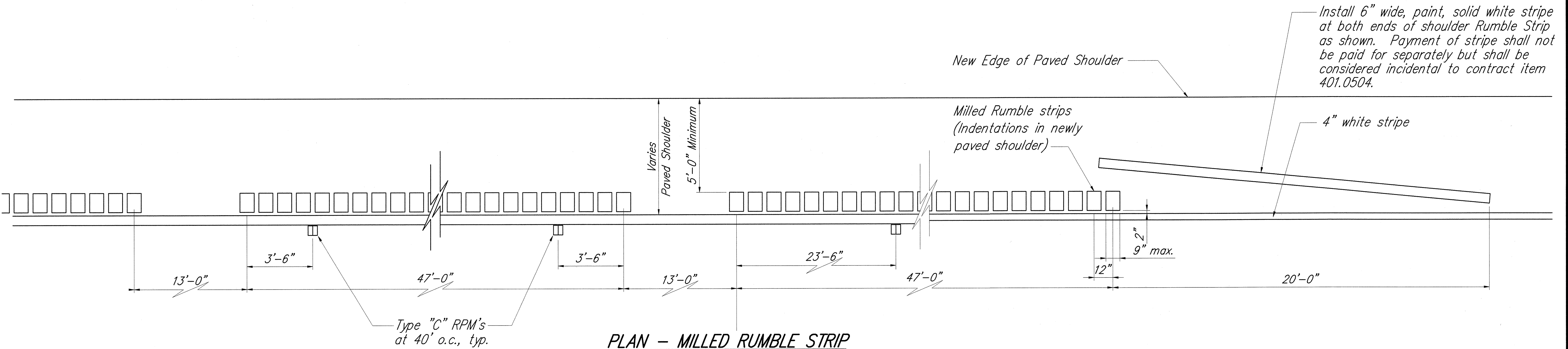
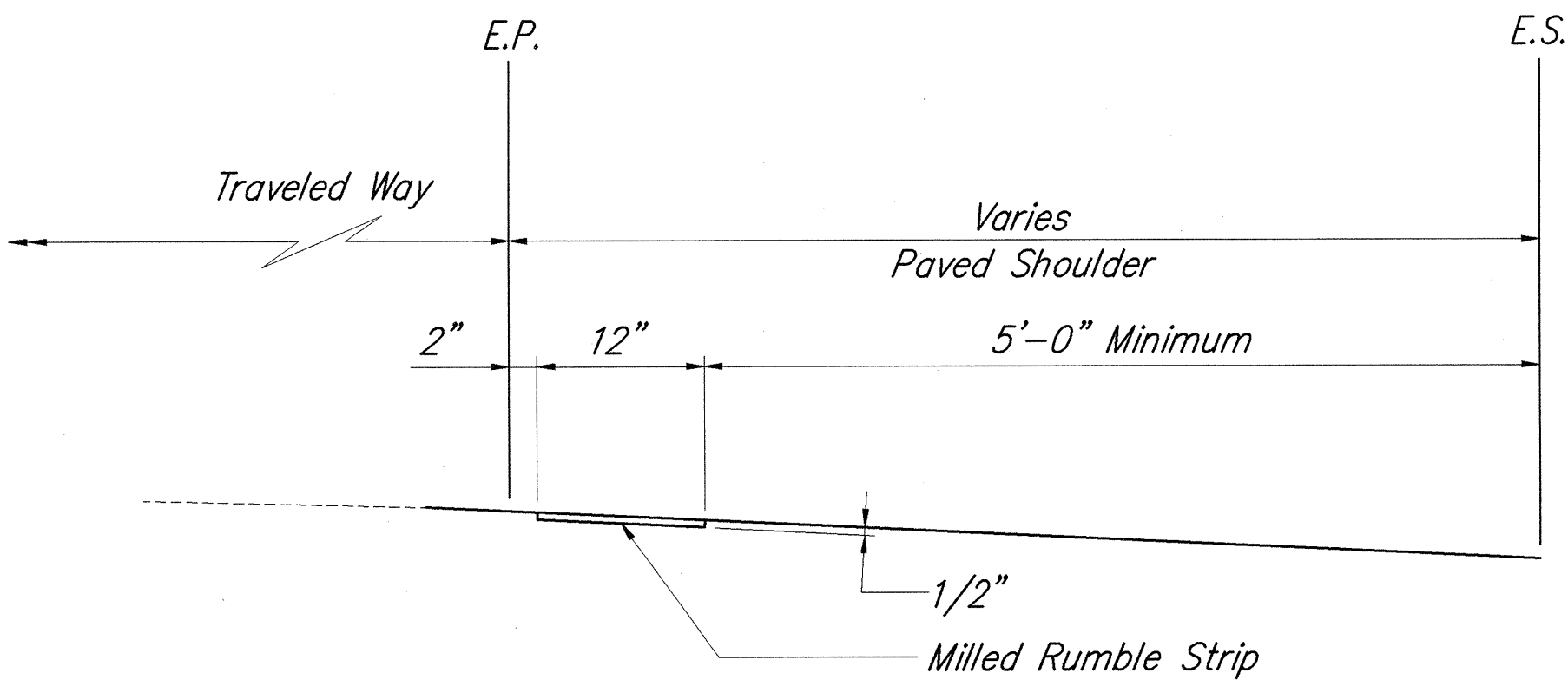


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-019-1(33)	2003	47	74

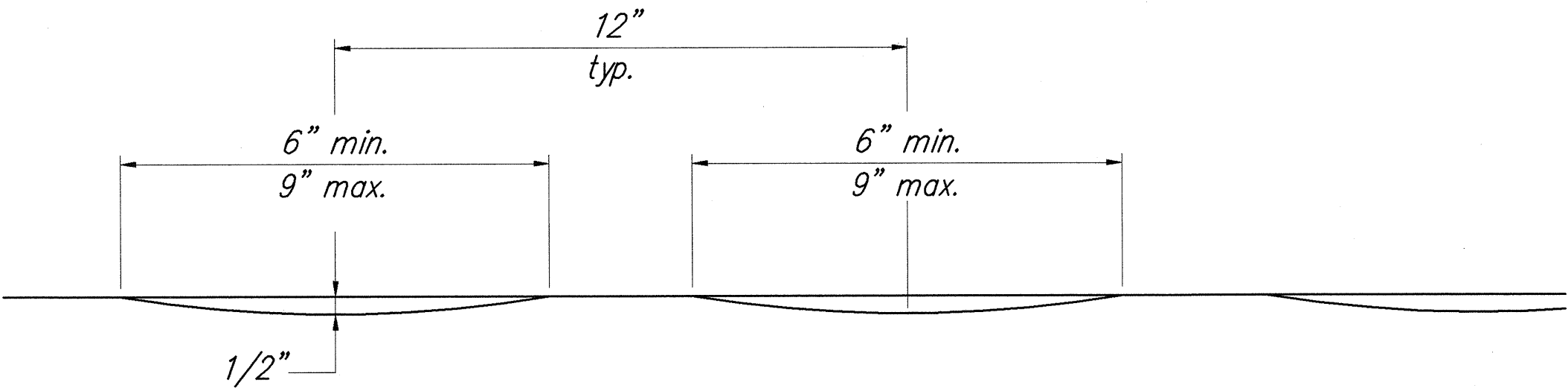


PLAN – MILLED RUMBLE STRIP
 Scale: 3/8" = 1'-0"



LONGITUDINAL SECTION – MILLED RUMBLE STRIP
 Scale: 1"=1'-0"

NOTE:
 Shoulder rumble strips should not be used unless 1.5 meters (5 feet) of clear shoulder width for bicycle use is available between the rumble strips and the outer edge of the paved shoulder.

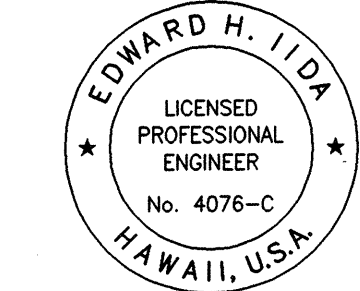


CROSS SECTION – MILLED RUMBLE STRIP
 Scale: 3"=1'-0"

NOTES :

1. The method of constructing the Milled Rumble Strip shall be submitted to the Engineer for acceptance prior to the actual work.
2. The construction of the the Milled Rumble Strip shall be paid for under Item No. 401.0504. The milling apparatus and 20 lf, 6" white stripe shall be considered incidental to Item No. 401.0504 and will not be paid for separately.
3. Rumble strips shall be installed along all shoulders, except at right turn deceleration and acceleration lanes, as noted on the plans.
4. Do not place Type "C" markers within 2 ft. of the 13 ft. Rumble Strip opening.
5. Rumble Strip will be paid for by linear foot. Included 13-foot gaps will be considered Rumble Strip and measured for payment. Any other gaps in the Rumble Strip (such as driveways, side roads, channelized intersections, etc.) will not be measured for payment.
6. Rumble Strips are to be installed after the edge of pavement stripe and before the installation of the Type "C" markers.

SURVEY PLOTTED BY	DATE
DRAWN BY	3/02
DESIGNED BY	3/02
CHECKED BY	3/02
NO.	



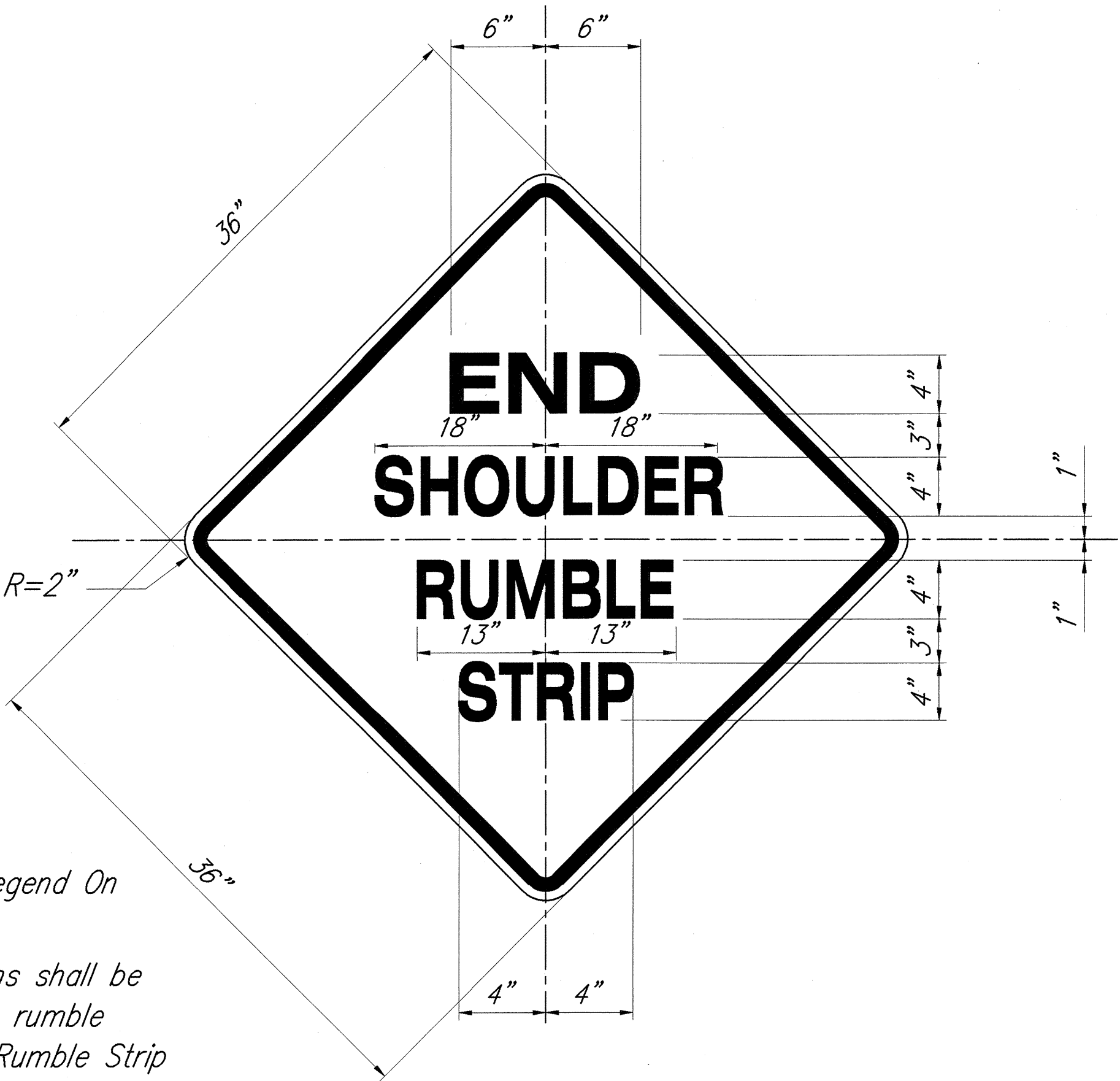
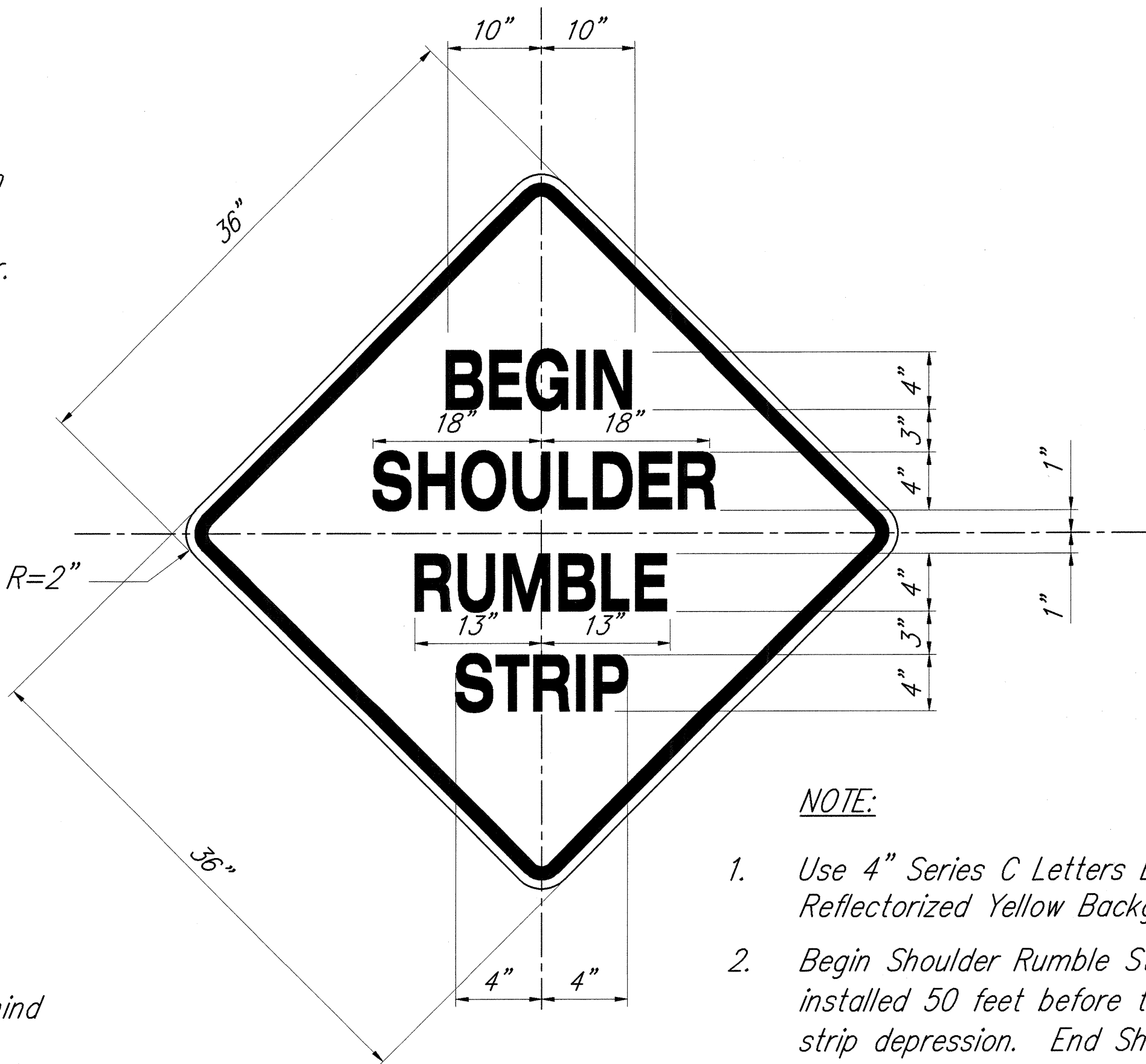
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Edward H. Iida
 MITSUNAGA & ASSOCIATES

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
**SHOULDER RUMBLE STRIP
 DETAILS AND NOTES**
*Queen Kaahumanu Highway Resurfacing
 Kekaha Kai State Park to Hapuna
 Federal-Aid Project No. NH-019-1(33)*
 Scale: As Noted Date: March 2003

SHEET No. **C-45** OF **68** SHEETS

SIGN NOTES

- All signs shall conform to Section 621 of the 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"
- Borders, messages, arrows, symbols and shield shall conform to details as shown on the plans and as specified in the MUTCD.
- Sign messages shall be as indicated on the plan, or as directed by the Engineer.
- All panels shall be reflectorized in accordance with Section 712.20 of the Standard Specifications. Minimum width of panels shall be 2 ft. 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.
- Backing for all new Regulatory and Warning Signs shall not be spliced.
- Final locations of all signs shall be accepted by the Engineer prior to any installation work.
- 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.
- 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.
- Removal of Existing Delineators and Posts shall be considered incidental to the various signing items.
- All signs shall be installed on square tube posts, unless otherwise noted.
- Sign posts shall be painted with yellow reflective paint, except where located behind guardrails. Such paint work shall be considered incidental to sign items.
- Contractor shall mark the back of all signs using labels and equipment provided by the State. Payment to be incidental to various contract items.



NOTE:

- Use 4" Series C Letters Black Legend On Reflectorized Yellow Background
- Begin Shoulder Rumble Strip signs shall be installed 50 feet before the first rumble strip depression. End Shoulder Rumble Strip signs shall be installed 50 feet beyond the last rumble strip depression.

BEGIN SHOULDER RUMBLE STRIP SIGN

END SHOULDER RUMBLE STRIP SIGN

SIGN REPLACEMENT, REMOVAL, AND INSTALLATION SCHEDULE

STATION	LEFT	RIGHT	TYPE	SIGN TO REMAIN	REMOVE	INSTALL (10 SQ. FT. OR LESS)	
						W/POST	WO/POST
258+00	●		END SHOULDER RUMBLE STRIP		1	1	
258+00		●	BEGIN SHOULDER RUMBLE STRIP		1	1	
469+00		●	END SHOULDER RUMBLE STRIP		1	1	
484+25		●	BEGIN SHOULDER RUMBLE STRIP		1	1	
527+20	●		BEGIN SHOULDER RUMBLE STRIP			1	
527+20		●	END SHOULDER RUMBLE STRIP			1	
560+50	●		BEGIN SHOULDER RUMBLE STRIP		1		
568+00		●	BEGIN SHOULDER RUMBLE STRIP		1	1	
573+80	●		END SHOULDER RUMBLE STRIP		1	1	
1040+25		●	END SHOULDER RUMBLE STRIP		1	1	
1066+25		●	BEGIN SHOULDER RUMBLE STRIP		1	1	
1127+00	●		BEGIN SHOULDER RUMBLE STRIP		1	1	

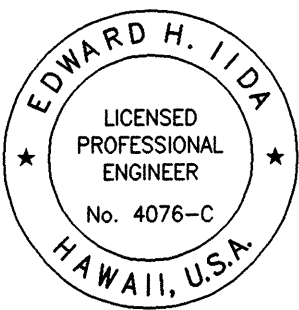
SIGN REPLACEMENT, REMOVAL, AND INSTALLATION SCHEDULE

STATION	LEFT	RIGHT	TYPE	SIGN TO REMAIN	REMOVE	INSTALL (10 SQ. FT. OR LESS)	
						W/POST	WO/POST
1151+40	●		END SHOULDER RUMBLE STRIP			1	
1191+60		●	END SHOULDER RUMBLE STRIP			1	
1215+00		●	BEGIN SHOULDER RUMBLE STRIP			1	
1259+20	●		BEGIN SHOULDER RUMBLE STRIP			1	
1283+80	●		END SHOULDER RUMBLE STRIP			1	
1326+45	●		BEGIN SHOULDER RUMBLE STRIP			1	
1332+10	●		END SHOULDER RUMBLE STRIP			1	
1426+50	●		BEGIN SHOULDER RUMBLE STRIP			1	
1450+10	●		END SHOULDER RUMBLE STRIP			1	
1493+20	●		BEGIN SHOULDER RUMBLE STRIP			1	
1504+80		●	END SHOULDER RUMBLE STRIP			1	
TOTAL				--	8	20	

NOTE:

Contract item number 621.5100

SURVEY PLOTTED BY	DATE
DRAWN BY	3/02
TRACED BY	3/02
CHECKED BY	3/02
QUANTITIES BY	3/02
CHECKED BY	3/02



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
MITSUNAGA & ASSOCIATES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**SHOULDER RUMBLE STRIP
SIGN DETAILS AND NOTES**

Queen Kaahumanu Highway Resurfacing
Kekaha Kai State Park to Hapuna
Federal-Aid Project No. NH-019-1(33)

Scale: As Noted Date: March 2003

SHEET No. C-46 OF 68 SHEETS