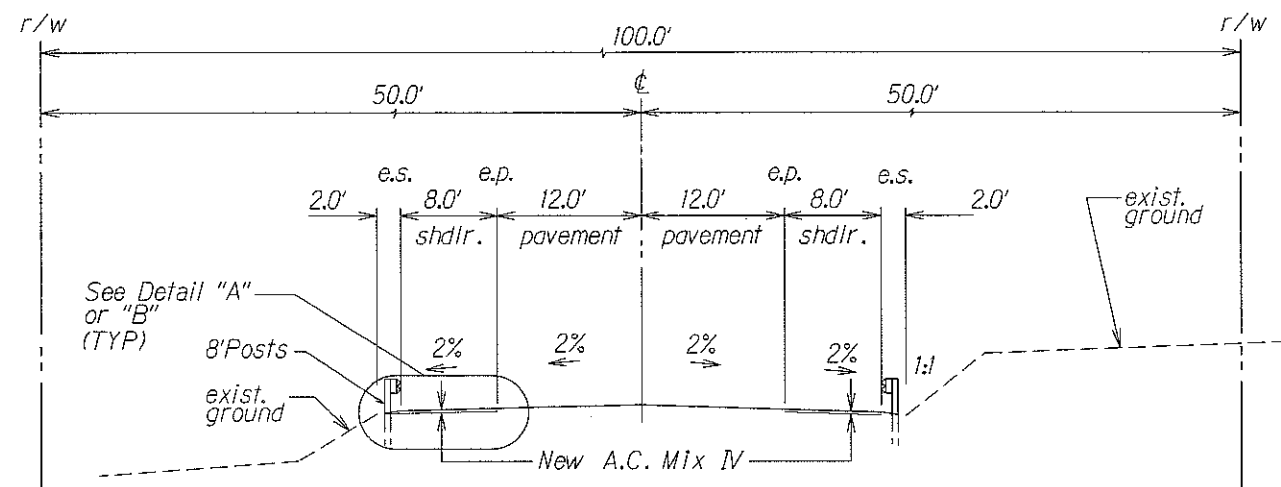
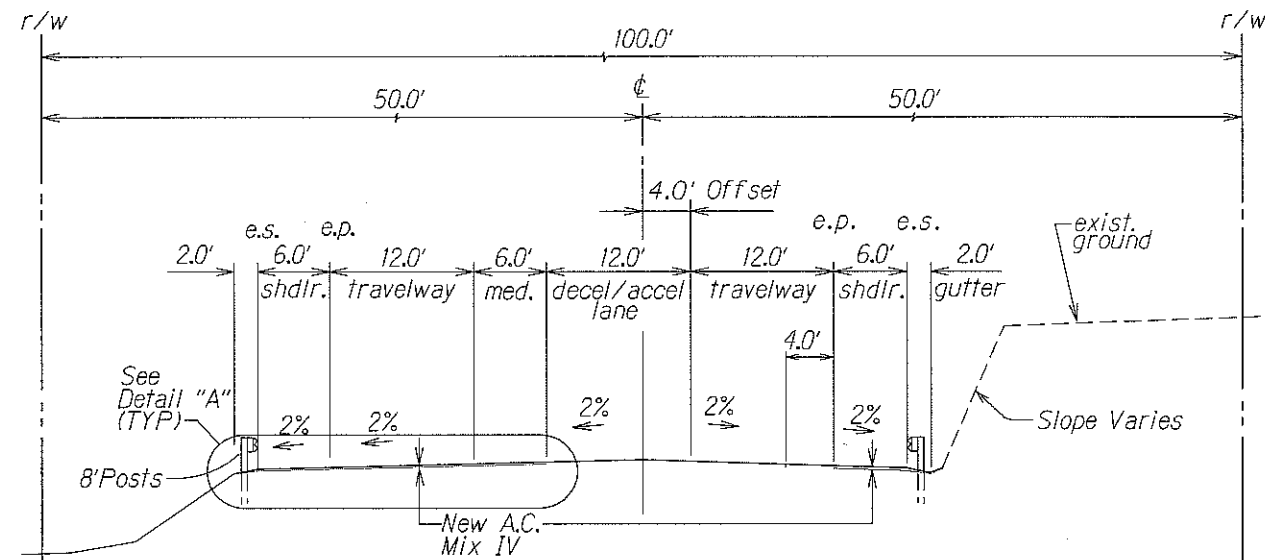


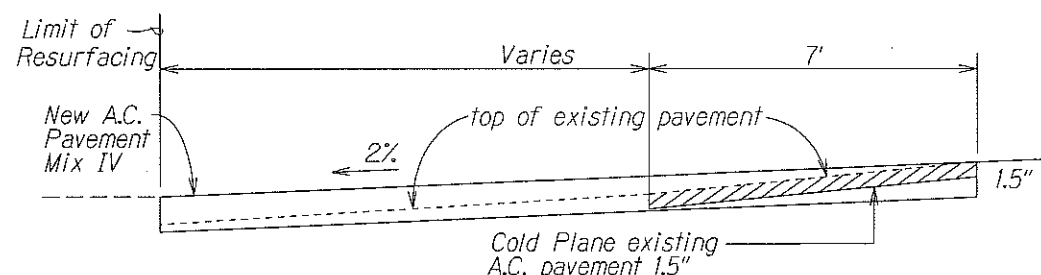
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-019-1(36)	2009	ADD.14	27



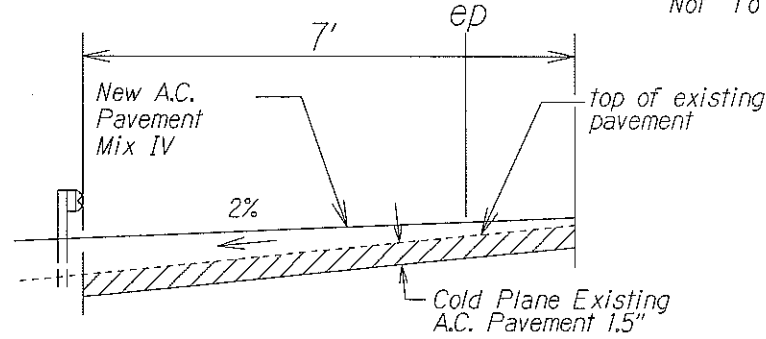
△ TYPICAL SECTION
STA. 00+00 to STA. 40+00 and STA. 61+55 to STA. 73+00
Not To Scale



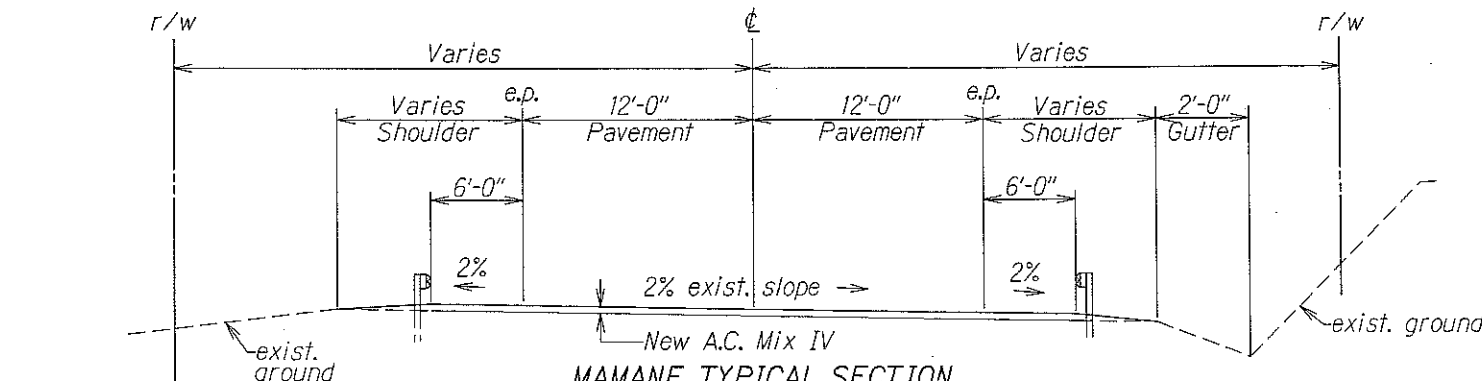
△ TYPICAL SECTION AT CHANNELIZATION AREA
STA. 40+00 to STA. 61+55
Not To Scale



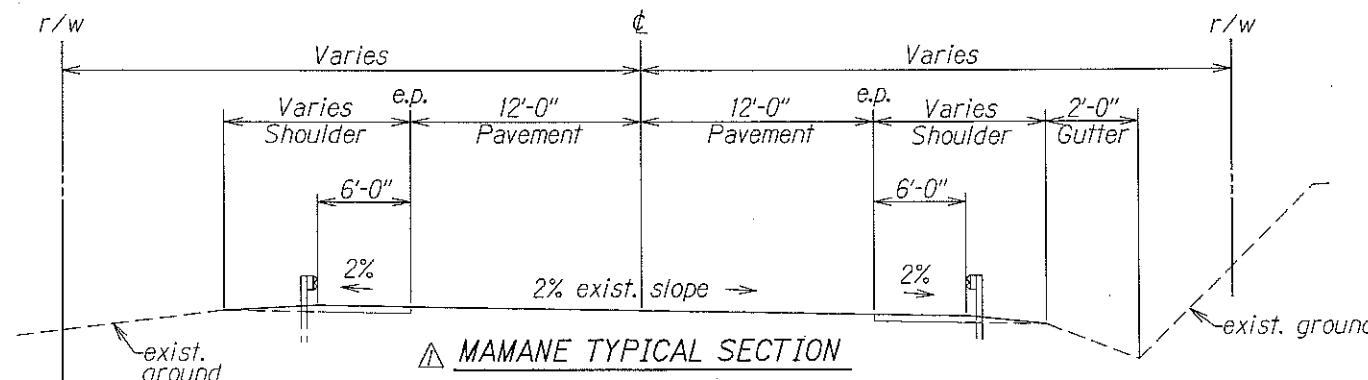
△△ COLD PLANED TRANSITION
TO EXISTING A.C. PAVEMENT DETAIL "A"
FOR SHOULDER MORE THAN 8.0'
Not To Scale



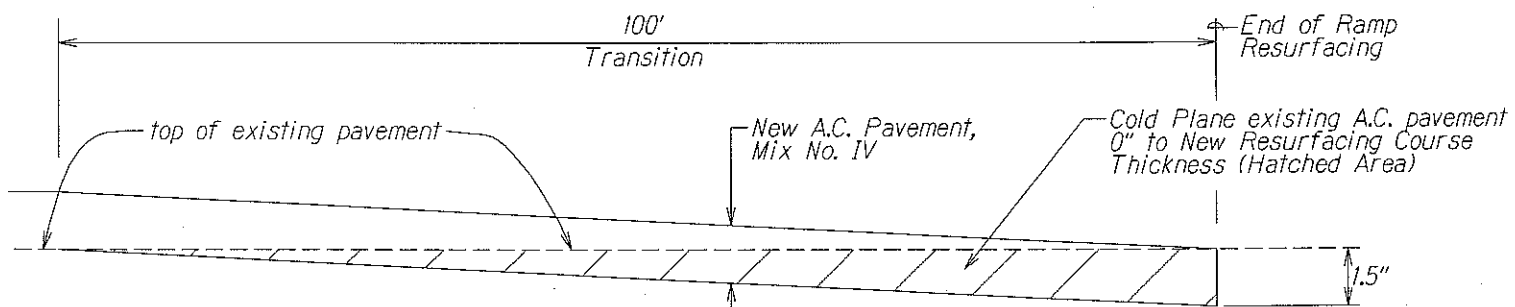
△ COLD PLANED TRANSITION
TO EXISTING A.C. PAVEMENT DETAIL "B"
FOR SHOULDER 8.0' OR LESS
Not To Scale



MAMANE TYPICAL SECTION
(STA. 47+00 to STA. 49+40±)
Not To Scale



△ MAMANE TYPICAL SECTION
(STA. 43+15.77 to STA. 47+00)
Not To Scale



COLD PLANED TRANSITION
TO EXISTING A.C. PAVEMENT
Not To Scale

7/15/09	Deleted Mamane Typical Section (Sta. 0+00 to Sta. 43+15.77) and Added Detail B & Revised Typical Sections.
6/18/09	Revised Typical Section, and Detail A
6/17/09	Added Mamane Typical Section
DATE	REVISION

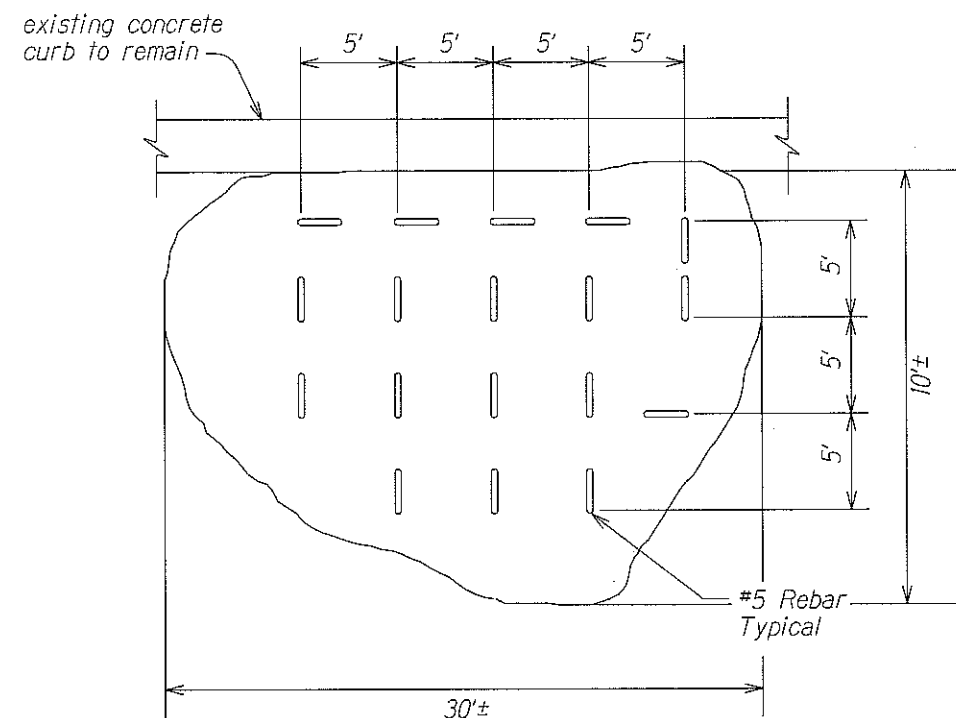
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTION

HAWAII BELT ROAD GUARDRAIL
AND SHOULDER IMPROVEMENTS
Paauhau Road to Pakalana Street
Federal-Aid Project No. NH-019-1(36)
Scale: Not to Scale Date: Feb, 2009



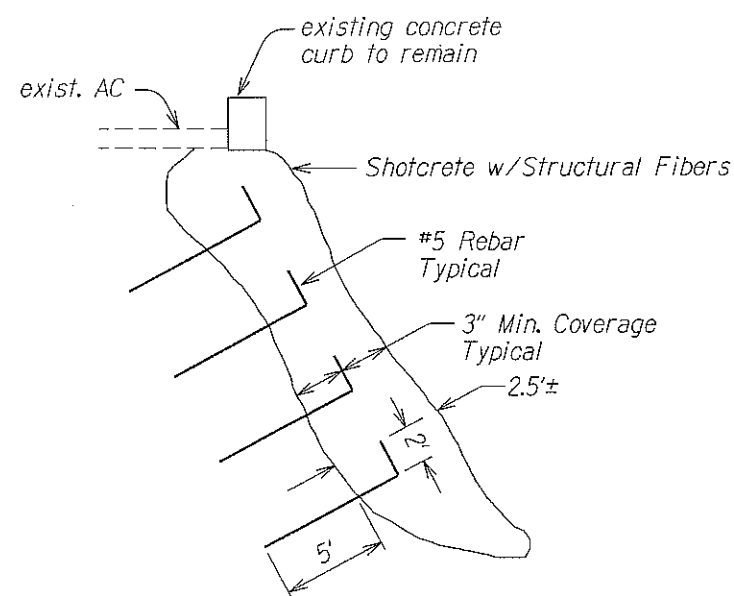
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-019-1(36)	2009	ADD.15	27



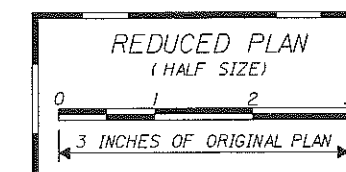
**SHOTCRETE SLOPE DETAIL
PLAN VIEW**

Notes:

1. Shotcrete shall be mixed uniformly with structural fibers.
2. Anchors shall be #5 rebars jackhammered to depth of 5 ft. with surrounded min. coverage of 3 inches.



SECTION A-A



7/21/09	2 Revised Detail
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION ROADWAY DETAILS HAWAII BELT ROAD GUARDRAIL AND SHOULDER IMPROVEMENTS Paauhau Road to Pakalana Street Federal-Aid Project No. NH-019-1(36) Scale: Not to Scale Date: Feb, 2009	
SHEET No. 1 OF 1 SHEETS	

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
IN CHARGE	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-019-1(36)	2009	ADD. 17	27

2 Route 19 @ Sta. 51+71 to @ Sta. 52+46.5 Rt.
Remove 75 Lin. Ft. Mtl. Guardrail and Posts.
Remove I-Type "F" End Treatment.
Remove I-Type "C" End Treatment.

2 Route 19 @ Sta. 50+46 to @ Sta. 55+38 Rt.
Install 437.5 Lin. Ft. Std. Mtl. Guardrail and Posts. Install 62.5 Lin. Ft. Double (Nested) W-Beam Guardrail at Two Culvert Locations (Eliminate One Post Each). Install I- Modified Type "A-1" Leading End Treatment. Install I-Type "G" Modified Trailing End Treatment, R=50'.

2 Route 19 @ Sta. 41+00 to @ Sta. 60+45 Lt.
Cold Plane 1.5 Inches, from Centerline/Median 7 Ft. Towards Shoulder with 2% Slope. See Details, Sht. 14.

2 Route 240 @ Sta. 46+11 to @ Sta. 48+42.5 Rt.
Install 187.5 Lin. Ft. Std. Mtl. Guardrail and Posts with 6 - 8-Ft. Posts Along Top Of Bank. Install I-Type "G" Modified Leading End Treatment, R=20'. Install I-"FLEAT 350" Trailing End Treatment or Approved Equal.

2 Route 240 @ Sta. 46+14 to @ Sta. 47+93.5 Rt.
Remove 187.5 Lin. Ft. Mtl. Guardrail and Posts. Remove I-Type "G" End Treatment. Remove I-Type "F" End Treatment.

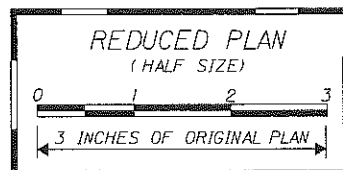
Sta. 44+21 Mamane St. to 54+82.5 Hawaii Belt Road Lt.
Remove 925 Lin. Ft. Mtl. Guardrail and Posts.
Remove I-Type "G" End Treatment.
Remove I-"SRT 350" End Treatment.

Sta. 43+36 Route 240 to 54+82.5 Route 19 Lt.
Install 987.5 Lin. Ft. Std. Mtl. Guardrail and Posts with 94 - 8-Ft. Posts Along Top Of Bank. Install I-Type "G" Modified Leading End Treatment, R=30'. Install I-Type "G" Modified Trailing End Treatment, R=15'.

2 Route 240 @ Sta. 43+15.77 to Hawaii Belt Road Lt. & Rt.
Cold Plane a Shoulder 1.5 Inches to Face of Guardrail. Pave Shoulders with 2% Slope. See Details, Sht. 14.

2 Route 240 @ Sta. 47+00 to @ Sta. 48+00 Lt. & Rt.
Cold Plane Transition 1.5 Inches to 0 Inch. See Details, Sht. 14.

2/1 Route 240 @ Sta. 47+00 to @ Sta. 50+40±
Pave Transition to meet new A.C. elevation at Hawaii Belt Road.

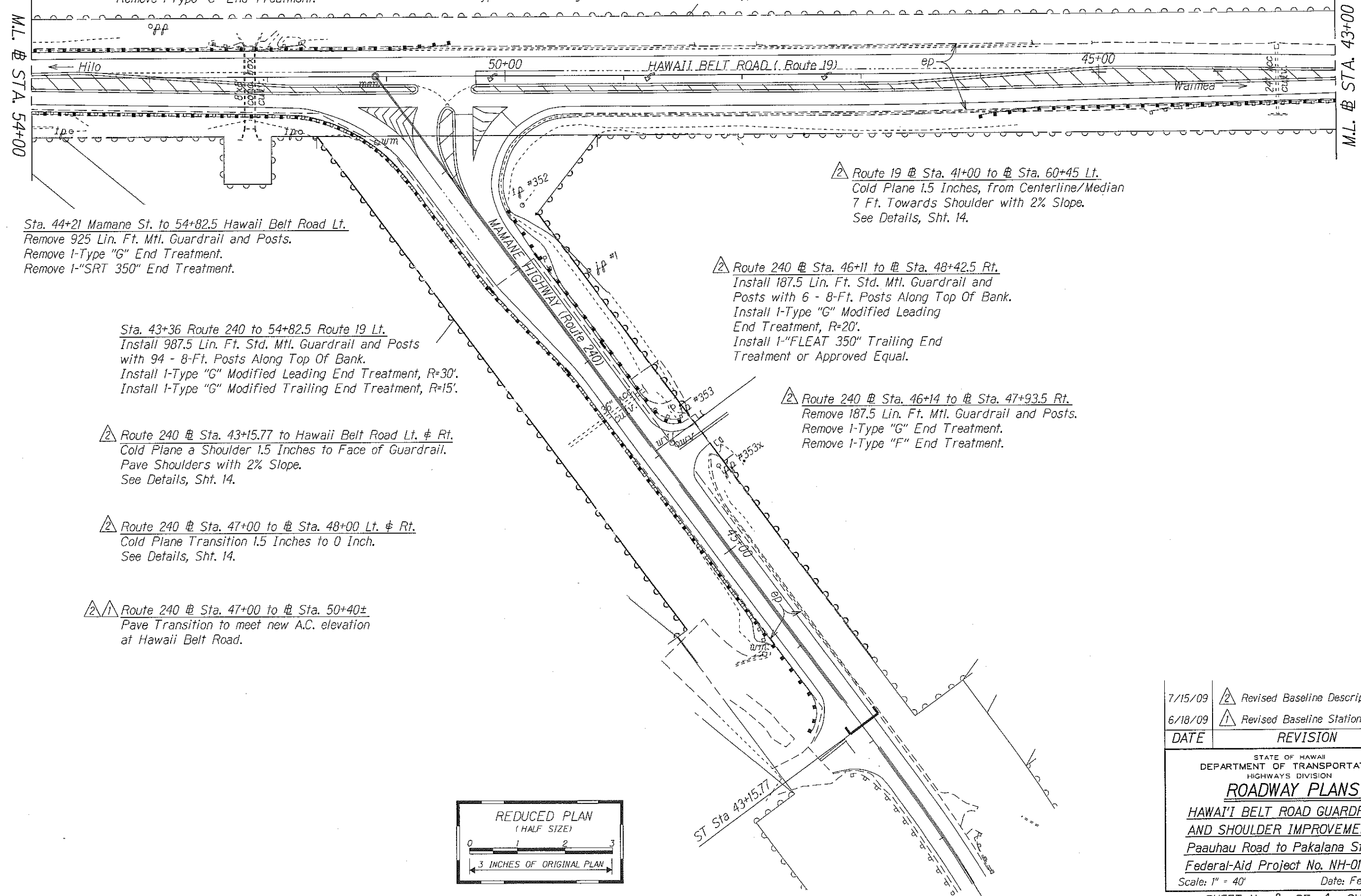


7/15/09	2 Revised Baseline Description
6/18/09	1 Revised Baseline Station
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ROADWAY PLANS
HAWAII BELT ROAD GUARDRAIL AND SHOULDER IMPROVEMENTS
Paauhau Road to Pakalana Street
Federal-Aid Project No. NH-019-1(36)
Scale: 1" = 40' Date: Feb, 2009

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

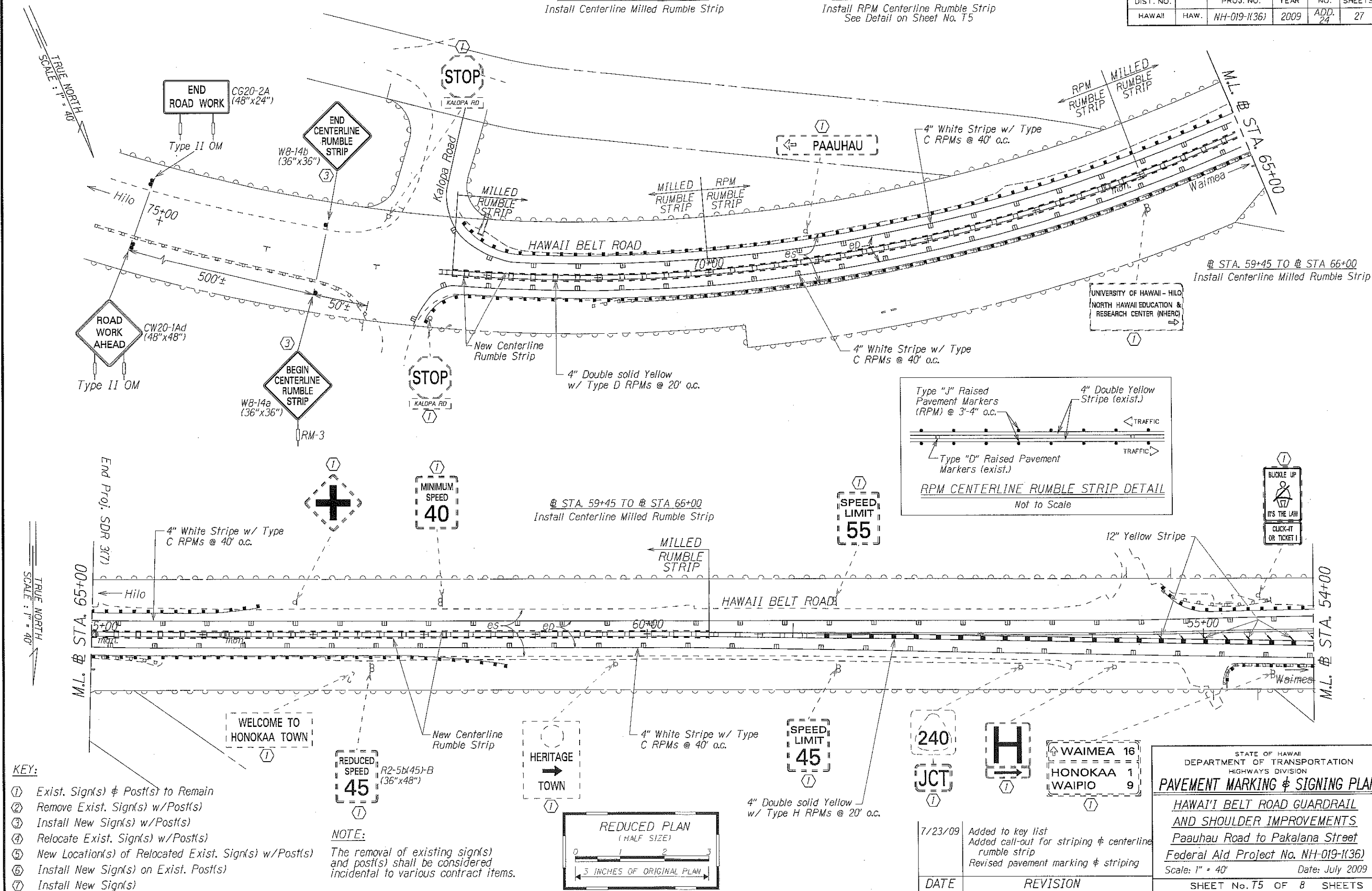
TRUE NORTH
SCALE: 1" = 40'



STA. 70+00 TO STA. 72+25
Install Centerline Milled Rumble Strip

STA. 66+00 TO STA. 70+00
Install RPM Centerline Rumble Strip
See Detail on Sheet No. T5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-019-1(36)	2009	ADD. 24	27



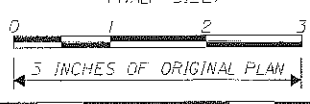
KEY:

- Exist. Sign(s) & Post(s) to Remain
- Remove Exist. Sign(s) w/Post(s)
- Install New Sign(s) w/Post(s)
- Relocate Exist. Sign(s) w/Post(s)
- New Location(s) of Relocated Exist. Sign(s) w/Post(s)
- Install New Sign(s) on Exist. Post(s)
- Install New Sign(s)

NOTE:

The removal of existing sign(s) and post(s) shall be considered incidental to various contract items.

REDUCED PLAN
(HALF SIZE)



7/23/09

Added to key list
Added call-out for striping & centerline rumble strip
Revised pavement marking & striping

DATE

REVISION

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

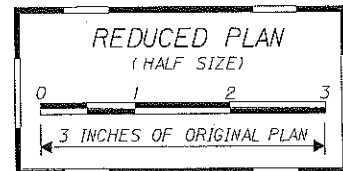
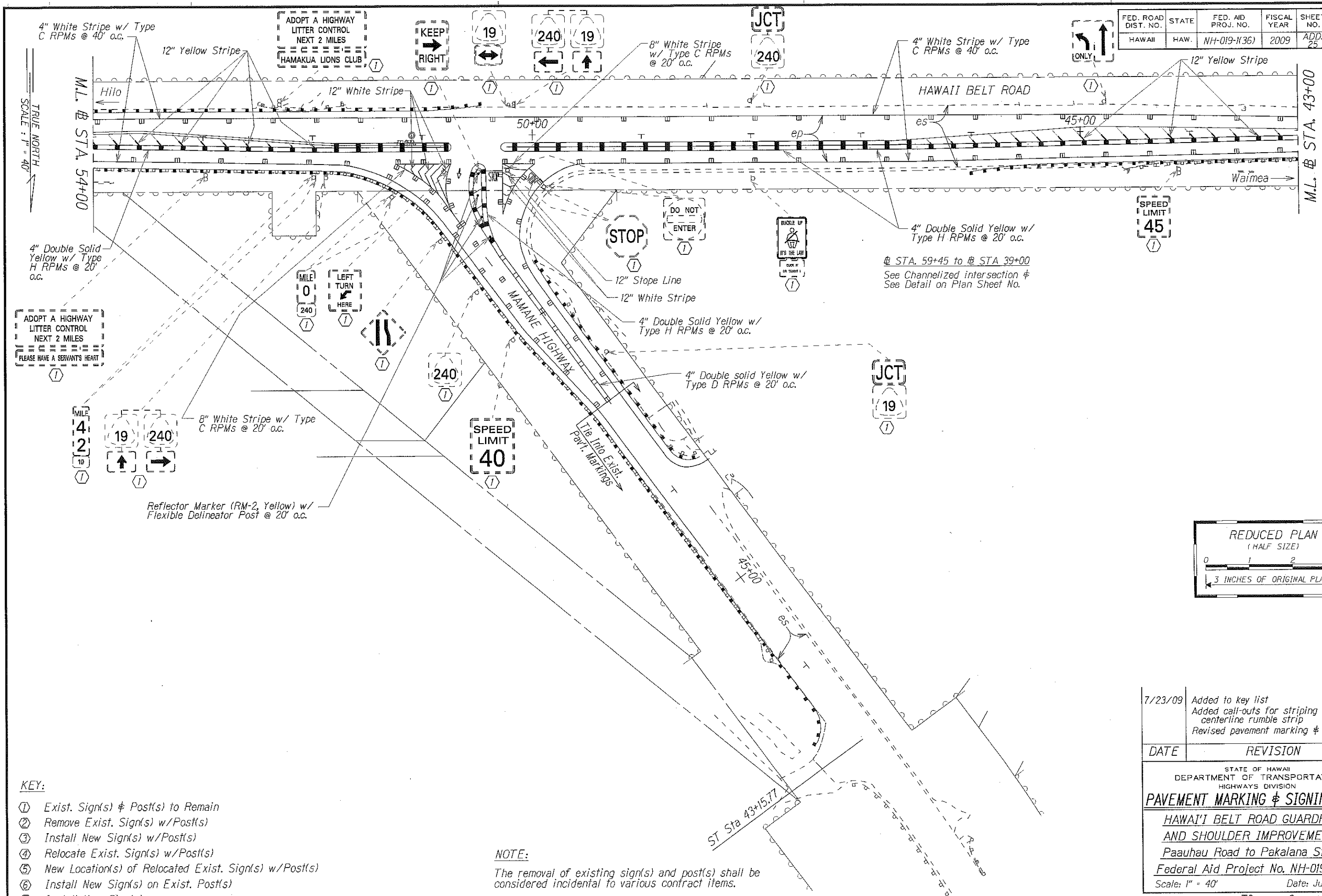
HAWAII BELT ROAD GUARDRAIL AND SHOULDER IMPROVEMENTS
Paauhau Road to Pakalana Street
Federal Aid Project No. NH-019-1(36)

Scale: 1" = 40' Date: July 2009

SHEET No. 75 OF 8 SHEETS

ADD. 24

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-019-1(36)	2009	ADD. 25	27



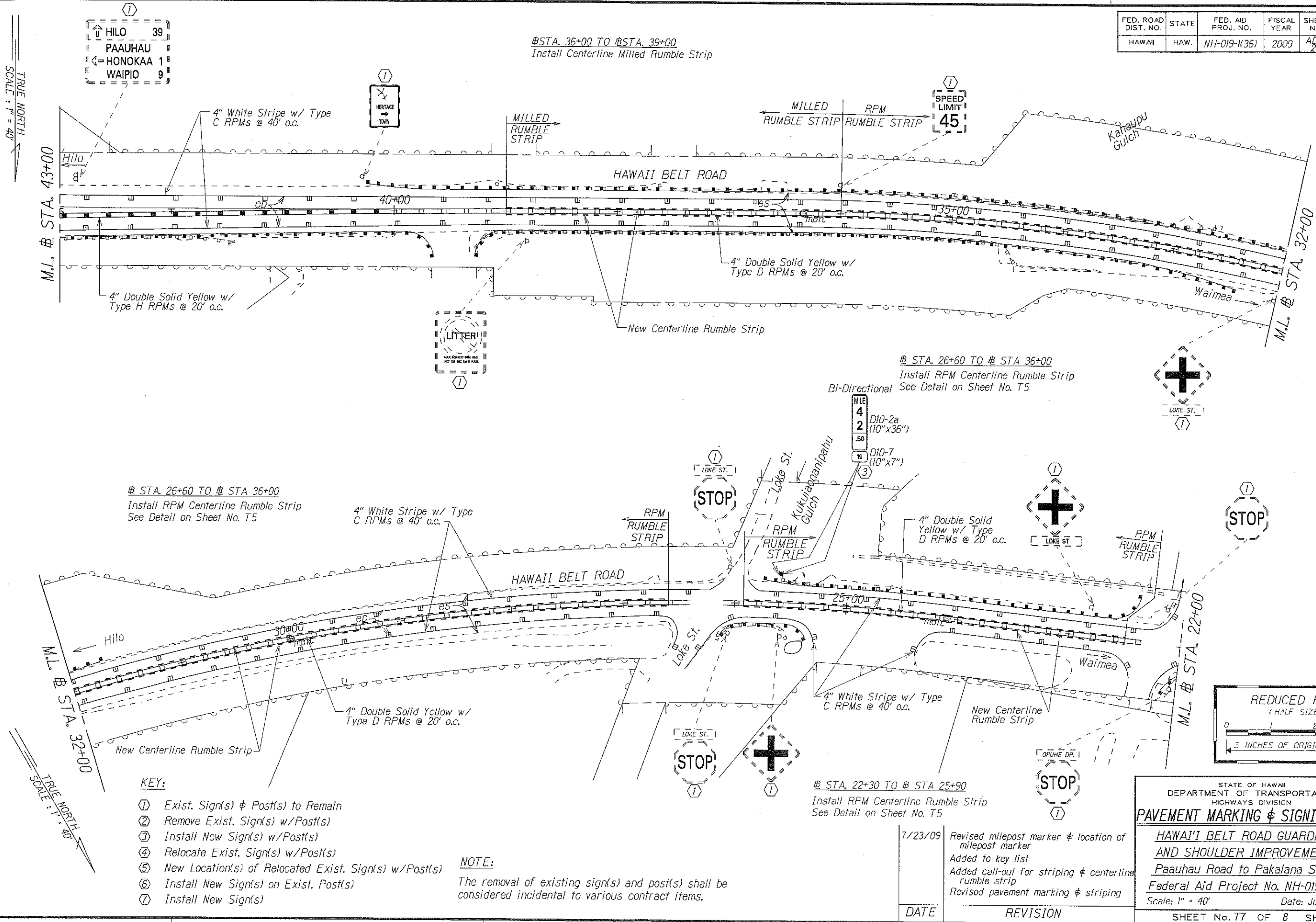
- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Install New Sign(s) w/Post(s)
 - ④ Relocate Exist. Sign(s) w/Post(s)
 - ⑤ New Location(s) of Relocated Exist. Sign(s) w/Post(s)
 - ⑥ Install New Sign(s) on Exist. Post(s)
 - ⑦ Install New Sign(s)

NOTE:
The removal of existing sign(s) and post(s) shall be considered incidental to various contract items.

7/23/09	Added to key list Added call-outs for striping & centerline rumble strip Revised pavement marking & striping
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION PAVEMENT MARKING & SIGNING PLAN <u>HAWAII BELT ROAD GUARDRAIL AND SHOULDER IMPROVEMENTS</u> <u>Paauihau Road to Pakalana Street</u> <u>Federal Aid Project No. NH-019-1(36)</u> Scale: 1" = 40' Date: July 2009	
SHEET No. T6 OF 8 SHEETS	

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
102.may	DESIGNED BY	
4811p02add	QUANTITIES BY	
	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-019-1(36)	2009	ADD. 26	27



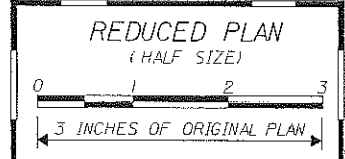
STA. 26+60 TO # STA 36+00
Install RPM Centerline Rumble Strip
See Detail on Sheet No. T5

STA. 26+60 TO # STA 36+00
Install RPM Centerline Rumble Strip
See Detail on Sheet No. T5

STA. 22+30 TO # STA 25+90
Install RPM Centerline Rumble Strip
See Detail on Sheet No. T5

- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Install New Sign(s) w/Post(s)
 - ④ Relocate Exist. Sign(s) w/Post(s)
 - ⑤ New Location(s) of Relocated Exist. Sign(s) w/Post(s)
 - ⑥ Install New Sign(s) on Exist. Post(s)
 - ⑦ Install New Sign(s)

NOTE:
The removal of existing sign(s) and post(s) shall be considered incidental to various contract items.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

HAWAII BELT ROAD GUARDRAIL AND SHOULDER IMPROVEMENTS
Paaupau Road to Pakalana Street
Federal Aid Project No. NH-019-1(36)
Scale: 1" = 40' Date: July 2009

SHEET No. T7 OF 8 SHEETS

DATE	REVISION
7/23/09	Revised milepost marker & location of milepost marker Added to key list Added call-out for striping & centerline rumble strip Revised pavement marking & striping

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	

