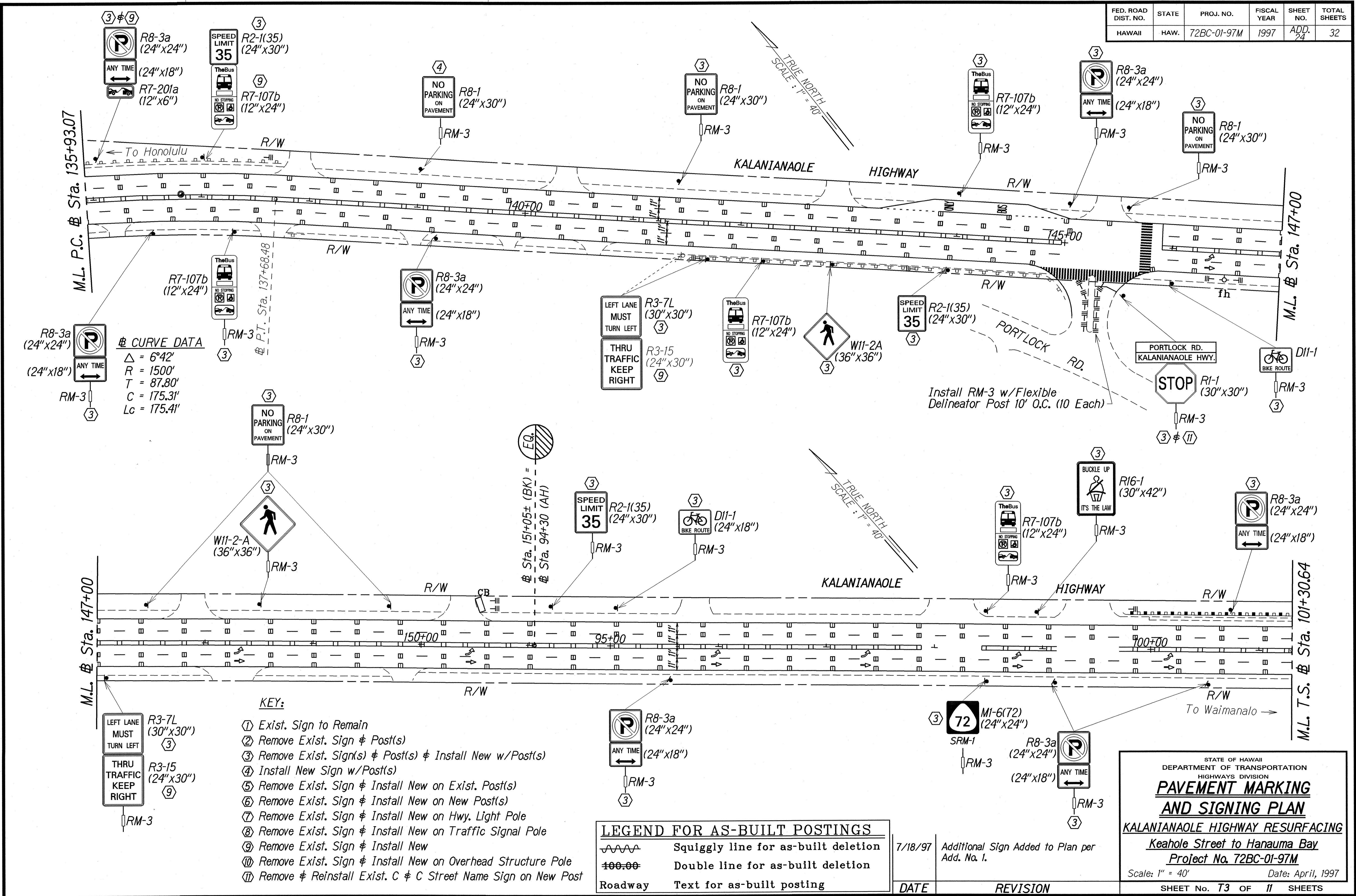
☯ CURVE DATA
 $\Delta = 11^{\circ}23'36''$
 $R = 3200'$
 $T = 319.21'$
 $C = 635.28'$
 $Lc = 636.32'$

- KEY:**
- ① Exist. Sign to Remain
 - ② Remove Exist. Sign & Post(s)
 - ③ Remove Exist. Sign(s) & Post(s) & Install New w/Post(s)
 - ④ Install New Sign w/Post(s)
 - ⑤ Remove Exist. Sign & Install New on Exist. Post(s)
 - ⑥ Remove Exist. Sign & Install New on New Post(s)
 - ⑦ Remove Exist. Sign & Install New on Hwy. Light Pole
 - ⑧ Remove Exist. Sign & Install New on Traffic Signal Pole
 - ⑨ Remove Exist. Sign & Install New
 - ⑩ Remove Exist. Sign & Install New on Overhead Structure Pole
 - ⑪ Remove & Reinstall Exist. C & C Street Name Sign on New Post

ORIGINAL PLAN DATE: 4/26/97
 SURVEY OBTAINED BY: M. Leach
 DRAWN BY: GARY KAKOHU
 DESIGNED BY: GARY KAKOHU
 QUANTITIES BY: GARY KAKOHU
 CHECKED BY: GARY KAKOHU

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
**PAVEMENT MARKING
 AND SIGNING PLAN**
 KALANIANA'OLE HIGHWAY RESURFACING
 Keahole Street to Hanauma Bay
 Project No. 72BC-01-97M
 Scale: 1" = 40' Date: April, 1997
 SHEET No. T2 OF 11 SHEETS

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII | HAW. | 72BC-01-97M | 1997 | ADD. 24 | 32 |



CURVE DATA
 $\Delta = 6^{\circ}42'$
 $R = 1500'$
 $T = 87.80'$
 $C = 175.31'$
 $Lc = 175.41'$

KEY:

- ① Exist. Sign to Remain
- ② Remove Exist. Sign & Post(s)
- ③ Remove Exist. Sign(s) & Post(s) & Install New w/Post(s)
- ④ Install New Sign w/Post(s)
- ⑤ Remove Exist. Sign & Install New on Exist. Post(s)
- ⑥ Remove Exist. Sign & Install New on New Post(s)
- ⑦ Remove Exist. Sign & Install New on Hwy. Light Pole
- ⑧ Remove Exist. Sign & Install New on Traffic Signal Pole
- ⑨ Remove Exist. Sign & Install New
- ⑩ Remove Exist. Sign & Install New on Overhead Structure Pole
- ⑪ Remove & Reinstall Exist. C & C Street Name Sign on New Post

LEGEND FOR AS-BUILT POSTINGS

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

| DATE | REVISION |
|---------|---|
| 7/18/97 | Additional Sign Added to Plan per Add. No. 1. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKING AND SIGNING PLAN
KALANIANA'OLE HIGHWAY RESURFACING
Keahole Street to Hanauma Bay
Project No. 72BC-01-97M
Scale: 1" = 40' Date: April, 1997
SHEET No. 73 OF 11 SHEETS

DATE: 4/26/97
SURVEY PLOTTED BY: M. E. ...
DRAWN BY: M. E. ...
CHECKED BY: M. E. ...

AS-BUILT ADD. 24

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII | HAW. | 72BC-01-97M | 1997 | 26 | 32 |

LEGEND FOR AS-BUILT POSTINGS

~~~~~ Squiggly line for as-built deletion

==== Double line for as-built deletion

Roadway Text for as-built posting

**# CURVE DATA**

$\Delta c = 30^{\circ}06'$   
 $Dc = 3^{\circ}00'$   
 $Rc = 1909.86'$   
 $Tc = 513.53'$   
 $Lc = 1003.33'$

**# CURVE DATA**

$\Delta s = 38^{\circ}30'$   
 $\Theta s = 4^{\circ}12'$   
 $Ts = 807.54'$   
 $Es = 114.96'$   
 $Ls = 280'$

**# CURVE DATA**

$\Delta s = 12^{\circ}16'$   
 $\Theta s = 1^{\circ}12'$   
 $Ts = 490.49'$   
 $Es = 22.27'$   
 $Ls = 160'$

**# CURVE DATA**

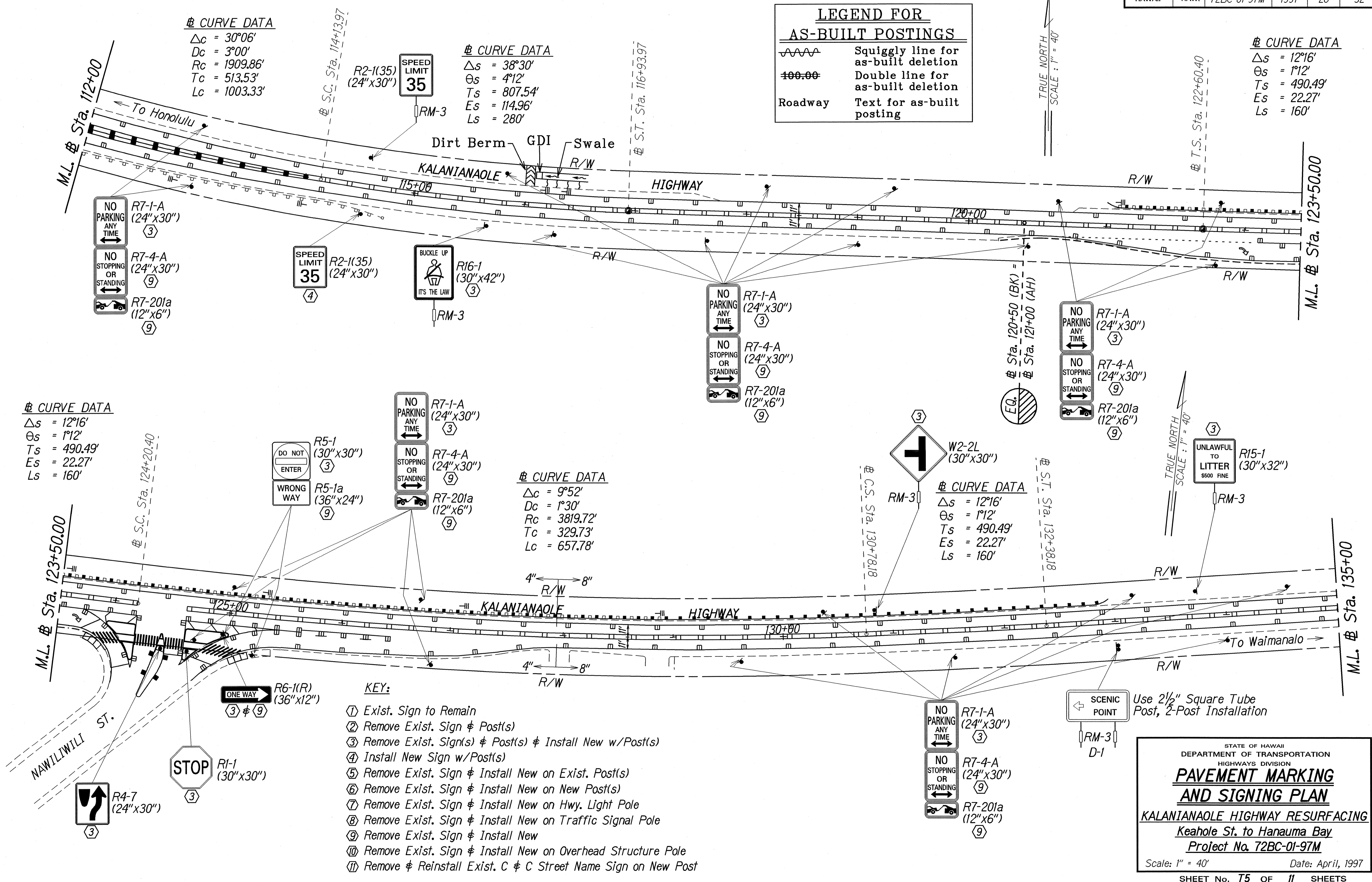
$\Delta s = 12^{\circ}16'$   
 $\Theta s = 1^{\circ}12'$   
 $Ts = 490.49'$   
 $Es = 22.27'$   
 $Ls = 160'$

**# CURVE DATA**

$\Delta c = 9^{\circ}52'$   
 $Dc = 1^{\circ}30'$   
 $Rc = 3819.72'$   
 $Tc = 329.73'$   
 $Lc = 657.78'$

**# CURVE DATA**

$\Delta s = 12^{\circ}16'$   
 $\Theta s = 1^{\circ}12'$   
 $Ts = 490.49'$   
 $Es = 22.27'$   
 $Ls = 160'$



- KEY:**
- ① Exist. Sign to Remain
  - ② Remove Exist. Sign & Post(s)
  - ③ Remove Exist. Sign(s) & Post(s) & Install New w/Post(s)
  - ④ Install New Sign w/Post(s)
  - ⑤ Remove Exist. Sign & Install New on Exist. Post(s)
  - ⑥ Remove Exist. Sign & Install New on New Post(s)
  - ⑦ Remove Exist. Sign & Install New on Hwy. Light Pole
  - ⑧ Remove Exist. Sign & Install New on Traffic Signal Pole
  - ⑨ Remove Exist. Sign & Install New
  - ⑩ Remove Exist. Sign & Install New on Overhead Structure Pole
  - ⑪ Remove & Reinstall Exist. C & C Street Name Sign on New Post

DATE: 7/26/97  
 SURVEY PLOTTED BY: [Blank]  
 DRAWN BY: M. Taha  
 TRACED BY: Cassy Aho  
 NOTE BOOK: [Blank]  
 FILE NO.: [Blank]  
 CHECKED BY: [Blank]  
 ORIGINAL PLAN: [Blank]

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**PAVEMENT MARKING AND SIGNING PLAN**

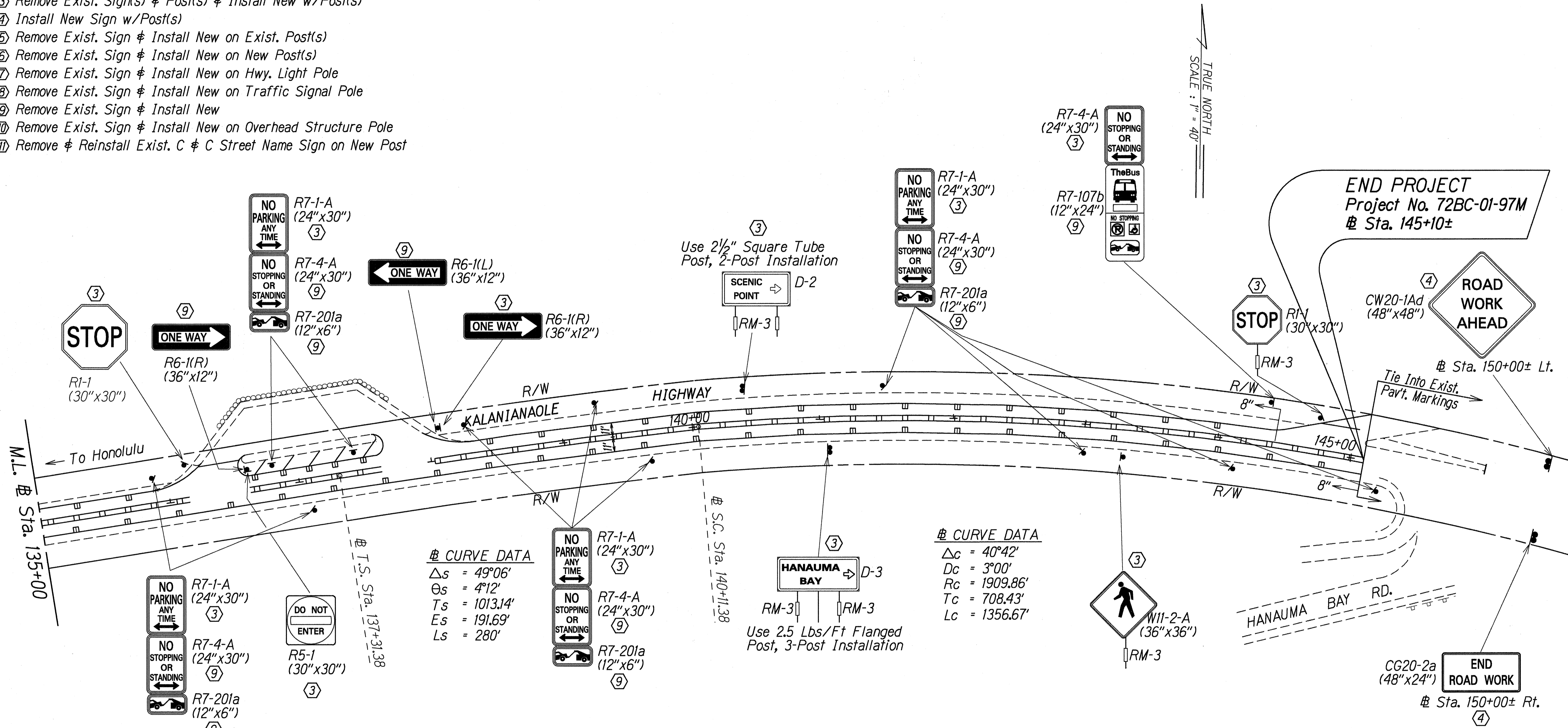
KALANIANA'OLE HIGHWAY RESURFACING  
 Keahole St. to Hanauma Bay  
 Project No. 72BC-01-97M

Scale: 1" = 40' Date: April, 1997  
 SHEET No. 75 OF 11 SHEETS

| FED. ROAD DIST. NO. | STATE | PROJ. NO.   | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | T2BC-01-97M | 1997        | ADD. 27   | 32           |

**KEY:**

- ① Exist. Sign to Remain
- ② Remove Exist. Sign & Post(s)
- ③ Remove Exist. Sign(s) & Post(s) & Install New w/Post(s)
- ④ Install New Sign w/Post(s)
- ⑤ Remove Exist. Sign & Install New on Exist. Post(s)
- ⑥ Remove Exist. Sign & Install New on New Post(s)
- ⑦ Remove Exist. Sign & Install New on Hwy. Light Pole
- ⑧ Remove Exist. Sign & Install New on Traffic Signal Pole
- ⑨ Remove Exist. Sign & Install New
- ⑩ Remove Exist. Sign & Install New on Overhead Structure Pole
- ⑪ Remove & Reinstall Exist. C & C Street Name Sign on New Post



**# CURVE DATA**

|            |            |
|------------|------------|
| $\Delta s$ | = 49°06'   |
| $\theta s$ | = 4°12'    |
| $T s$      | = 1013.14' |
| $E s$      | = 191.69'  |
| $L s$      | = 280'     |

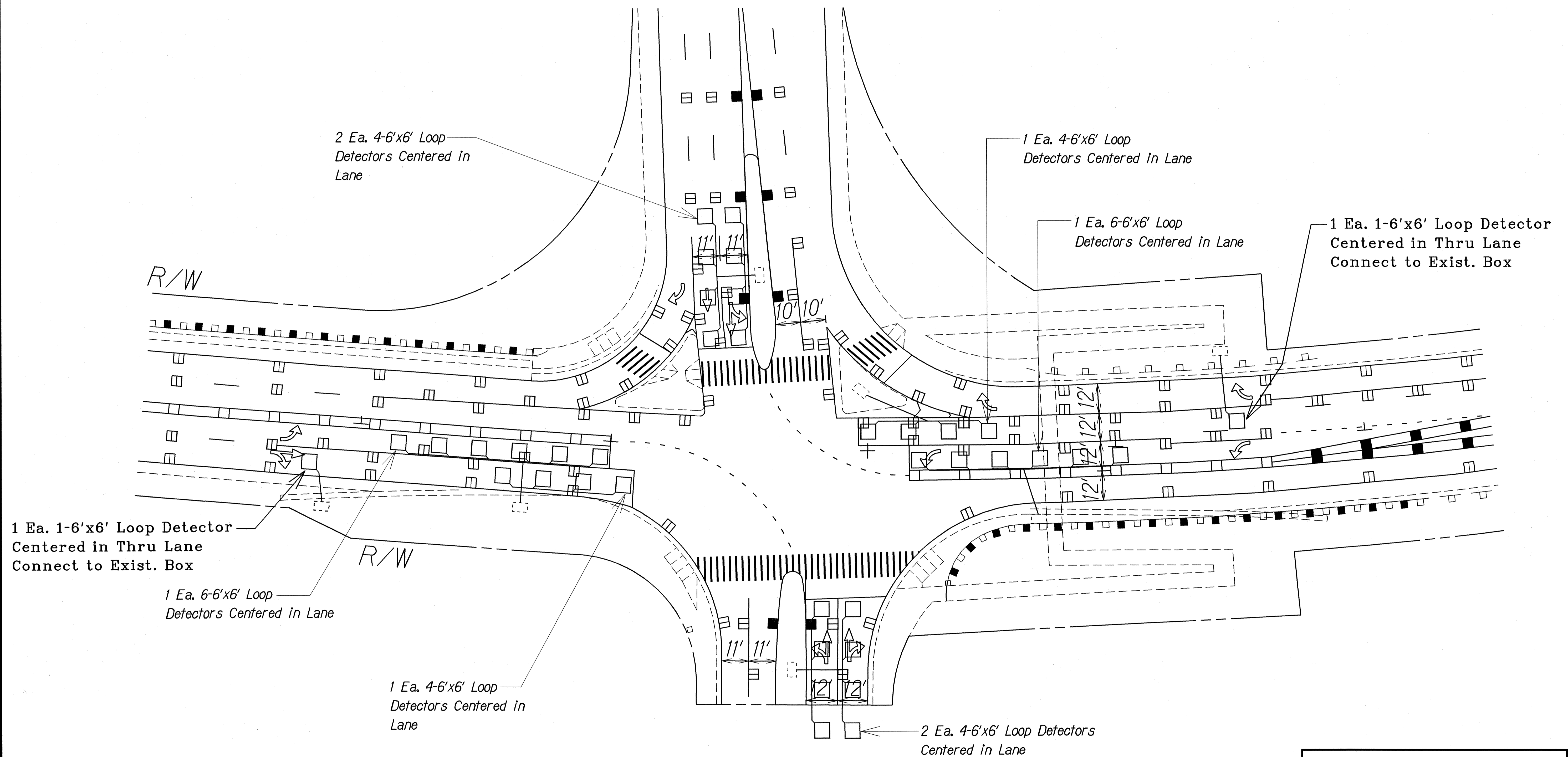
**# CURVE DATA**

|            |            |
|------------|------------|
| $\Delta c$ | = 40°42'   |
| $D c$      | = 3°00'    |
| $R c$      | = 1909.86' |
| $T c$      | = 708.43'  |
| $L c$      | = 1356.67' |

SURVEY PLOTTED BY: DATE: 7/26/97  
 DRAWN BY: M. Takahashi  
 DESIGNED BY: Casey Abp  
 CHECKED BY: [Signature]  
 ORIGINAL PLAN: [Signature]  
 NOTE BOOK: 142, may  
 No. 9181125

|                                                                                                                                                                                                                                                                                                  |                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| 7/18/97                                                                                                                                                                                                                                                                                          | Additional Signs Added to Plan per Add. No. 1. |
| DATE                                                                                                                                                                                                                                                                                             | REVISION                                       |
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION<br><b>PAVEMENT MARKING<br/>         AND SIGNING PLAN</b><br>KALANIANA'OLE HIGHWAY RESURFACING<br>Keahole Street to Hanauma Bay<br>Project No. T2BC-01-97M<br>Scale: 1" = 40' Date: April, 1997<br>SHEET No. T6 OF 11 SHEETS |                                                |

| FED. ROAD DIST. NO. | STATE | PROJ. NO.   | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 72BC-01-97M | 1997        | 28        | 32           |



|                   |               |
|-------------------|---------------|
| DATE              | X             |
| SURVEY PLOTTED BY |               |
| DRAWN BY          | M. Takahira   |
| TRACED BY         | Geety Ketchel |
| NOTE BOOK         | 142 May       |
| QUANTITIES BY     |               |
| CHECKED BY        | Shelley       |

| 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

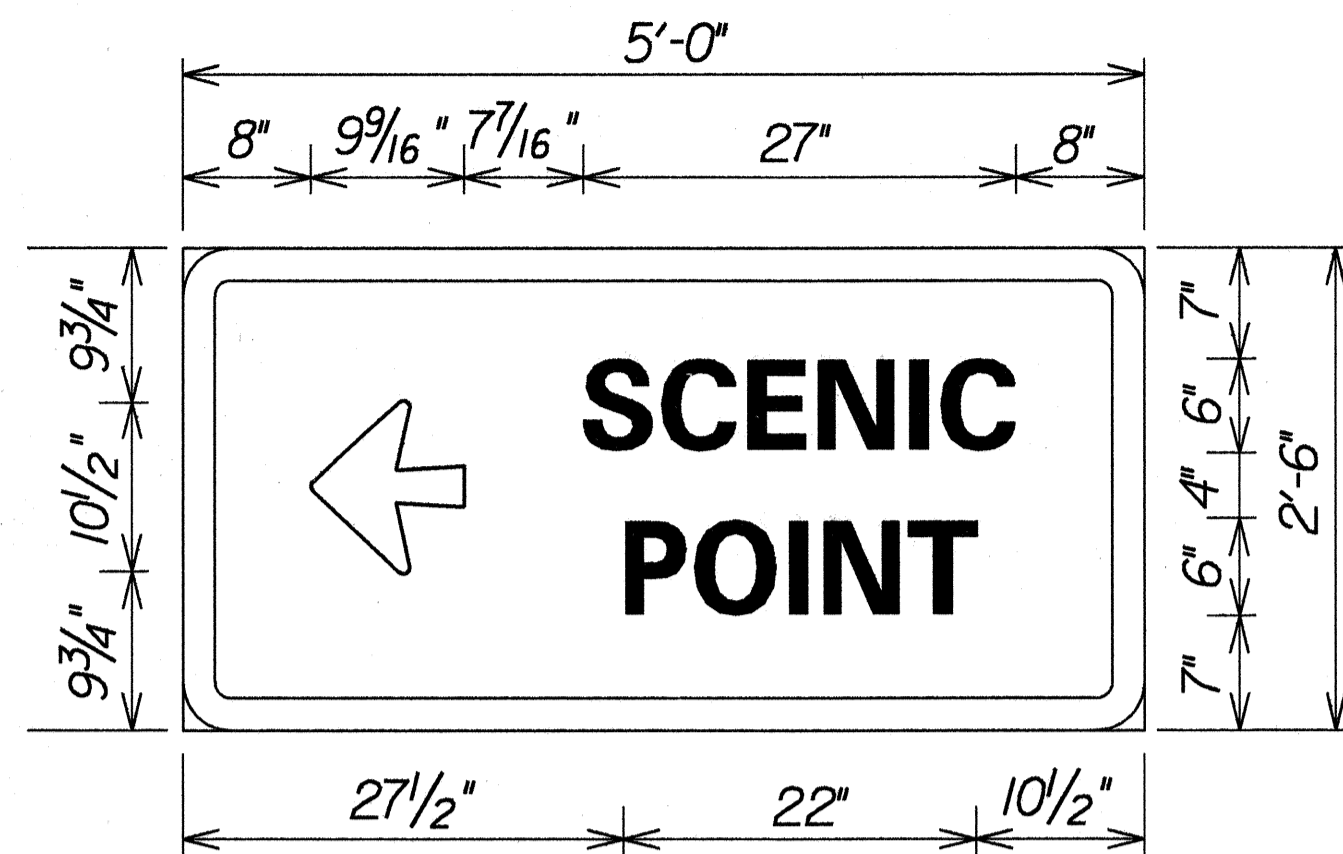
**LOOP DETECTOR PLAN**

**KALANIANA'OLE HIGHWAY RESURFACING**  
*Keahole Street to Hanauma Bay*  
*Project No. 72BC-01-97M*

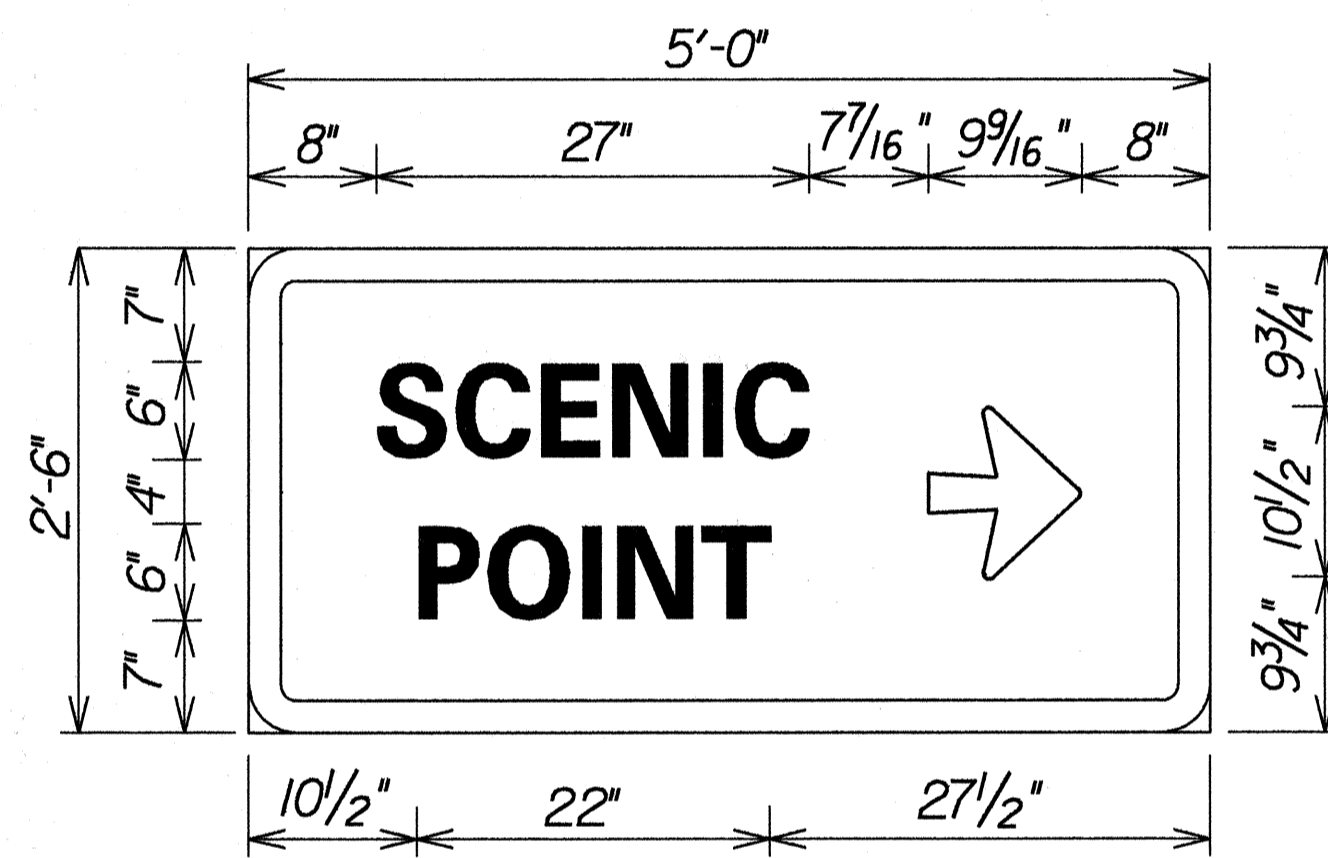
Scale: 1"=20'      Date: May, 1997

SHEET No. 77 OF 11 SHEETS

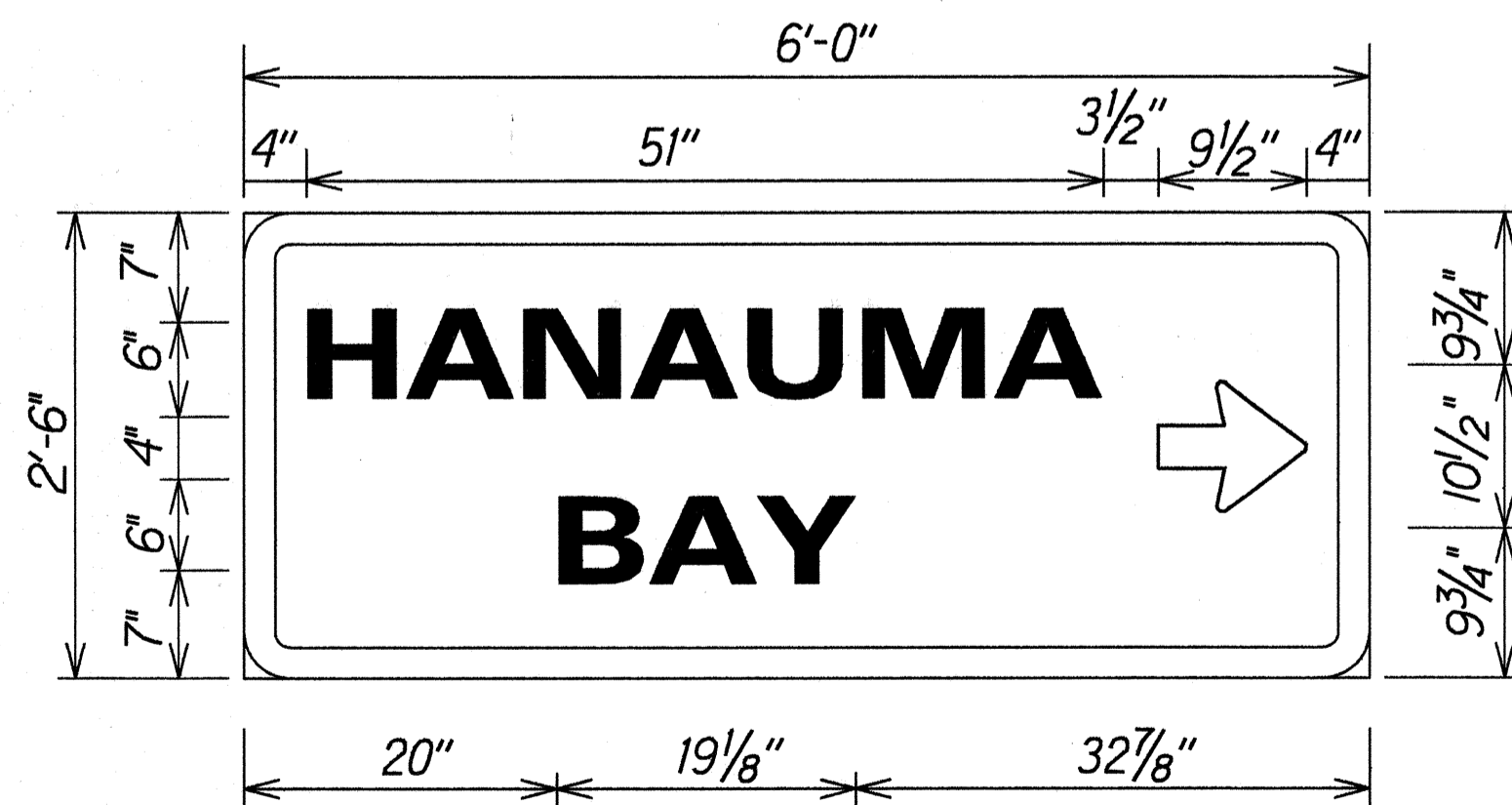
| FED. ROAD DIST. NO. | STATE | PROJ. NO.   | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 72BC-01-97M | 1997        | 29        | 32           |



D-1  
Scale: 1"=1'-0"



D-2  
Scale: 1"=1'-0"



D-3  
Scale: 1"=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     |      |
| DRAWN BY M. Takahiji  | X    |
| DESIGNED BY GUY KISHI |      |
| CHECKED BY            |      |
| DATE                  |      |
| NOTE BOOK             |      |
| 4/2/97                |      |
| N. Skellisd           |      |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

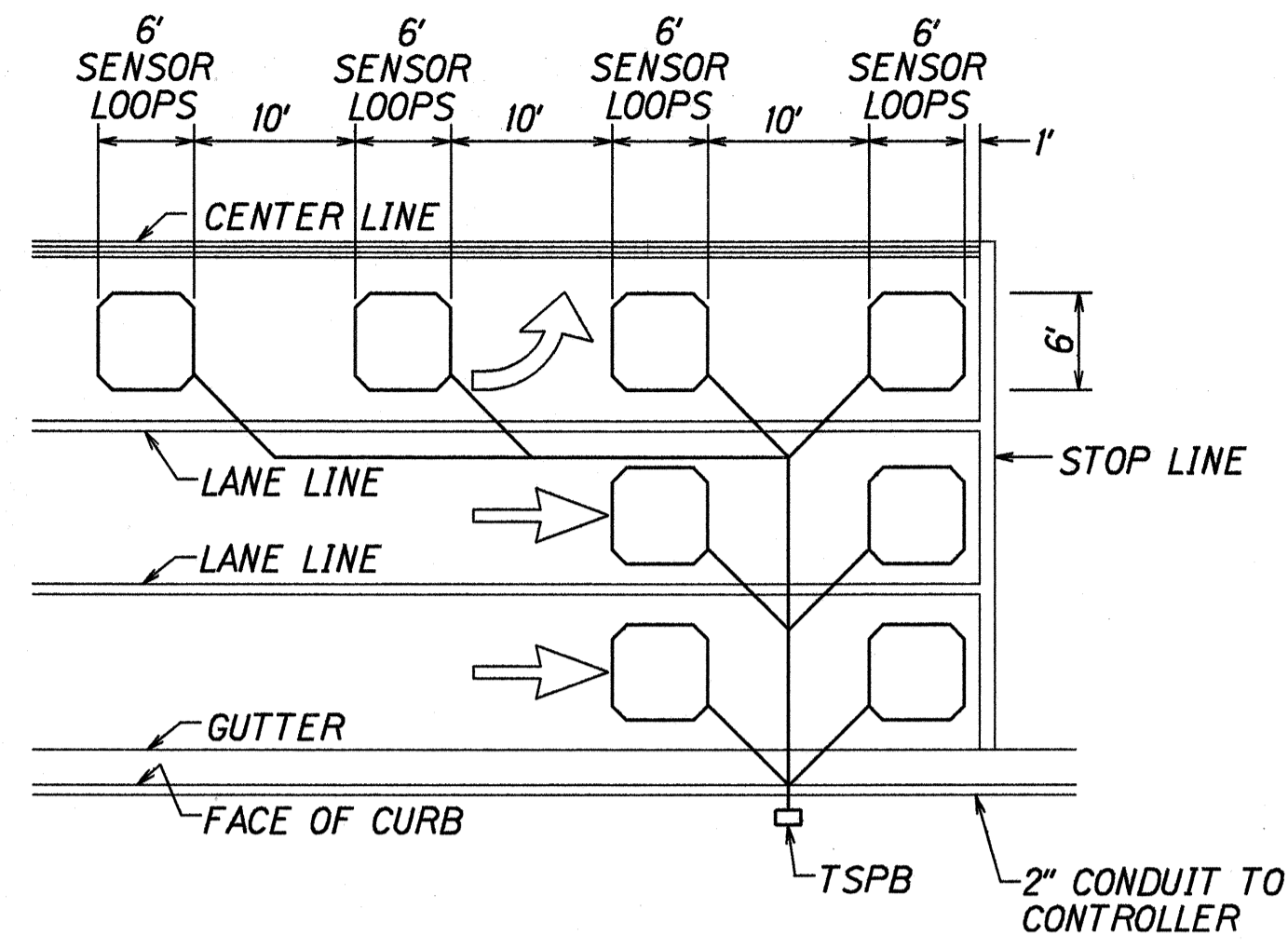
**TRAFFIC SIGN DETAILS**

KALANIANAOLE HIGHWAY RESURFACING  
Keahole Street to Hanauma Bay  
Project No. 72BC-01-97M

Scale: As Shown      Date: April, 1997

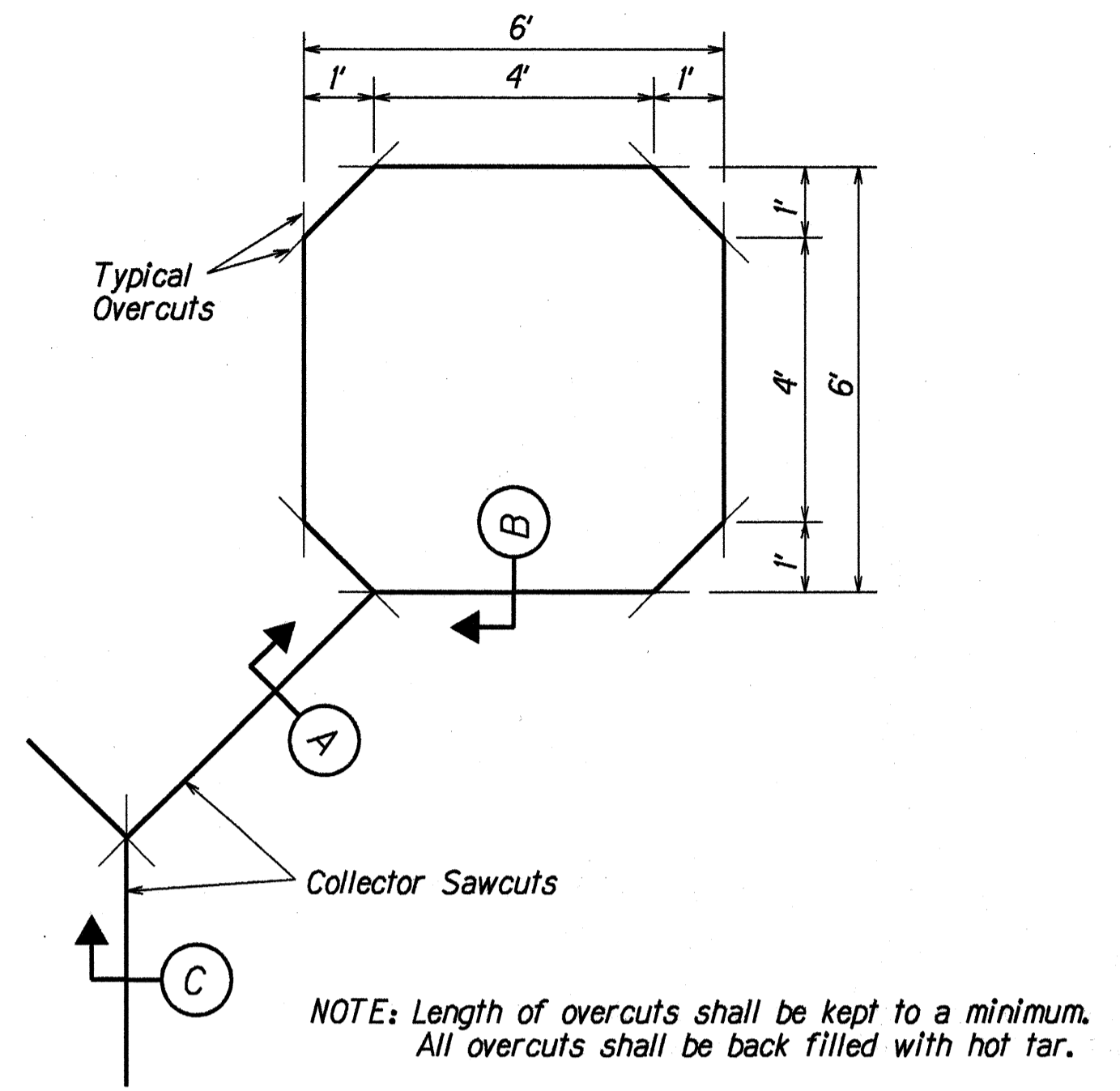
SHEET No. T8 OF 11 SHEETS

| FED. ROAD DIST. NO. | STATE | PROJ. NO.   | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | T2BC-01-97M | 1997        | 30        | 32           |

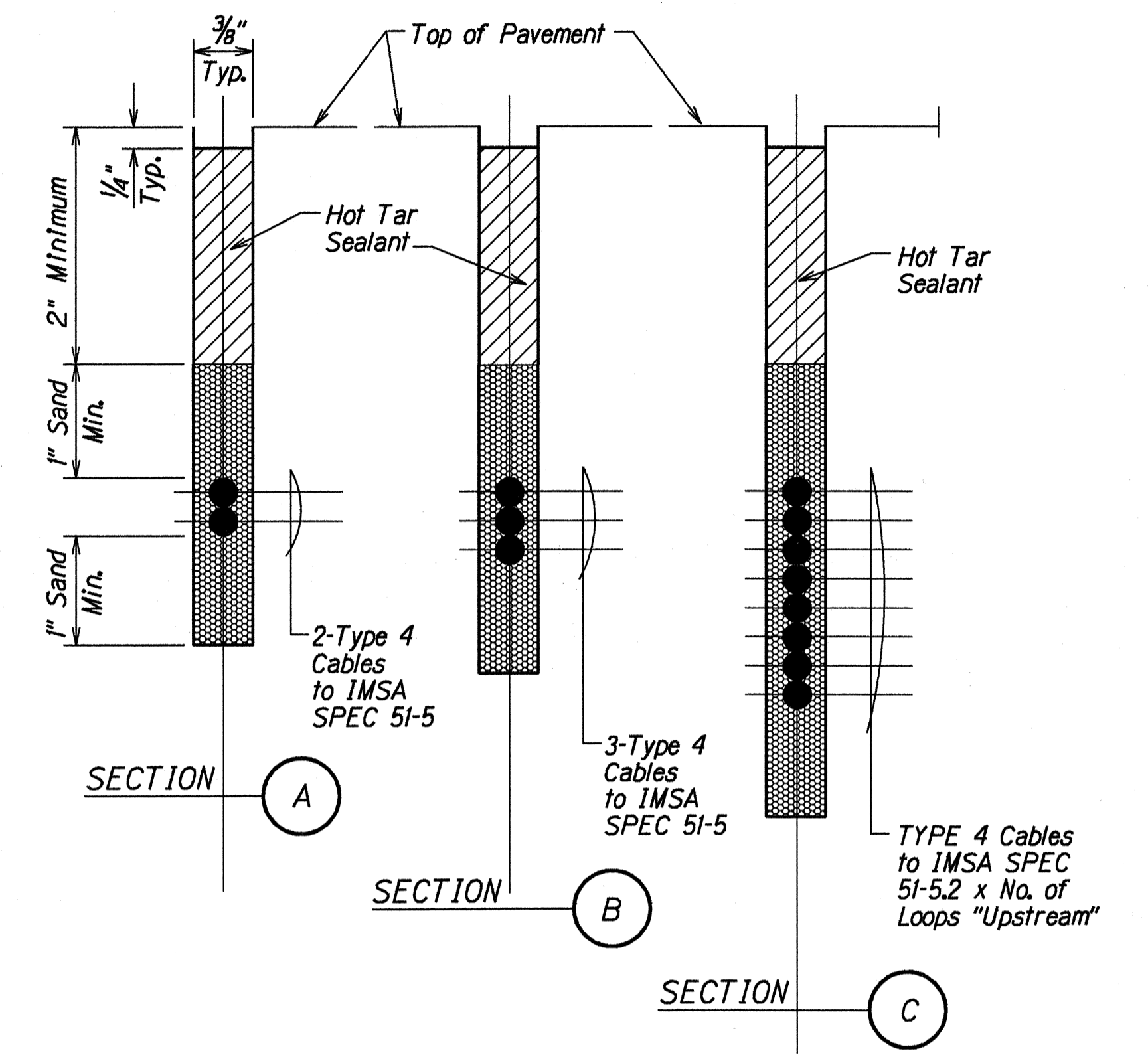


- NOTES:
- Center sensor loops in lanes.
  - Collector cables shall be twisted 2 turns per foot.
  - Number of loops and locations vary. See project plans.
  - Number and locations of collector sawcuts may be varied in the field to suit.

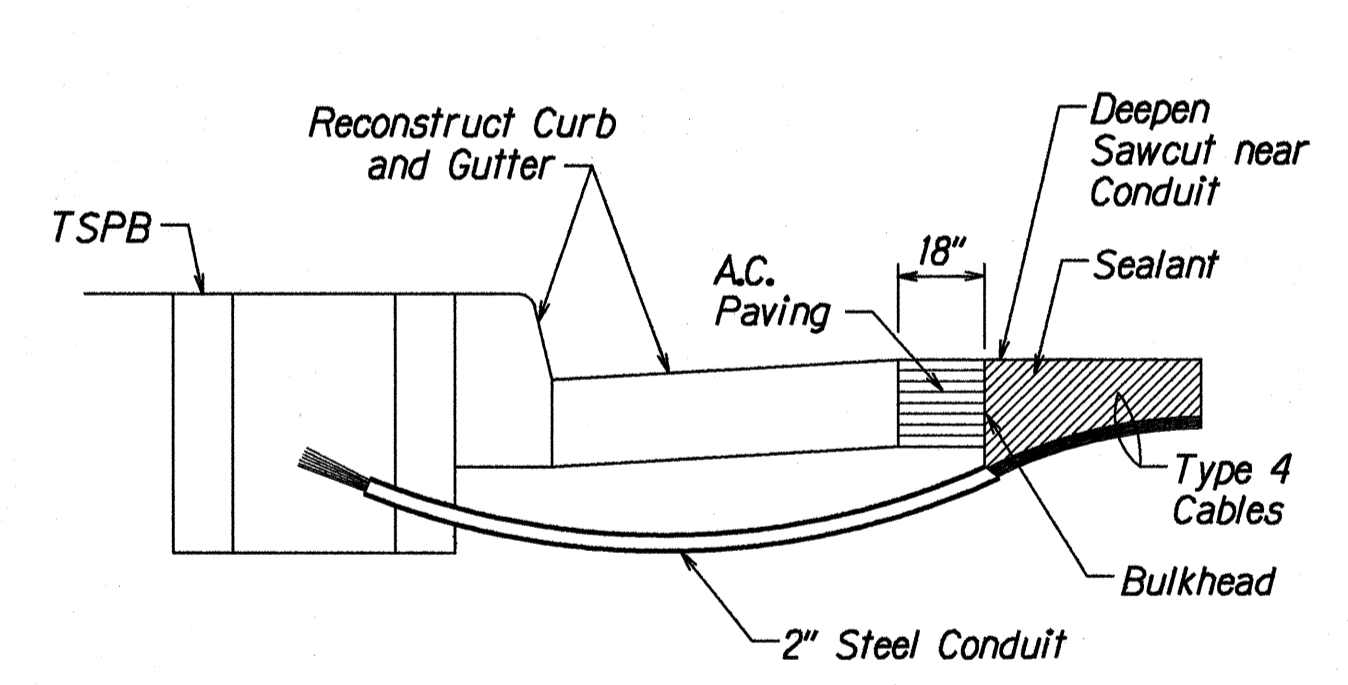
TYPICAL SENSOR LOOP LAYOUT



TYPICAL SENSOR LOOP SAWCUT DETAIL

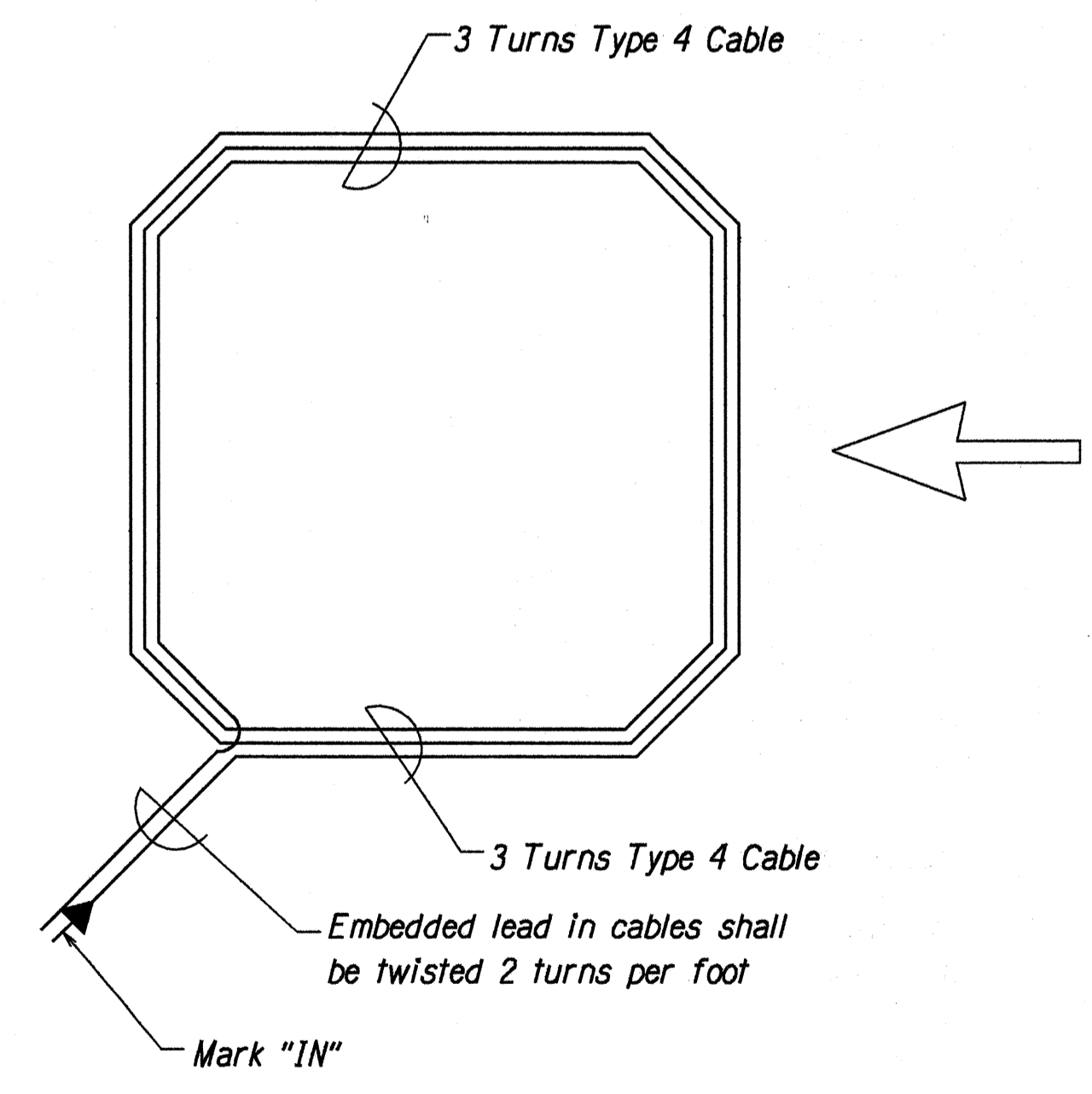


TYPICAL SECTION THROUGH SENSOR LOOP



- NOTES ON CONSTRUCTION AT END OF SAWCUT
- Seal roadway end of conduit after installation of conductors.
  - Install bulkhead across conduit trench.
  - Place hot tar in sawcut.
  - Backfill over conduit with new A.C.
  - Reconstruct curb and gutter as required.

DETAIL OF SENSOR LOOP INSTALLATION AT EDGE OF ROADWAY



TYPICAL SENSOR LOOP WIRING DIAGRAM

|                   |      |
|-------------------|------|
| ORIGINAL PLAN     | DATE |
| SURVEY PLOTTED BY |      |
| DRAWN BY          |      |
| DESIGNED BY       |      |
| CHECKED BY        |      |
| NOTE BOOK         |      |
| 10/2/97           |      |
| 9/2/97            |      |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**LOOP DETECTOR DETAILS**

KALANIANA'OLE HIGHWAY RESURFACING  
Keahole Street to Hanauma Bay  
Project No. T2BC-01-97M

Scale: As Shown Date: May, 1997

SHEET No. T9 OF 11 SHEETS

| MILEPOST MARKER SUMMARY |                      |          |          |          |
|-------------------------|----------------------|----------|----------|----------|
| LOCATION                | SIGN NO. AND MESSAGE |          | QUANTITY |          |
|                         |                      |          | W/POST   | W/O POST |
| # STA. 110+70± Lt.      | D10-5<br>D10-7       | 13<br>72 | 1*       | x        |
| TOTAL                   |                      |          | 1        |          |

\*Bi-Directional

| PAVEMENT MARKING SUMMARY                          |          |       |
|---------------------------------------------------|----------|-------|
| DESCRIPTION                                       | QUANTITY |       |
| <b>PAVEMENT MARKERS</b>                           |          |       |
| TYPE A _____                                      | 760      | EA.   |
| TYPE C _____                                      | 700      | EA.   |
| TYPE D _____                                      | 330      | EA.   |
| TYPE H _____                                      | 140      | EA.   |
| <b>TAPE - TYPE I OR THERMOPLASTIC EXTRUSION</b>   |          |       |
| 4-INCH PAVEMENT STRIPE (WHITE) _____              | 450      | L.F.  |
| 8-INCH PAVEMENT STRIPE (WHITE) _____              | 800      | L.F.  |
| DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____      | 6,600    | L.F.  |
| <b>TAPE - TYPE II OR THERMOPLASTIC EXTRUSION</b>  |          |       |
| 4-INCH PAVEMENT STRIPE (WHITE) _____              | 12,500   | L.F.  |
| 4-INCH PAVEMENT STRIPE (YELLOW) _____             | 650      | L.F.  |
| 8-INCH PAVEMENT STRIPE (WHITE) _____              | 4,400    | L.F.  |
| 12-INCH PAVEMENT STRIPE (WHITE) _____             | 200      | L.F.  |
| 12-INCH PAVEMENT STRIPE (YELLOW) _____            | 240      | L.F.  |
| DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____      | 2,400    | L.F.  |
| <b>TAPE - TYPE III OR THERMOPLASTIC EXTRUSION</b> |          |       |
| 4-INCH PAVEMENT STRIPE (WHITE) _____              | 630      | L.F.  |
| 4-INCH PAVEMENT STRIPE (YELLOW) _____             | 160      | L.F.  |
| 12-INCH PAVEMENT STRIPE (WHITE) _____             | 300      | L.F.  |
| CROSSWALK MARKINGS _____                          | 24       | LANES |
| PAVEMENT ARROW _____                              | 37       | EA.   |
| PAVEMENT WORD _____                               | 2        | EA.   |

| ROUTE MARKER SUMMARY |                    |                      |                 |          |
|----------------------|--------------------|----------------------|-----------------|----------|
| SIGN ASSEMBLY        | LOCATION           | SIGN NO. AND MESSAGE | TYPE A ASSEMBLY |          |
|                      |                    |                      | W/POST          | W/O POST |
| SRM-1                | # STA. 98+50± RT.  |                      | 1               |          |
| SRM-2                | # STA. 106+00± LT. |                      | 1               |          |
| SRM-3                | # STA. 108+00± RT. |                      | 1               |          |
| TOTAL                |                    |                      | 3               |          |





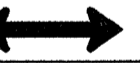

| REFLECTOR MARKER SUMMARY |          |       |                 |       |              |       |
|--------------------------|----------|-------|-----------------|-------|--------------|-------|
| TYPE                     | QUANTITY |       |                 |       |              |       |
|                          | W/O POST |       | W/FLEXIBLE POST |       | W/STEEL POST |       |
|                          | YELLOW   | WHITE | YELLOW          | WHITE | YELLOW       | WHITE |
| RM-3                     | 38       |       | 15              |       | 34           |       |
| RM-9                     |          |       |                 |       | 1            |       |

| DESTINATION SIGN SUMMARY |                    |                |               |                          |         |
|--------------------------|--------------------|----------------|---------------|--------------------------|---------|
| SIGN NO.                 | LOCATION           | MESSAGE        | SIZE          | NEW PANEL AREA (SQ. FT.) |         |
|                          |                    |                |               | W/O POSTS                | W/POSTS |
| D-1                      | # Sta. 133+00± Rt. | ↩ SCENIC POINT | 5'-0" x 2'-6" |                          | 13.00   |
| D-2                      | # Sta. 140+60± Lt. | SCENIC POINT ↗ | 5'-0" x 2'-6" |                          | 13.00   |
| D-3                      | # Sta. 141+00± Rt. | HANAUMA BAY ↘  | 6'-0" x 2'-6" |                          | 15.00   |
| TOTAL                    |                    |                |               |                          | 41.00   |

|                                                                                                                                                                                                                                                      |                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 7/18/87                                                                                                                                                                                                                                              | Revised Reflector Marker Summary<br>Schedule per Add. No. 1. |
| DATE                                                                                                                                                                                                                                                 | REVISION                                                     |
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION<br><b>TRAFFIC SUMMARIES</b><br>KALANIANA'OLE HIGHWAY RESURFACING<br>Keahole Street to Hanauma Bay<br>Project No. 72BC-01-97M<br>Date: April, 1997<br>SHEET No. T10 OF 11 SHEETS |                                                              |

SURVEY PLOTTED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN BY M. Takahira  
 DESIGNED BY Gary Kohn  
 1/2/97  
 CHECKED BY N. Shal/sum

| CONSTRUCTION SIGN SUMMARY |                                              |                 |         |
|---------------------------|----------------------------------------------|-----------------|---------|
| SIGN NO.                  | LOCATION                                     | MESSAGE         | W/POSTS |
| CW20-1Ad                  | # STA. 118+00± RT.                           | ROAD WORK AHEAD | 1       |
| CG20-2A                   | # STA. 118+00± LT.                           | END ROAD WORK   | 1       |
| CW20-1Ad                  | LUNALILO HOME RD - 250'± BEFORE INTERSECTION | ROAD WORK AHEAD | 1       |
| CG20-2A                   | # STA. 150+00± RT.                           | END ROAD WORK   | 1       |
| CW20-1Ad                  | # STA. 150+00± LT.                           | ROAD WORK AHEAD | 1       |
| TOTAL                     |                                              |                 | 5       |

| 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                                                                                                                                                                            | 5                  |          |                         |           |
| R1-2                 | YIELD                                                                                                                                                                           |                    | 1        |                         |           |
| R2-1(35)             | SPEED LIMIT 35                                                                                                                                                                  | 5                  |          |                         |           |
| R3-2                 |                                                                                                |                    | 1        |                         |           |
| R3-7(L)              | LEFT LANE MUST TURN LEFT                                                                                                                                                        | 2                  |          |                         |           |
| R3-15                | THRU TRAFFIC KEEP RIGHT                                                                                                                                                         |                    | 2        |                         |           |
| R4-7                 | KEEP RIGHT SYMBOL                                                                                                                                                               | 1                  |          |                         |           |
| R5-1                 | DO NOT ENTER                                                                                                                                                                    | 3                  |          |                         |           |
| R5-1a                | WRONG WAY                                                                                                                                                                       |                    | 2        |                         |           |
| R6-1(R)              | ONE WAY                                                                                                                                                                         | 1                  | 2        |                         |           |
| R6-1(L)              | ONE WAY                                                                                                                                                                         |                    | 1        |                         |           |
| R7-1-A               | NO PARKING ANY TIME                                                                         | 35                 |          |                         |           |
| R7-4-A               | NO STOPPING OR STANDING                                                                    | 1                  | 35       |                         |           |
| R7-107b              | THE BUS SYMBOL                                                                                                                                                                  | 5                  | 2        |                         |           |
| R7-201a              | TOW-AWAY SYMBOL                                                                                                                                                                 |                    | 36       |                         |           |
| R8-1                 | NO PARKING ON PAVEMENT                                                                                                                                                          | 5                  |          |                         |           |
| R8-3a                |  ANYTIME  | 16                 |          |                         |           |
| R9-3a-A              | PEDESTRIAN PROHIBITED SYMBOL, USE OVERPASS                                                                                                                                      | 1                  |          |                         |           |
| R15-1                | UNLAWFUL TO LITTER \$500 FINE                                                                                                                                                   | 2                  |          |                         |           |
| R16-1                | BUCKLE UP SYMBOL                                                                                                                                                                | 2                  |          |                         |           |
| D11-1                | BIKE ROUTE SYMBOL                                                                                                                                                               | 5                  |          |                         |           |
| M4-11                | BEGIN                                                                                                                                                                           |                    | 1        |                         |           |
| S-1                  | SCHOOL ADVANCE SYMBOL                                                                                                                                                           | 1                  |          |                         |           |
| W2-26                |                                                                                              | 1                  |          |                         |           |
| W3-4                 | STOP AHEAD WHEN FLASHING                                                                                                                                                        |                    | 1        |                         |           |
| W11-2-A              | PEDESTRIAN ADVANCE CROSSING SYMBOL                                                                                                                                              | 4                  |          |                         |           |
| TOTAL                |                                                                                                                                                                                 | 95                 | 84       |                         |           |

ORIGINAL SURVEY PLANNED BY DATE: X  
 PLAN DRAWN BY M. Lelehu  
 NORTH BOOK TRACED BY GARY KAHALU  
 112 899 DESIGNED BY  
 91413102 CHECKED BY

|                                                                                                                                                                                                                                                     |                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| 7/18/97                                                                                                                                                                                                                                             | Revised Traffic Sign Summary<br>Schedule per Add. No. 1. |
| DATE                                                                                                                                                                                                                                                | REVISION                                                 |
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION<br><b>TRAFFIC SUMMARIES</b><br>KALANIANA'OLE HIGHWAY RESURFACING<br>Keahole Street to Hanauma Bay<br>Project No. 72BC-01-97M<br>Date: April, 1997<br>SHEET No. 11 OF 11 SHEETS |                                                          |