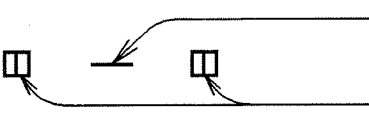
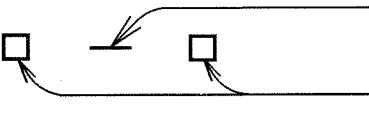


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-056-1(52)	2009	16	21


LEGEND



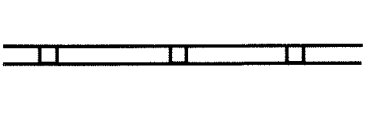
4 each Type A Raised Pavement Markers
Type C Raised Pavement Markers @ 40'-0" o.c.




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)



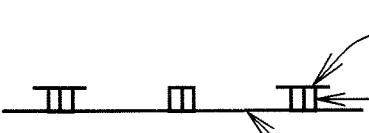
4" Yellow Edge Stripe with Type H Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)




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)



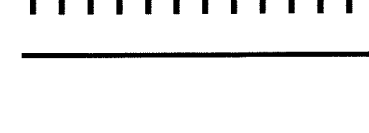
Channelizing Island or Deceleration Lane Gore (Tape, Type II or Thermoplastic Extrusion)




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)



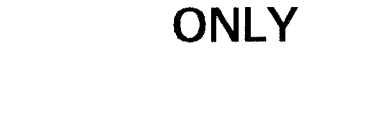
Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)



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

- Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
- 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.
- Raised pavement markers shall not be installed within crosswalks.
- Final locations of all signs shall be approved by the Engineer prior to any installation work.
- 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.
- Final locations of all stop lines shall be approved by the Engineer prior to installation.
- All pavement striping shall be as noted on the legend or plans.
- 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.
- The Contractor shall erect at the beginning of the project and at the end of the project advance construction warning signs as indicated on the plans or as directed by the Engineer. The signs shall be kept in place for the duration of the project and shall be maintained by the Contractor. These signs shall be placed in addition to the required traffic control signs called for in Section 645 - Work Zone Traffic Control. The advance construction warning signs shall be new and become the property of the Contractor.
- Existing signs that are to be replaced shall not be removed until new signs are installed as replacements, or the messages are no longer necessary.
- Backing for all new regulatory and warning signs shall not be spliced.
- All sign panels shall conform to Section 630 of Special Provisions 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"
- State Route Marker Symbols, borders, messages, arrows, symbols and shields shall conform to details as shown on the plans and as specified in the MUTCD.
- 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.
- Removal of existing delineators and posts, as directed by the Engineer or shown on the plans, shall be considered incidental to the various signing items.
- Removal and reinstalling existing street name signs on regulatory and warning sign post shall not be paid for separately but shall be considered incidental to the various signing items.
- All Reflector Marker (RM-2) not protected by a vehicular barrier shall be mounted on a flexible delineator post unless otherwise directed by the Engineer.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	9/08
DESIGNED BY	TRACED BY	
CHECKED BY	DESIGNED BY	
	CHECKED BY	

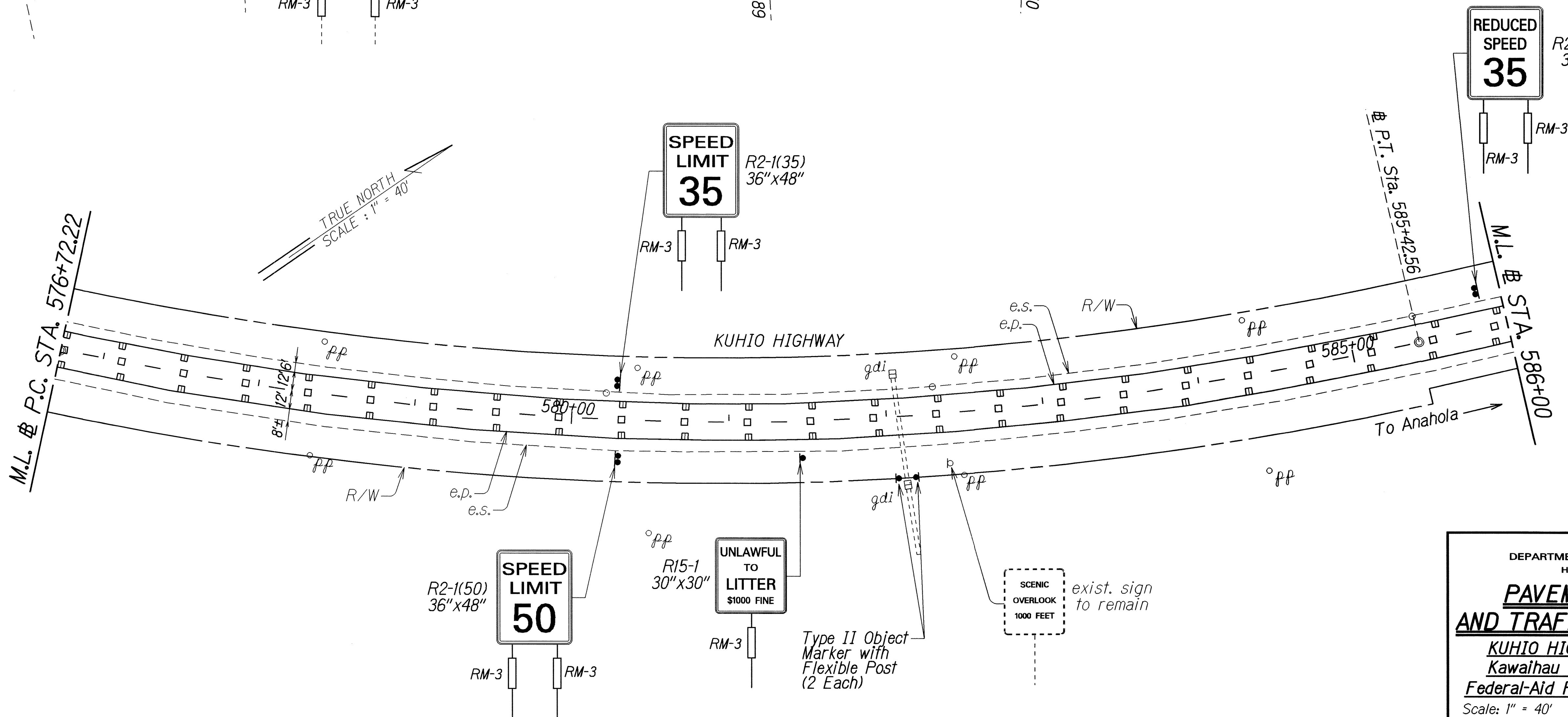
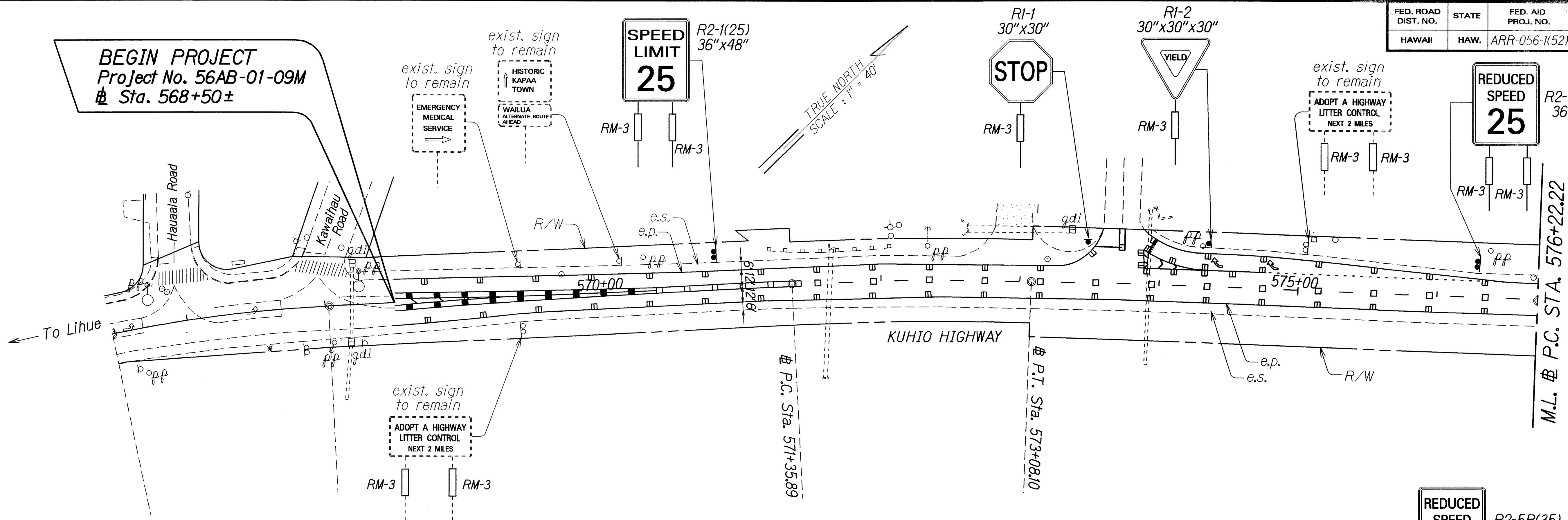
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING
LEGEND, DETAILS & NOTES

KUHIO HIGHWAY RESURFACING
Kawaihau Road to Kapaa Bridge
Federal-Aid Project No. ARR-056-1(52)
Date: March 2009

SHEET No. 16 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-056-1(52)	2009	17	21



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	9/08
DESIGNED BY	CHECKED BY	
APPROVED BY		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PAVEMENT MARKING
AND TRAFFIC SIGNING PLAN**

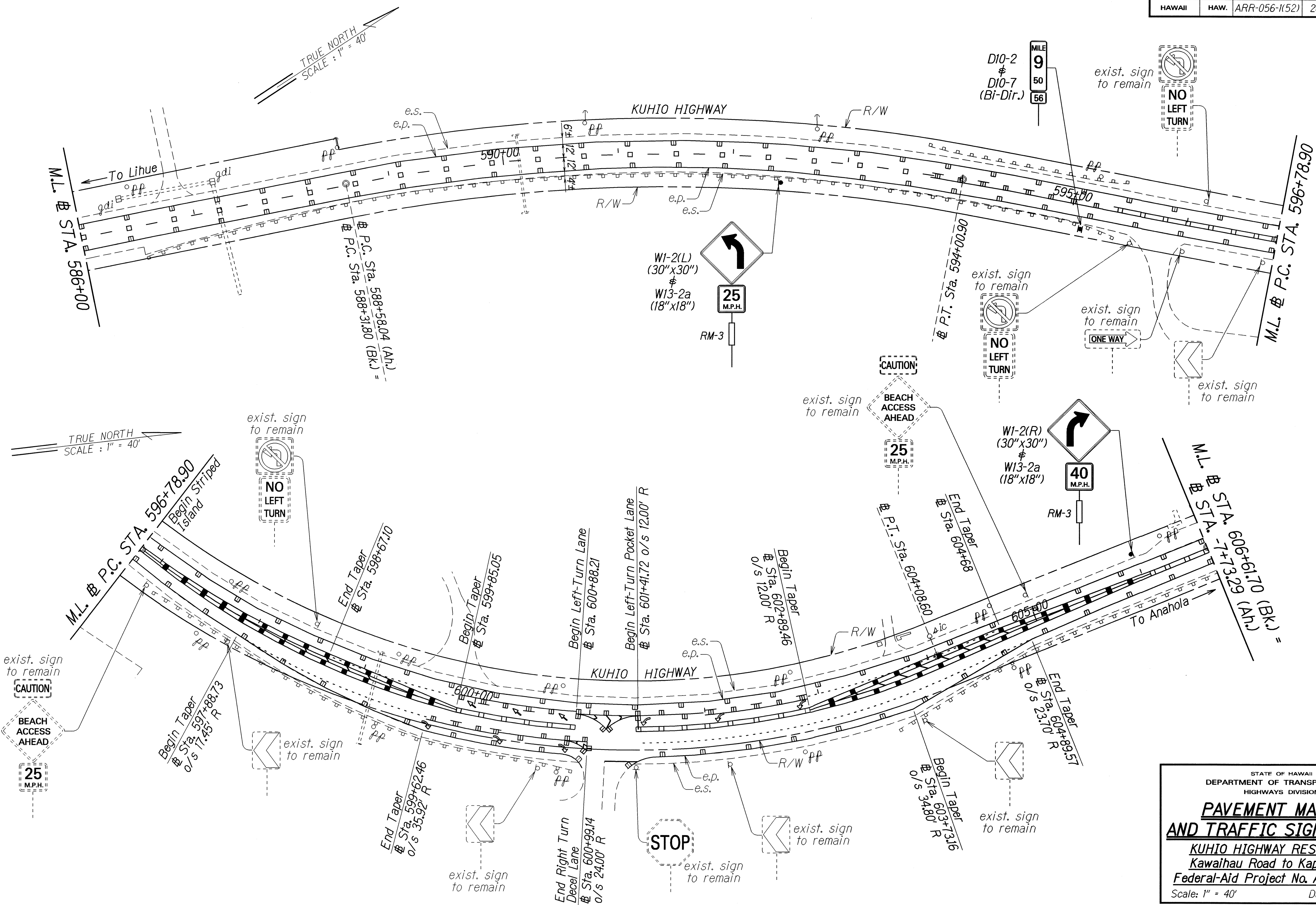
**KUHIO HIGHWAY RESURFACING
Kawaihau Road to Kapaa Bridge**

Federal-Aid Project No. ARR-056-1(52)

Scale: 1" = 40' Date: March 2009

SHEET No. T2 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-056-1(52)	2009	18	21



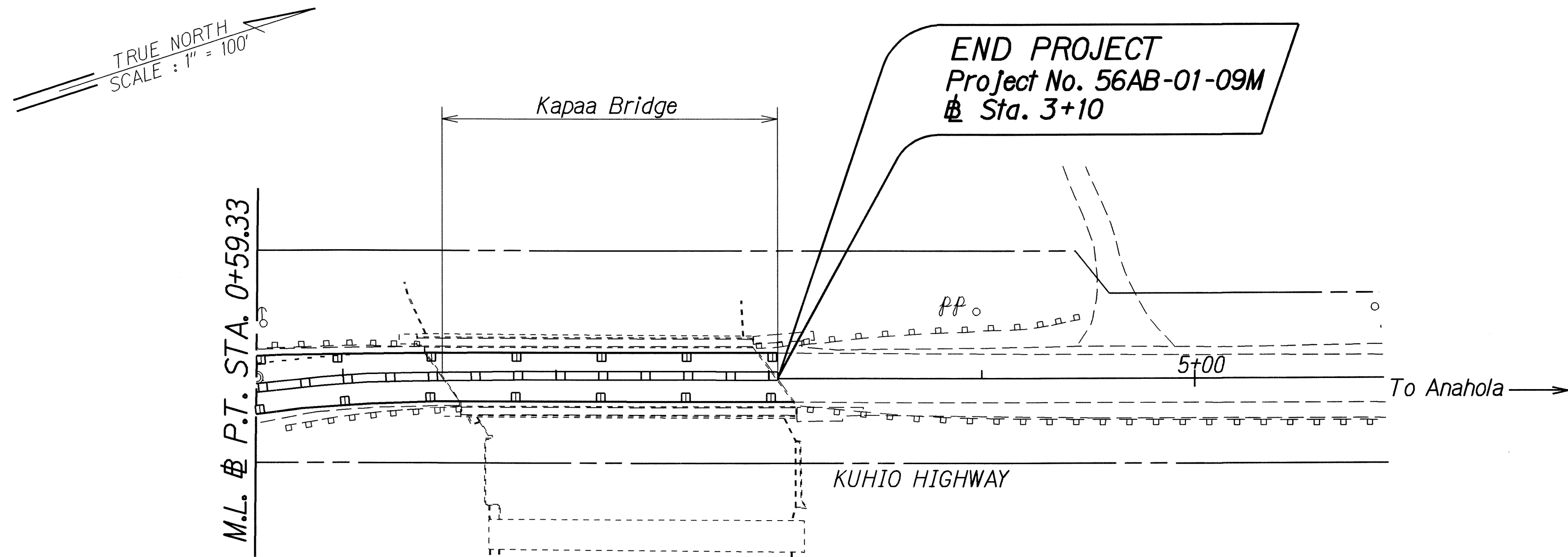
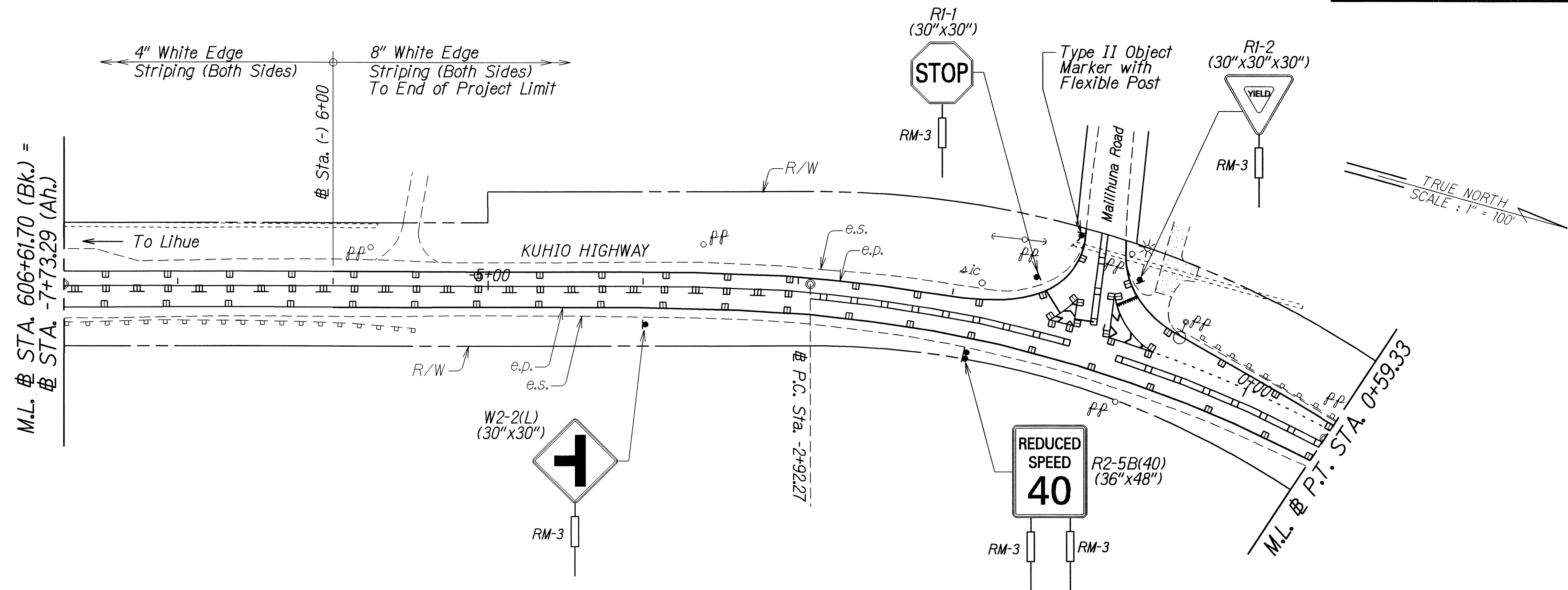
DATE	9/28
SURVEY PLOTTED BY	
DRAWN BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
REVISIONS	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PAVEMENT MARKING
AND TRAFFIC SIGNING PLAN**
KUHIO HIGHWAY RESURFACING
Kawaihau Road to Kapaa Bridge
Federal-Aid Project No. ARR-056-1(52)
Scale: 1" = 40' Date: March 2009

SHEET No. T3 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-056-1(52)	2009	19	21



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
TRACED BY		3/02
NOTED BY		
QUANTITIES BY		
CHECKED BY		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

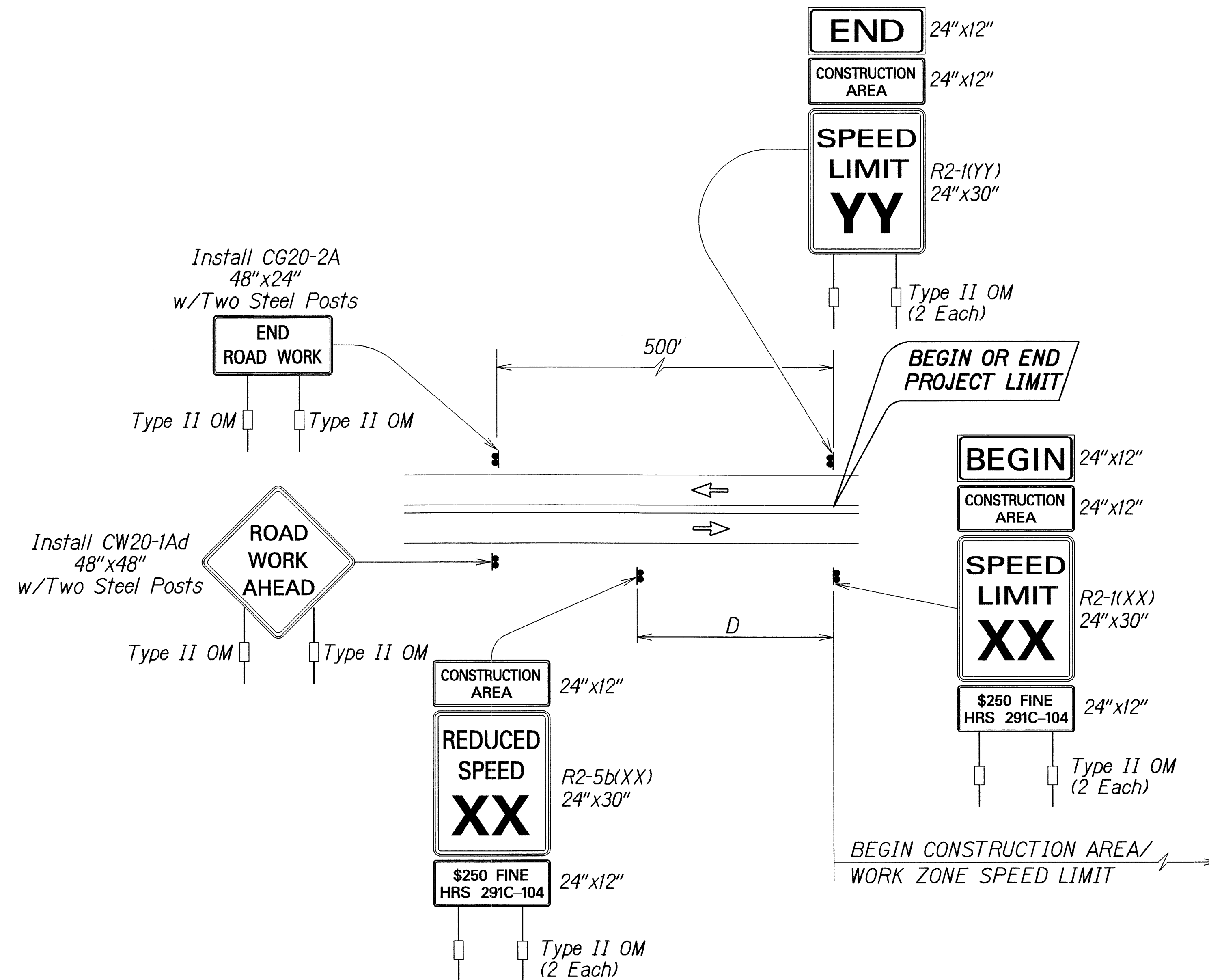
**PAVEMENT MARKING
AND TRAFFIC SIGNING PLAN**

KUHIO HIGHWAY RESURFACING
Kawailhau Road to Kapaa Bridge
Federal-Aid Project No. ARR-056-1(52)

Scale: 1" = 40' Date: March 2009

SHEET No. T4 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-056-1(52)	2009	20	21



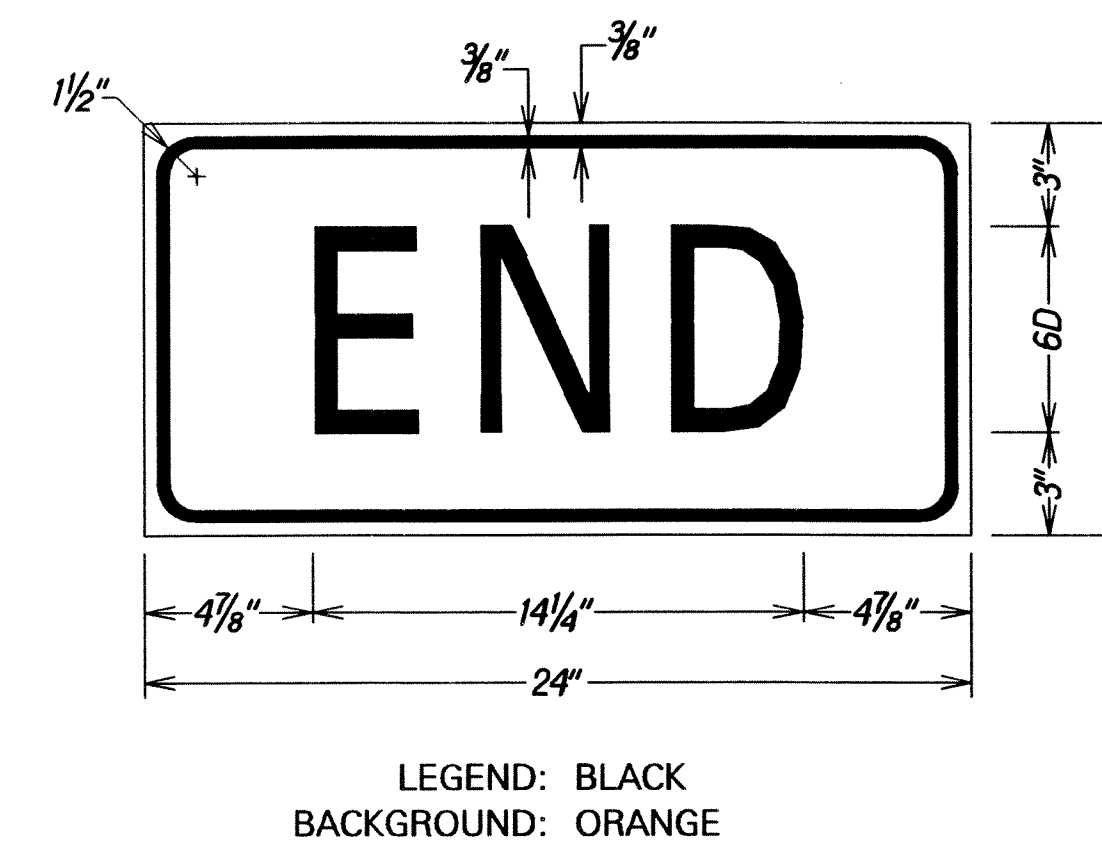
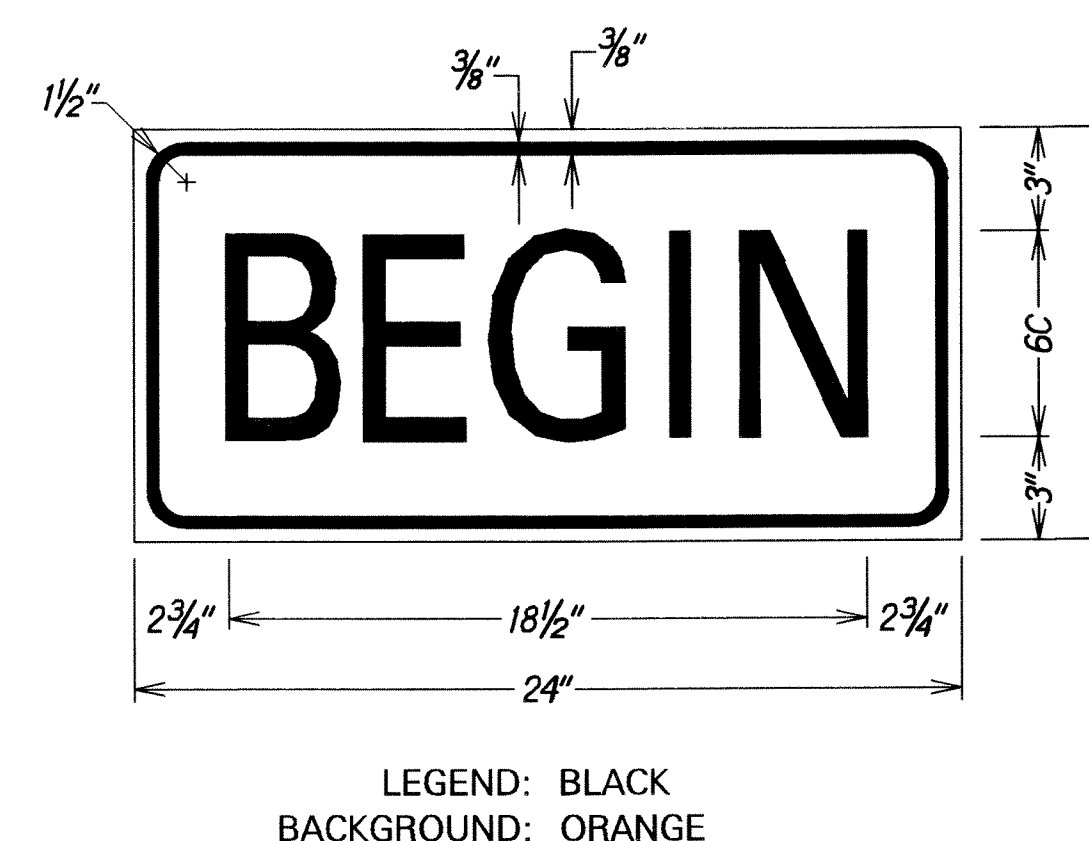
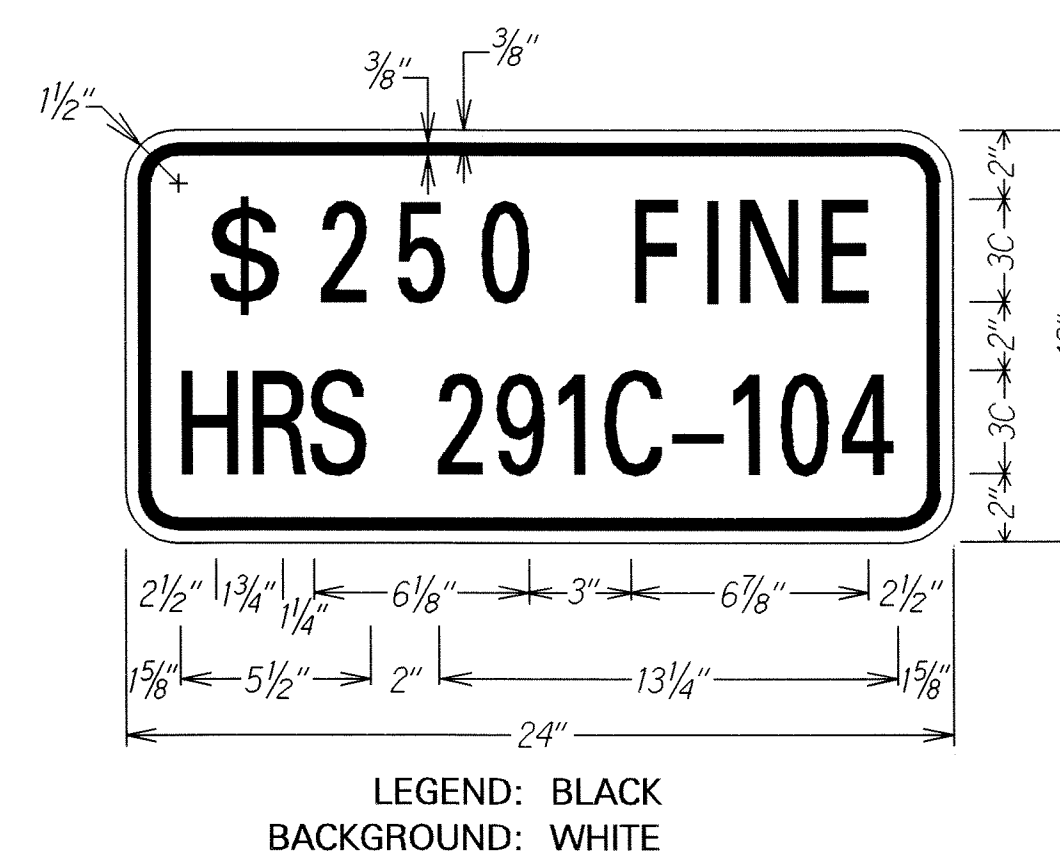
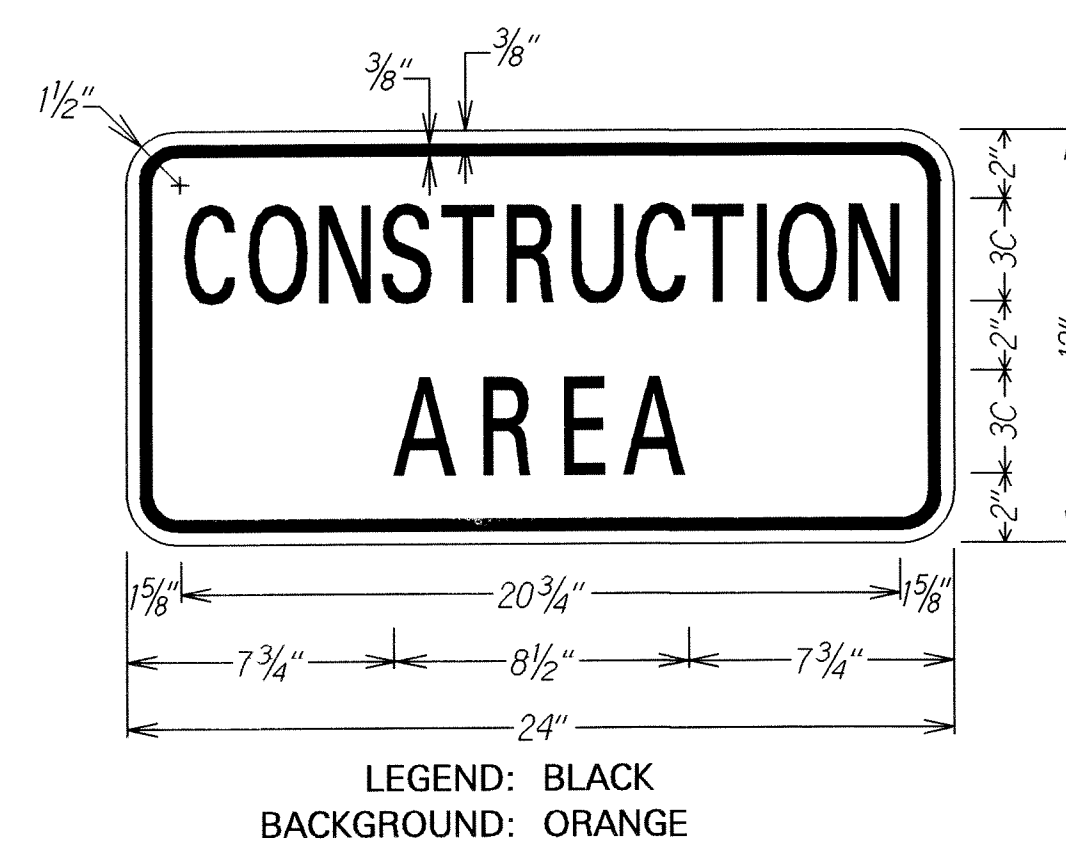
Work Zone Note:

1. *This Work Zone Sign Plan is intended for use on long-term stationary work zones/construction phases (3 days or more). All work zones or construction phases less than 3 days duration will use Traffic Control Plans shown in Section 645 of the Special Provisions.*
2. *All existing regulatory speed limit signs with posts within the work zone/project limits shall be removed and replaced with work zone speed limit sign assemblies (R2-1f(XX) and R2-5b(XX) with "CONSTRUCTION AREA" and "\$250 FINE HRS 291C-104" Supplemental Signs).*
3. *Construction sign assemblies shall be installed on both the approaching and trailing ends of each work zone as shown on this plan.*
4. *Each construction warning sign and work zone speed limit assembly shall have a minimum of two (2) Type II OM. Installation of each Type II OM shall be considered incidental to Item No. 645.0100 - Traffic Control.*
5. *Upon the completion of all physical work or as directed by the Engineer, all construction signs and work zone speed limit assemblies shall be removed. All speed limit signs and posts that were existing at the start of the project within the work zone/project limits shall be restored back to their original locations and configurations.*
6. *Placement of construction signs shall not obstruct the path of pedestrians and bicyclists.*
7. *The removal and restoration of existing regulatory speed limit signs shall be considered incidental to Item No. 645.0100 - Traffic Control.*
8. *The installation, maintenance and removal of work zone speed limit sign assemblies shall be paid for under Item No. 645.0100 - Traffic Control.*
9. *The work zone speed limit signs shall be new and become the property of the Contractor.*

TABLE I
GUIDELINE FOR ADVANCE PLACEMENT OF SPEED REDUCTION
SIGN R2-5b(XX)-A, CONSTRUCTION AREA SPEED LIMIT

YY – EXISTING POSTED SPEED LIMIT (MPH)	XX – NEW CONSTRUCTION AREA SPEED LIMIT (MPH)	D-REDUCED SPEED LIMIT SIGN SPACING TO FIRST CONSTRUCTION AREA SPEED LIMIT SIGN (FEET)
≤ 25	EXIST. SPEED LIMIT TO REMAIN	
30	25	100
35	25	175
40	30	175

TYPICAL DETAIL FOR CONSTRUCTION SIGNS
ON TWO LANE OR MULTILANE UNDIVIDED LOW SPEED HIGHWAY



ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
	DRAWN BY <u>X</u>	<u>9.108</u>
	TRACED BY _____	_____
	DESIGNED BY <u>X</u>	_____
	QUANTITIES BY <u>kel</u>	_____
	CHECKED BY _____	_____

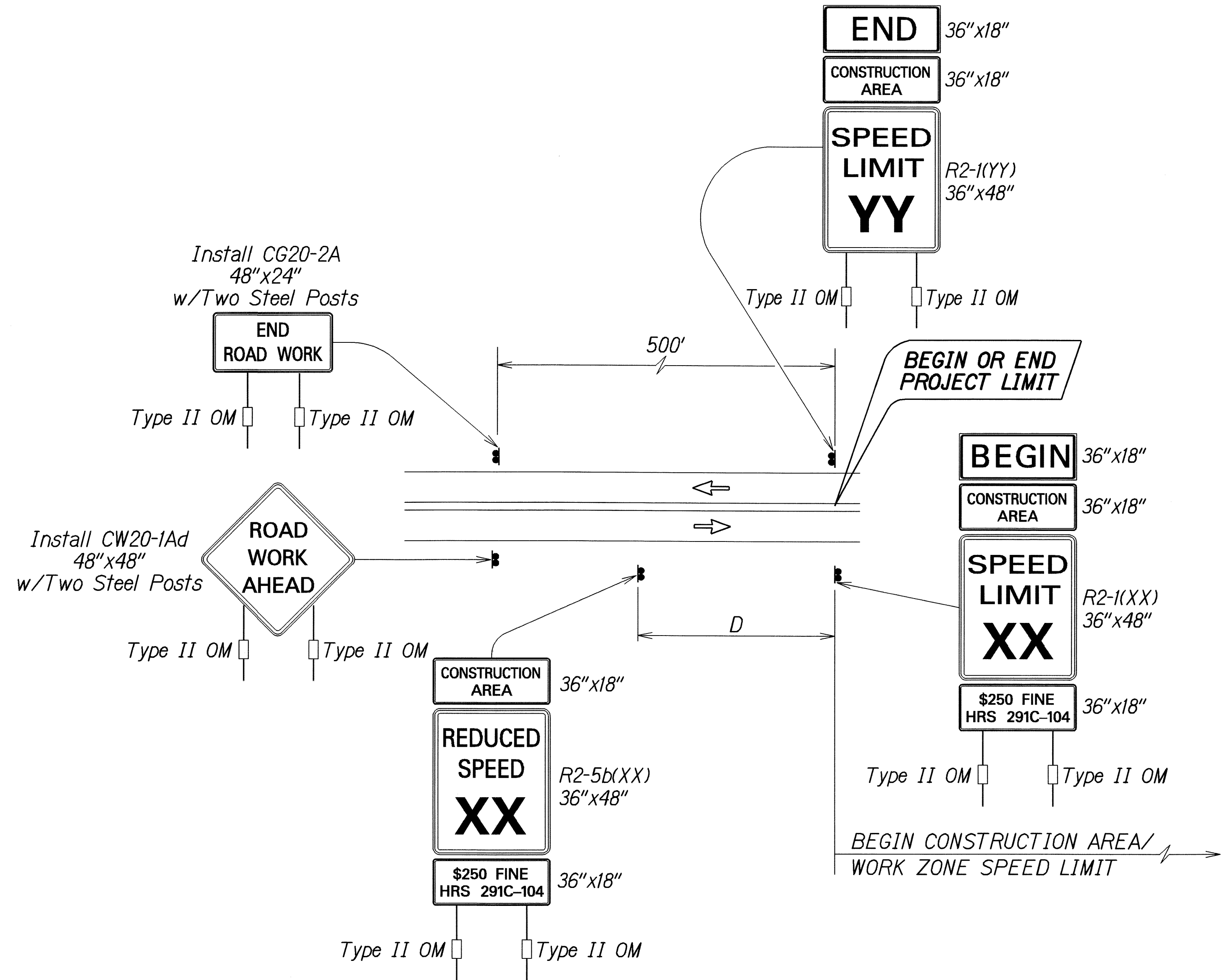
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOW SPEED UNDIVIDED HIGHWAY
WORK ZONE SIGNING PLAN, NOTES & DETAILS

KUHIO HIGHWAY RESURFACING
Kawaihau Road to Kapaa Bridge
Federal-Aid Project No. ARR-056-1(I52)

Scale: Not to Scale Date: March 2009

SHEET No. 75 OF 6 SHEETS

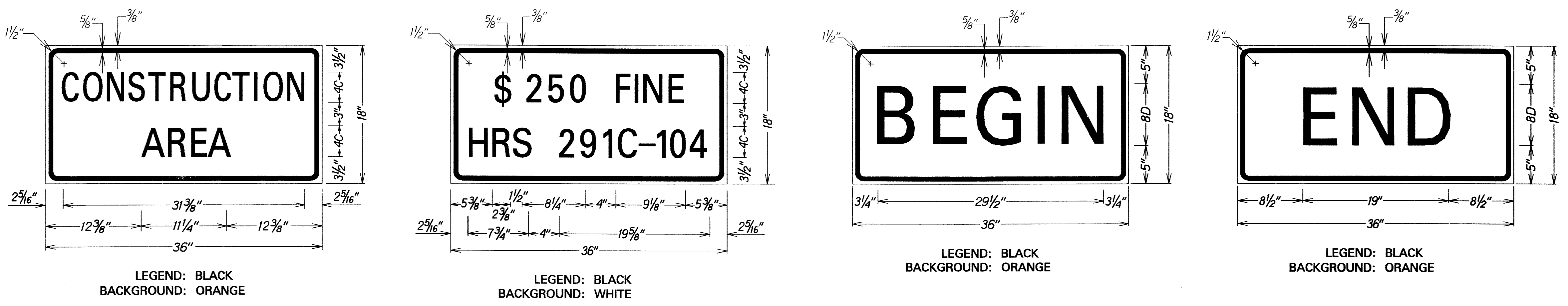


Work Zone Note:

1. This Work Zone Sign Plan is intended for use on long-term stationary work zones/construction phases (3 days or more). All work zones or construction phases less than 3 days duration will use Traffic Control Plans shown in Section 645 of the Special Provisions.
2. All existing regulatory speed limit signs with posts within the work zone/project limits shall be removed and replaced with work zone speed limit sign assemblies (R2-1(XX) and R2-5b(XX) with "CONSTRUCTION AREA" and "\$250 FINE HRS 291C-104" Supplemental Signs).
3. Construction sign assemblies shall be installed on both the approaching and trailing ends of each work zone as shown on this plan.
4. Each construction warning sign and work zone speed limit assembly shall have a minimum of two (2) Type II OM. Installation of each Type II OM shall be considered incidental to Item No. 645.0100 - Traffic Control.
5. Upon the completion of all physical work or as directed by the Engineer, all construction signs and work zone speed limit assemblies shall be removed. All speed limit signs and posts that were existing at the start of the project within the work zone/project limits shall be restored back to their original locations and configurations.
6. Placement of construction signs shall not obstruct the path of pedestrians and bicyclists.
7. The removal and restoration of existing regulatory speed limit signs shall be considered incidental to Item No. 645.0100 - Traffic Control.
8. The installation, maintenance and removal of work zone speed limit sign assemblies shall be paid for under Item No. 645.0100 - Traffic Control.
9. The work zone speed limit signs shall be new and become the property of the Contractor.

TABLE I GUIDELINE FOR ADVANCE PLACEMENT OF SPEED REDUCTION SIGN R2-5b(XX)-A, CONSTRUCTION AREA SPEED LIMIT		
YY - EXISTING POSTED SPEED LIMIT (MPH)	XX - NEW CONSTRUCTION AREA SPEED LIMIT (MPH)	D-REDUCED SPEED LIMIT SIGN SPACING TO FIRST CONSTRUCTION AREA SPEED LIMIT SIGN (FEET)
45	35	225
50	40	225
55	45	300

TYPICAL DETAIL FOR CONSTRUCTION SIGNS
ON TWO LANE OR MULTILANE UNDIVIDED HIGH SPEED HIGHWAY



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGH SPEED UNDIVIDED HIGHWAY

WORK ZONE SIGNING PLAN, NOTES & DETAILS

KUHIO HIGHWAY RESURFACING
Kawahau Road to Kapaa Bridge
Federal-Aid Project No. ARR-056-1(52)

Scale: Not to Scale Date: March 2009

SHEET No. T6 OF 6 SHEETS