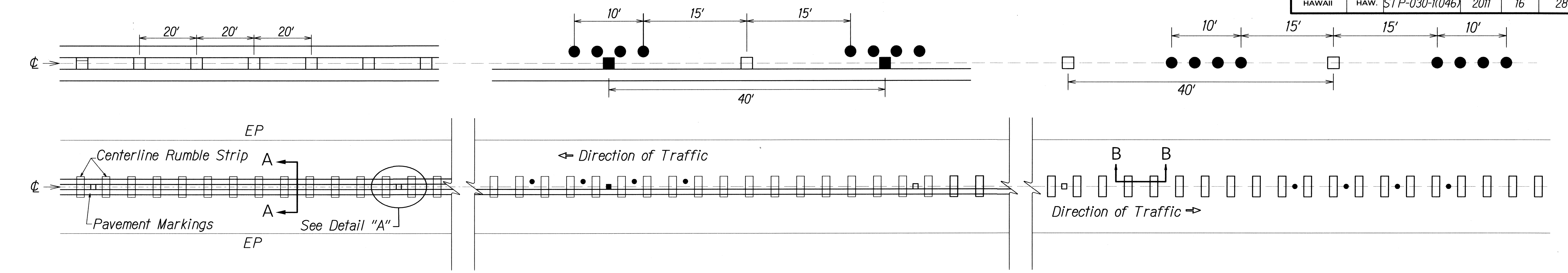
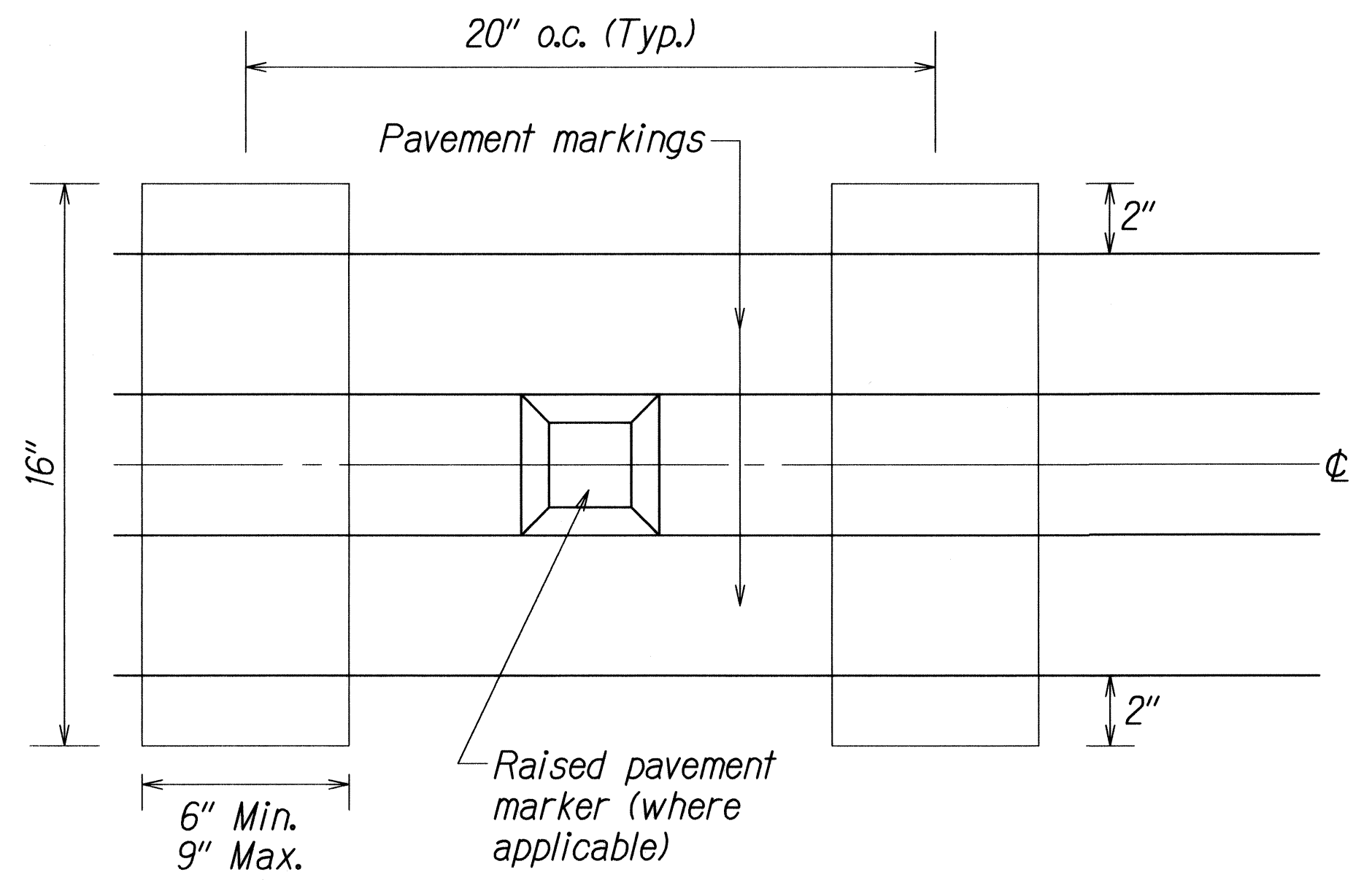


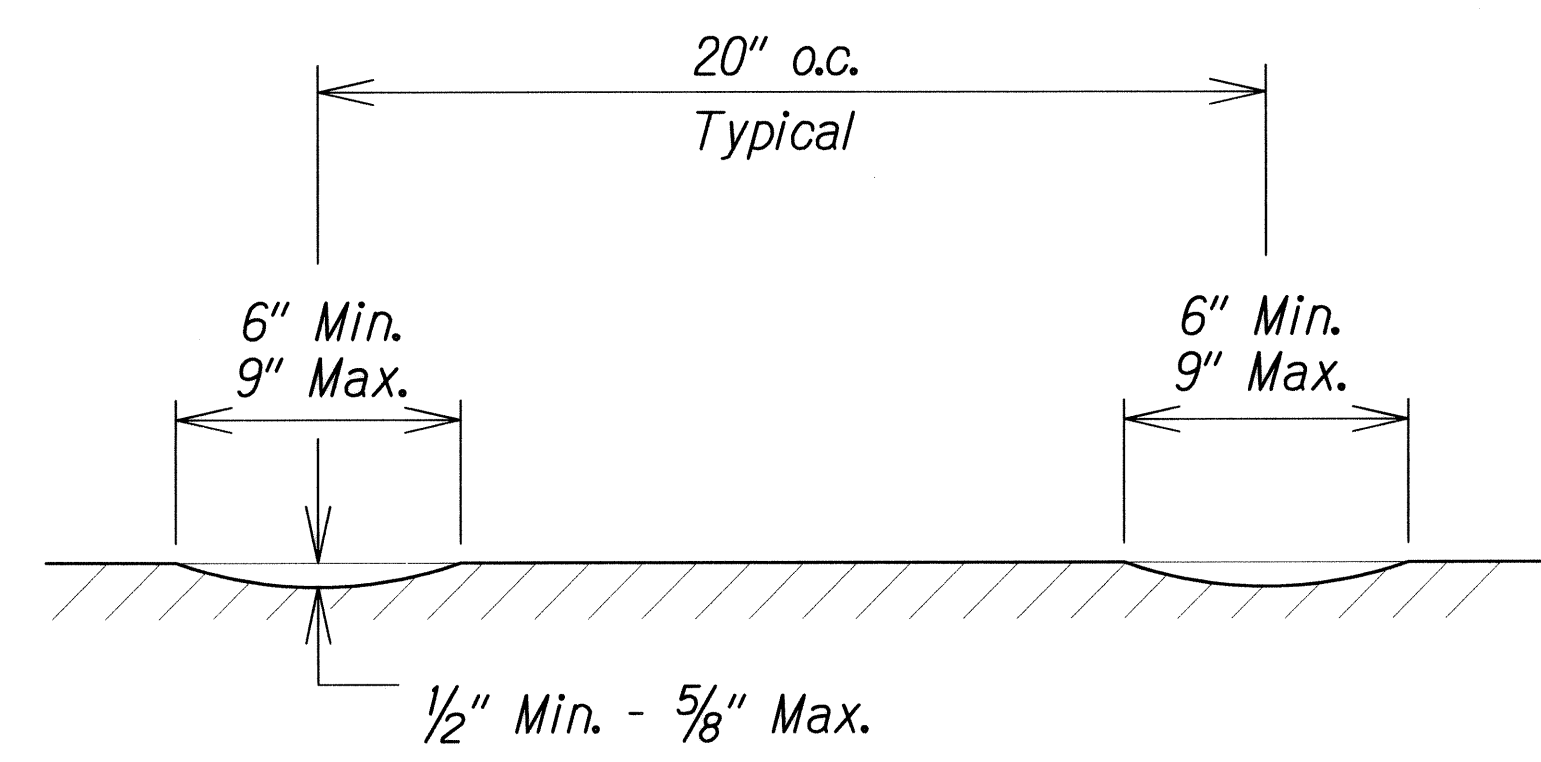
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-030-1(046)	2011	16	28



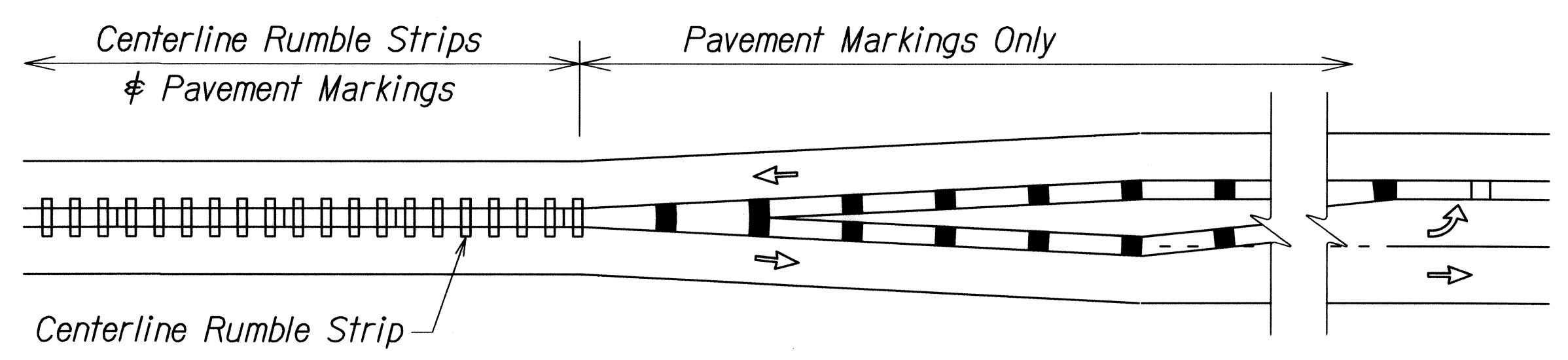
PLAN - CENTERLINE MILLED RUMBLE STRIP  
Not to Scale



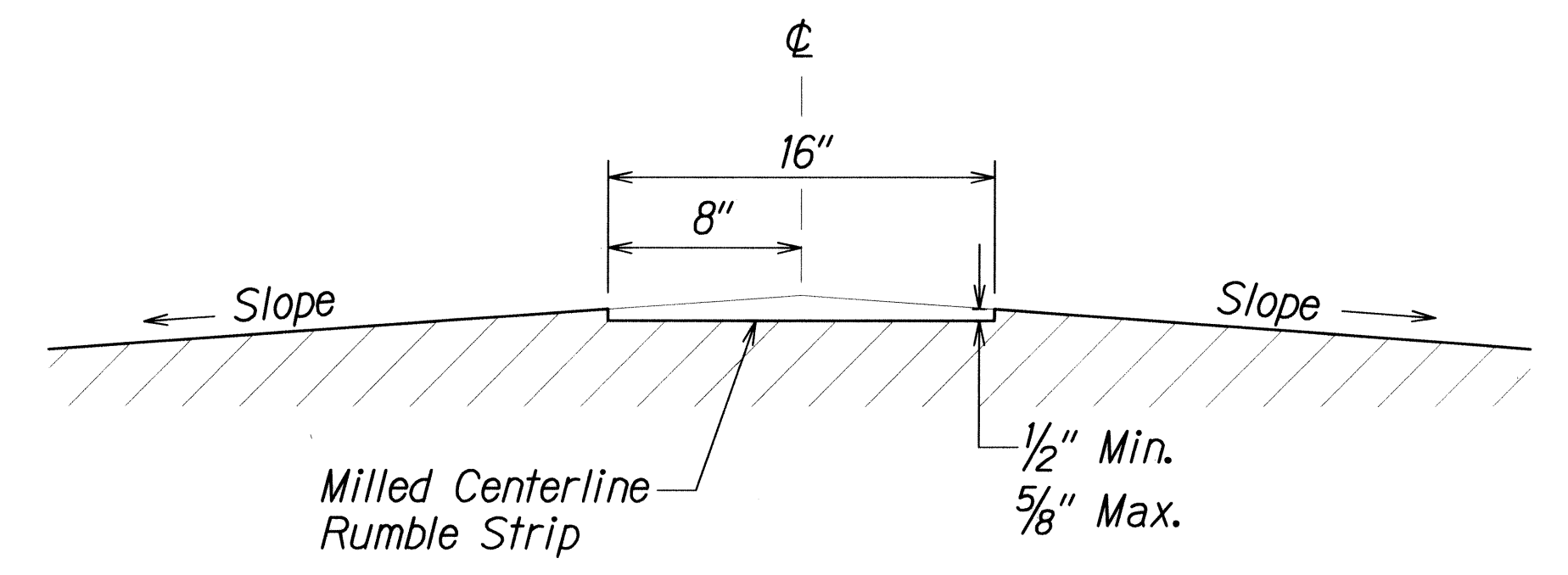
DETAIL "A"  
Not to Scale



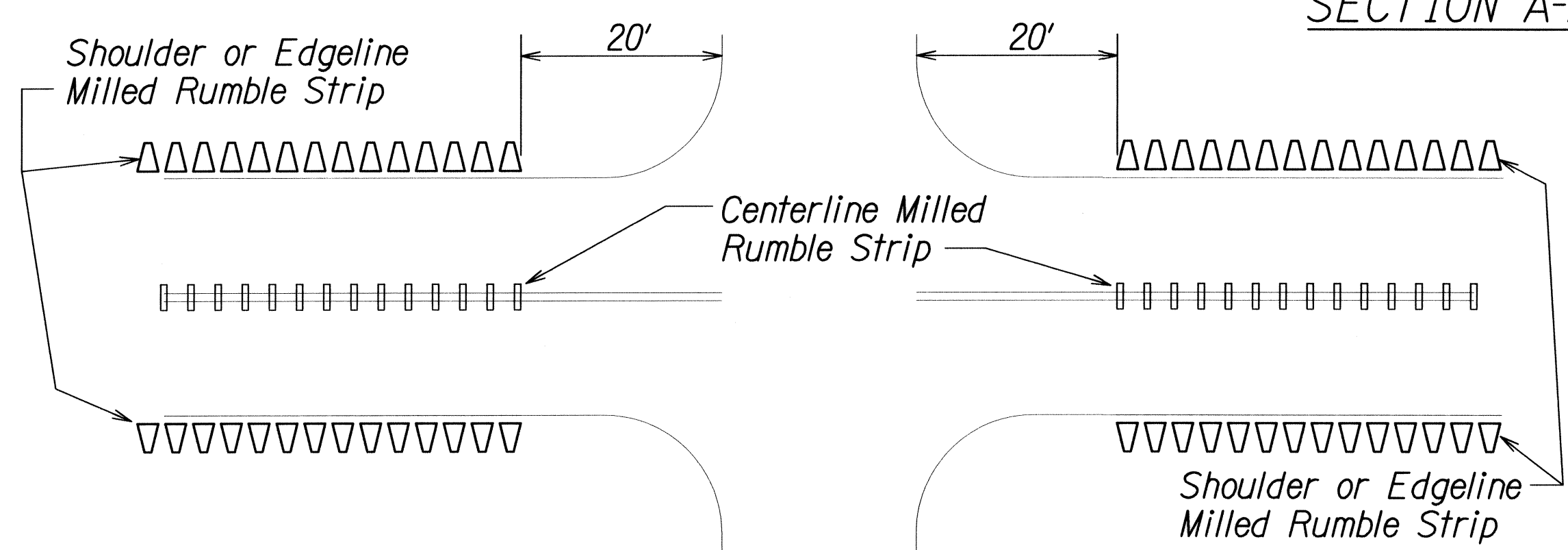
SECTION B-B - CENTERLINE MILLED RUMBLE STRIP  
Not to Scale



CENTERLINE MILLED RUMBLE STRIP INSTALLATION LIMIT  
Not to Scale



SECTION A-A - CENTERLINE MILLED RUMBLE STRIP  
Not to Scale



MILLED RUMBLE STRIP INSTALLATION LIMITS  
Not to Scale

NOTES:

1. The method of constructing the centerline milled rumble strip shall be submitted to the Engineer for acceptance prior to the actual work.
2. Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement markings prior to installation.
3. Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.
4. The construction of the centerline milled rumble strip shall be paid for under Item No. 615.0100 - 16-inch Milled Rumble Strip, Centerline.
5. The milling apparatus and removal of existing pavement markings will not be paid for separately and shall be considered incidental to Item 615.0100 - 16-Inch Milled Rumble Strip, Centerline.
6. Do not install centerline rumble strips on bridge decks.
7. Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.
8. Hot spray thermoplastic shall be used for solid line markings within the milled centerline rumble strip area.

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTED BY	
ORIGINAL PLAN	
NOTE BOOK	
142.may	
10/10/2010	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**CENTERLINE MILLED RUMBLE STRIP DETAIL**

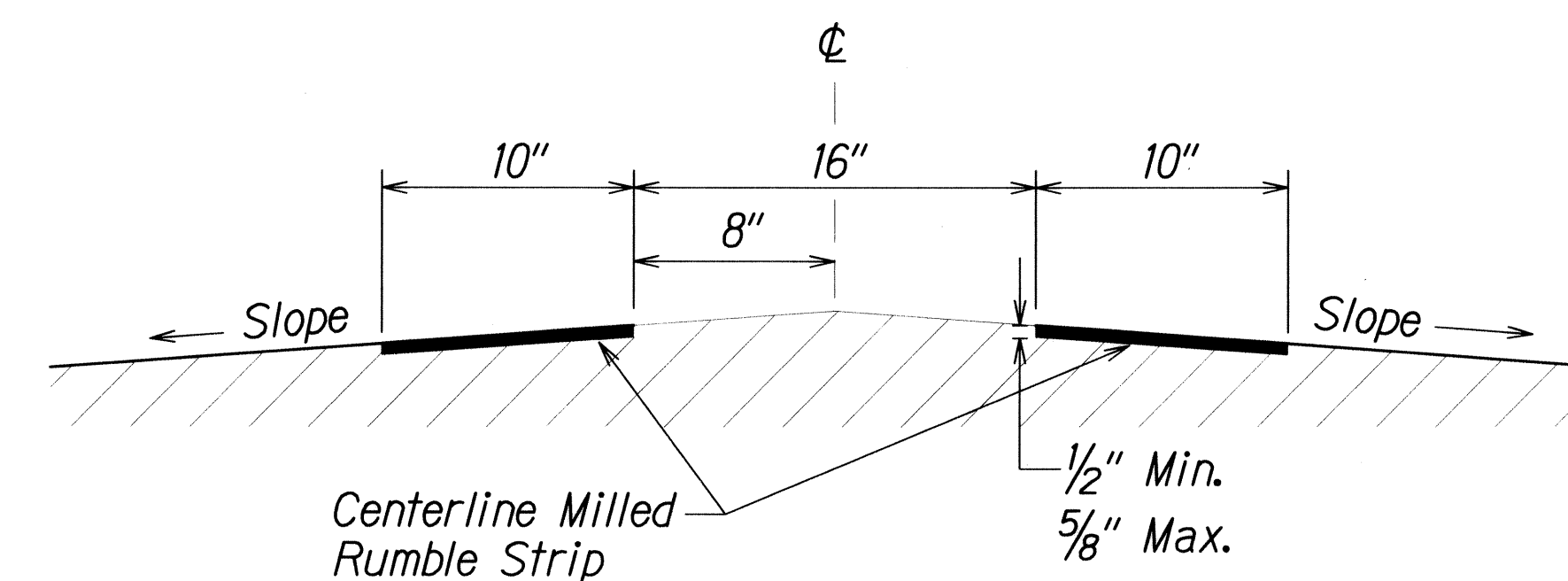
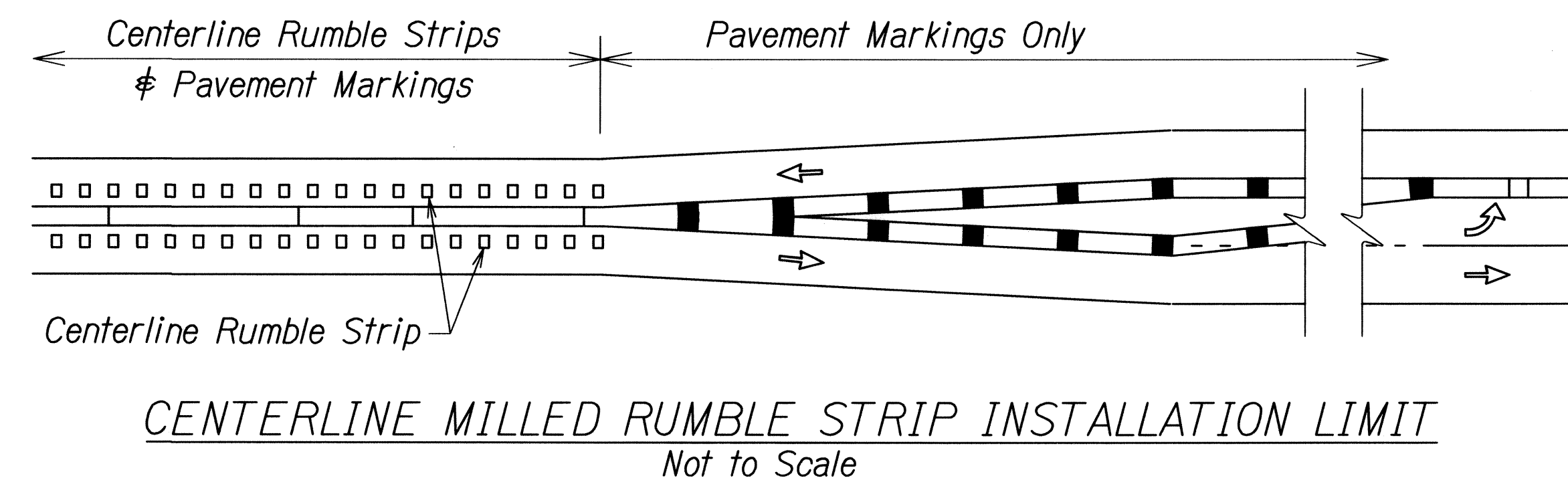
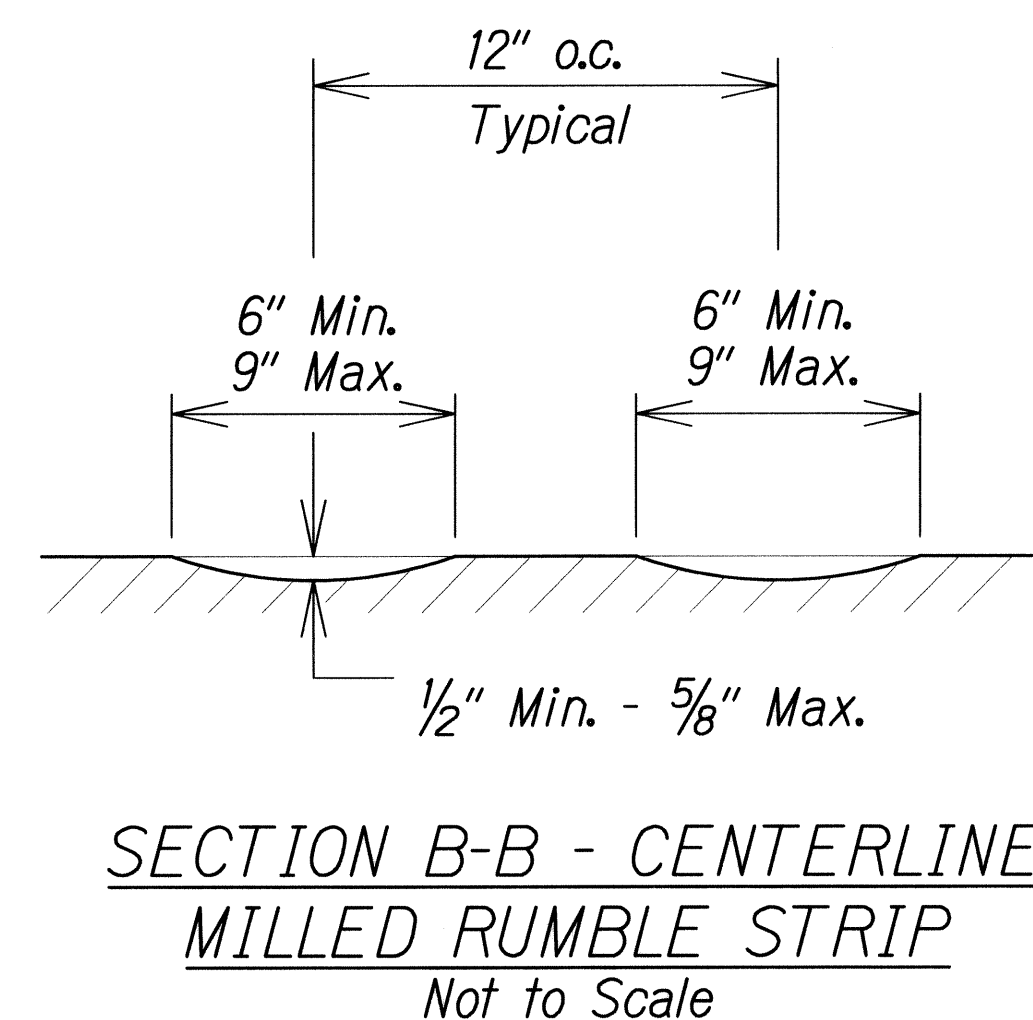
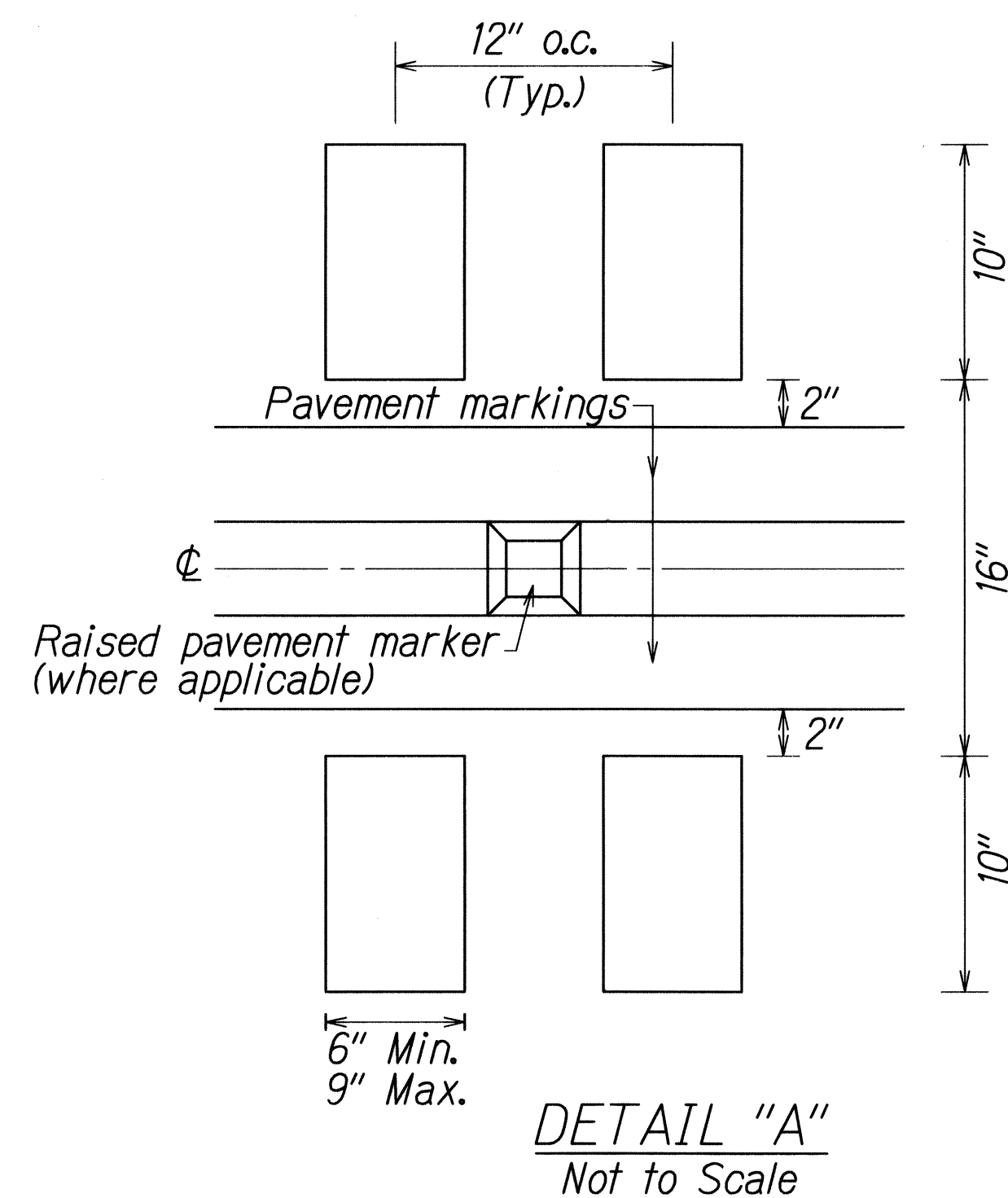
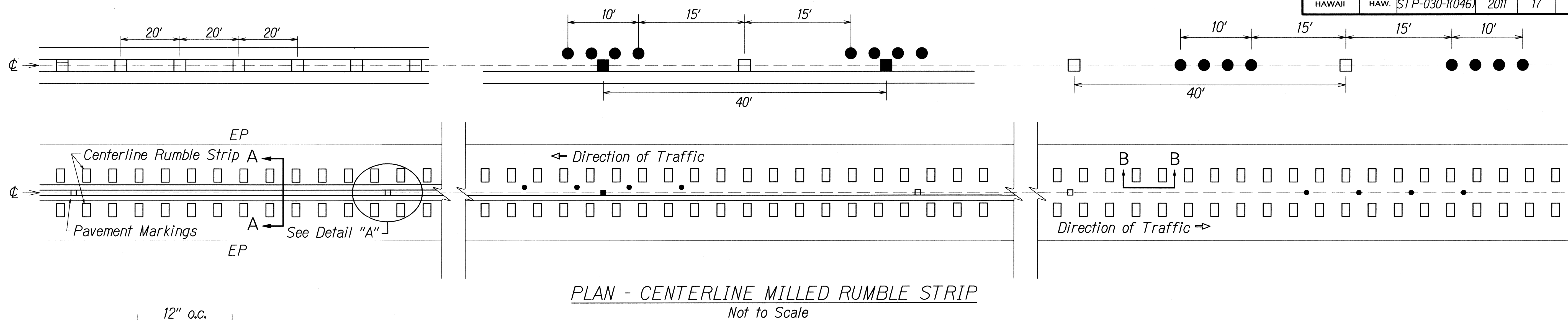
HONOAPIILANI HIGHWAY RESURFACING  
Honokowai to Kahana

Federal-Aid Project No. STP-030-1(046)

Scale: As Shown      Date: December, 2010

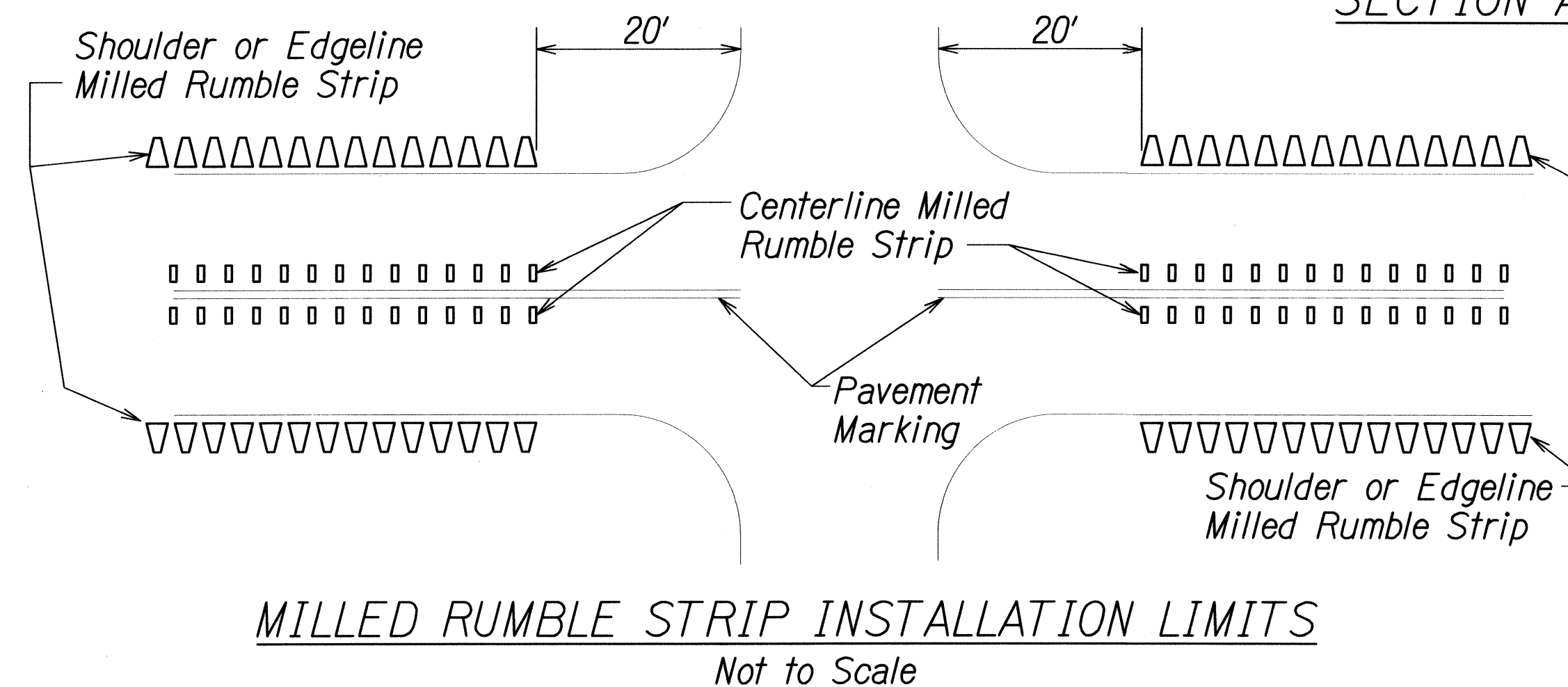
SHEET No. 1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-030-1(046)	2011	17	28



# NOTES:

1. The method of constructing the centerline milled rumble strip shall be submitted to the Engineer for acceptance prior to the actual work.
2. Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement markings prior to installation.
3. Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.
4. The construction of the centerline milled rumble strip shall be paid for under Item No. 615.0110 - Double 10-inch Milled Rumble Strip, Centerline.
5. The milling apparatus and removal of existing pavement markings will not be paid for separately and shall be considered incidental to Item 615.0110 - Double 10-Inch Milled Rumble Strip, Centerline.
6. Do not install centerline rumble strips on bridge decks.
7. Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

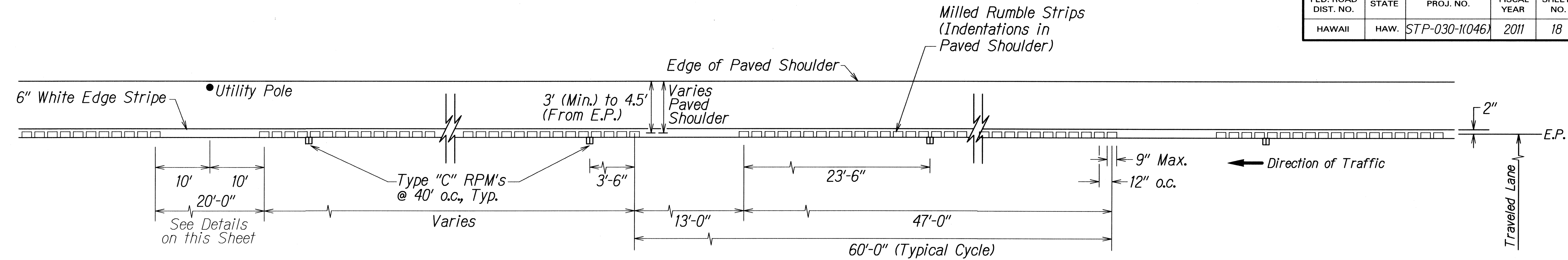
**DOUBLE 10-INCH CENTERLINE MILLED RUMBLE STRIP DETAIL**  
HONOAPIILANI HIGHWAY RESURFACING  
Honokowai to Kahana  
Federal-Aid Project No. STP-030-1(046)  
Scale: As Shown      Date: December, 2010

SHEET No. 2 OF 4 SHEETS

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



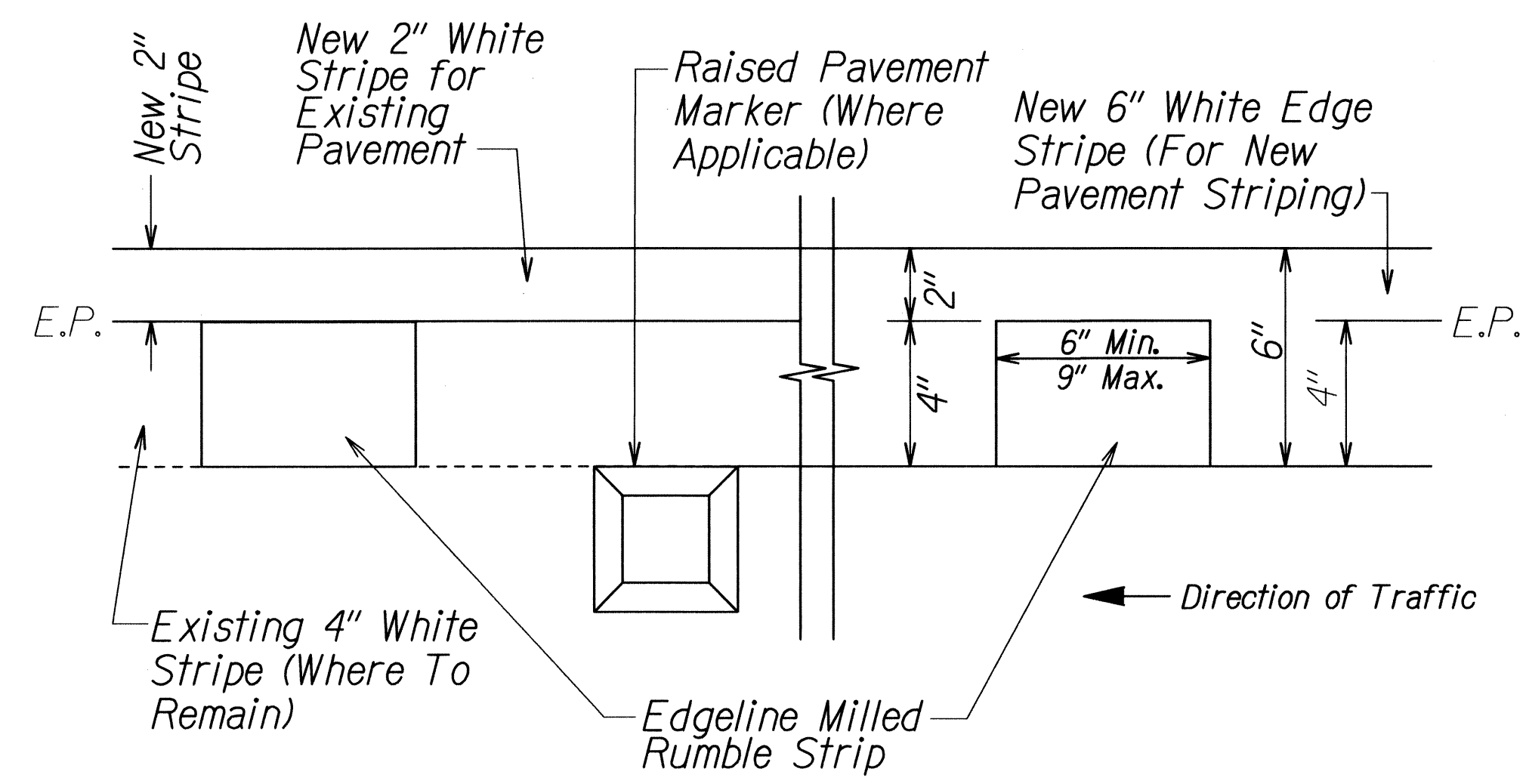
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-030-1(046)	2011	18	28



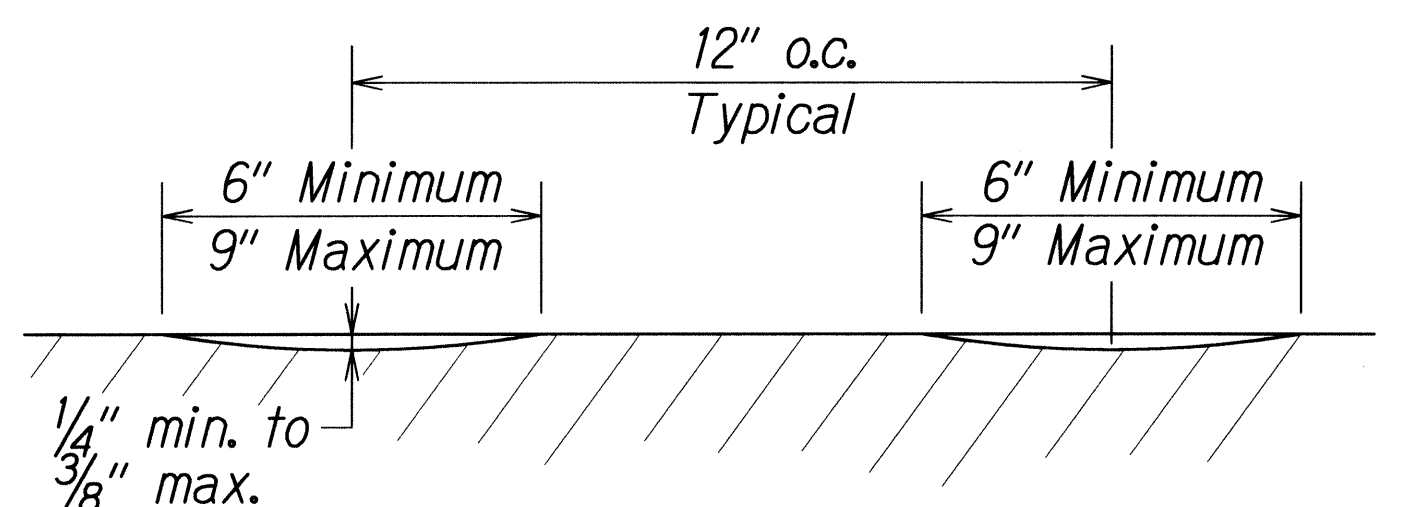
PLAN - EDGELINE MILLED RUMBLE STRIP (3' SHOULDER)  
Not to Scale

NOTES:

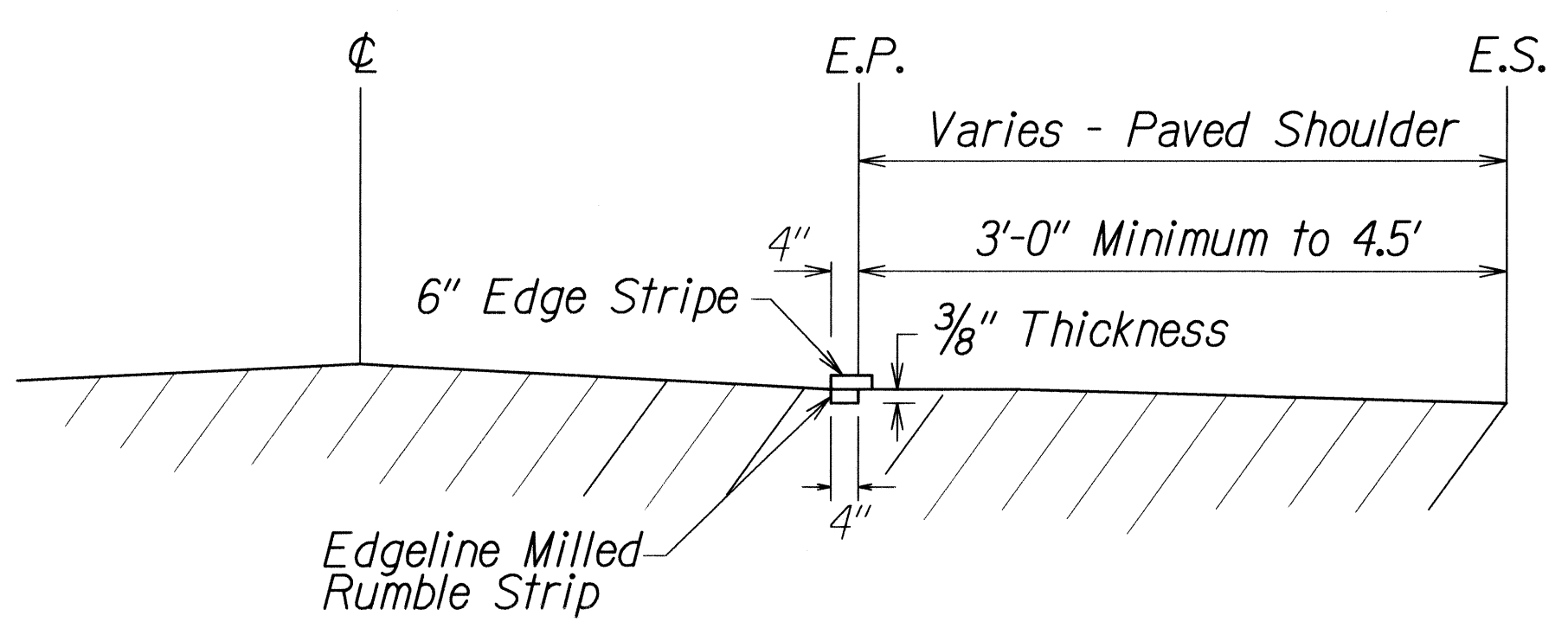
- Edgeline milled rumble strips may be installed for paved shoulder width of 3' minimum to 4.5' from edge of pavement (E.P.)
- The method of constructing the edgeline milled rumble strip shall be submitted to the Engineer for acceptance prior to the actual work.
- Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement marking prior to installation.
- Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.
- The construction of the edgeline milled rumble strip and 13-foot gaps shall be paid for under Item No. 615.0300 - 4-Inch Milled Rumble Strip, Edgeline.
- The milling apparatus and removal of existing pavement markings will not be paid for separately and shall be considered incidental to Item 615.0300 - 4-Inch Milled Rumble Strip, Edgeline.
- Rumble strips shall be installed along all shoulders, except at right turn deceleration and acceleration lanes, as noted on the plans.
- Do not place Type "C" Raised Pavement markers within 2 ft. of the 13 ft. Rumble Strip opening.
- Do not install edgeline rumble strips on bridge decks.
- Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.
- Edgeline Rumble Strips are to be installed before the edge of pavement stripe and before the installation of the Type "C" raised pavement markers.
- Hot spray thermoplastic shall be used for solid line markings within the edgeline milled rumble strip area.



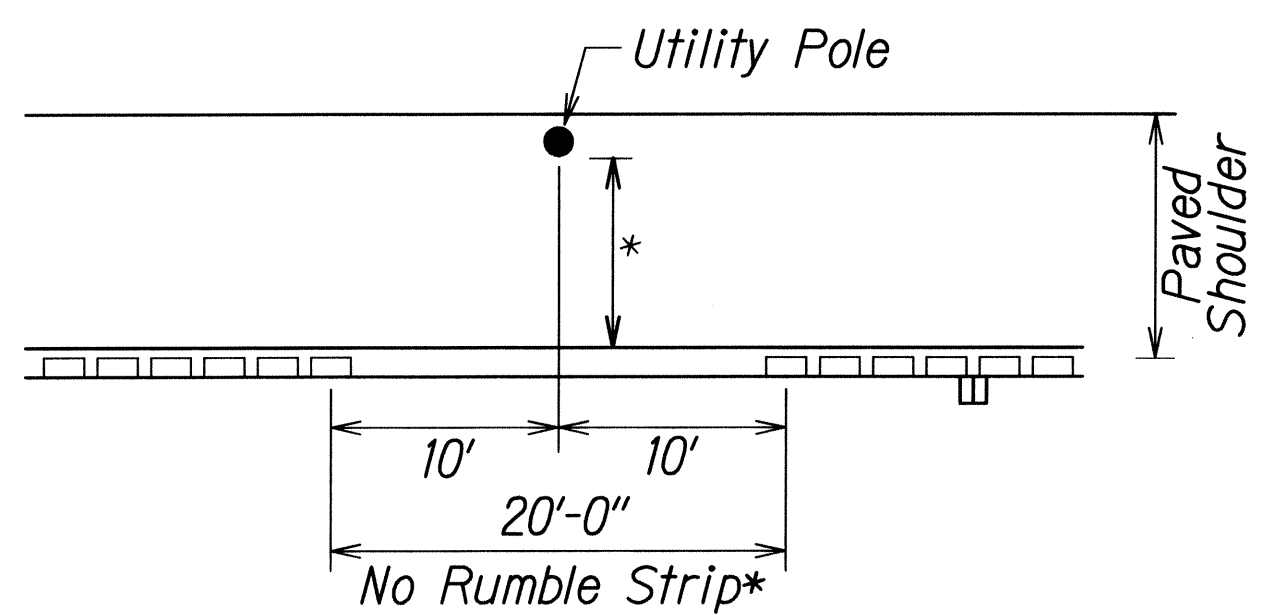
DETAIL - EDGELINE MILLED RUMBLE STRIP  
Not to Scale



CROSS SECTION - EDGELINE MILLED RUMBLE STRIP  
Not to Scale



LONGITUDINAL SECTION - EDGELINE MILLED RUMBLE STRIP  
Not to Scale



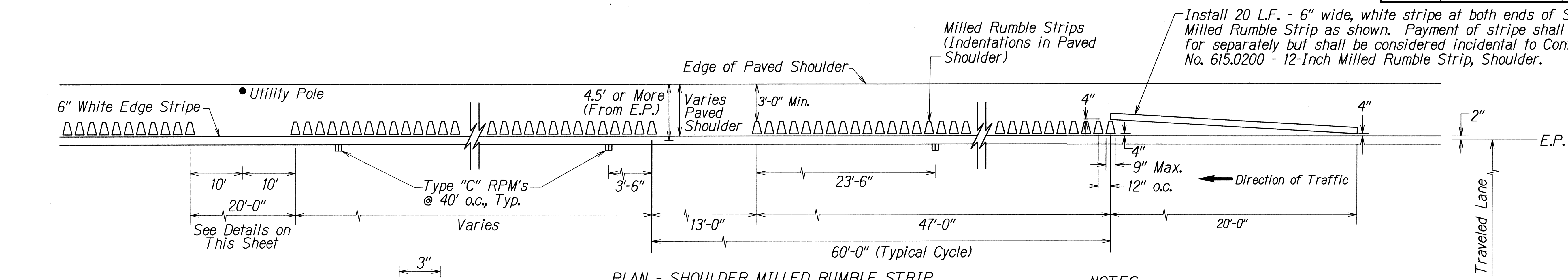
\*Delete Rumble Strip if Clearance Between Edge of Pavement Striping & Utility Pole is Less Than 3'  
DETAIL - CONDITION WHERE UTILITY POLE EXISTS  
Not to Scale

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTED BY	
DATE	

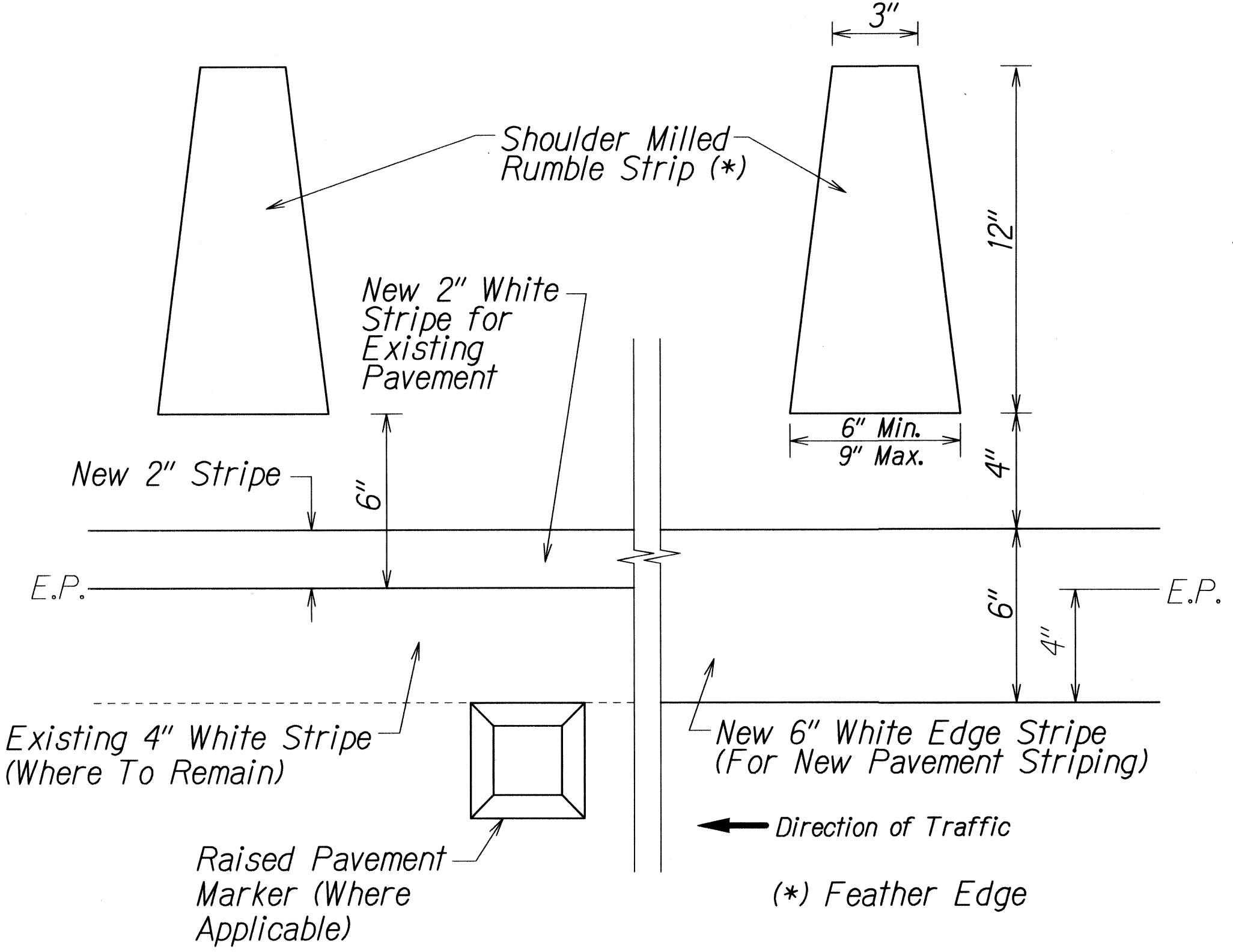
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**EDGELINE MILLED RUMBLE STRIP**  
**DETAIL FOR SHOULDER 3' TO 4.5'**  
**HONOAPIILANI HIGHWAY RESURFACING**  
**Honokowai to Kahana**  
**Federal-Aid Project No. STP-030-1(046)**  
Scale: As Shown      Date: December, 2010

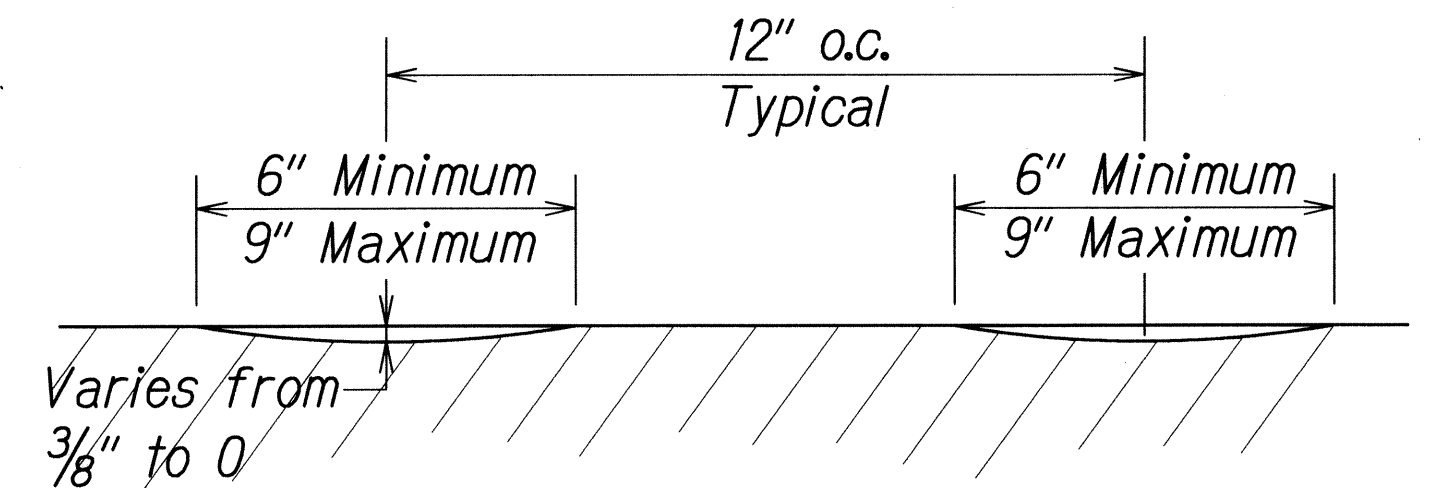
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-030-1(046)	2011	19	28



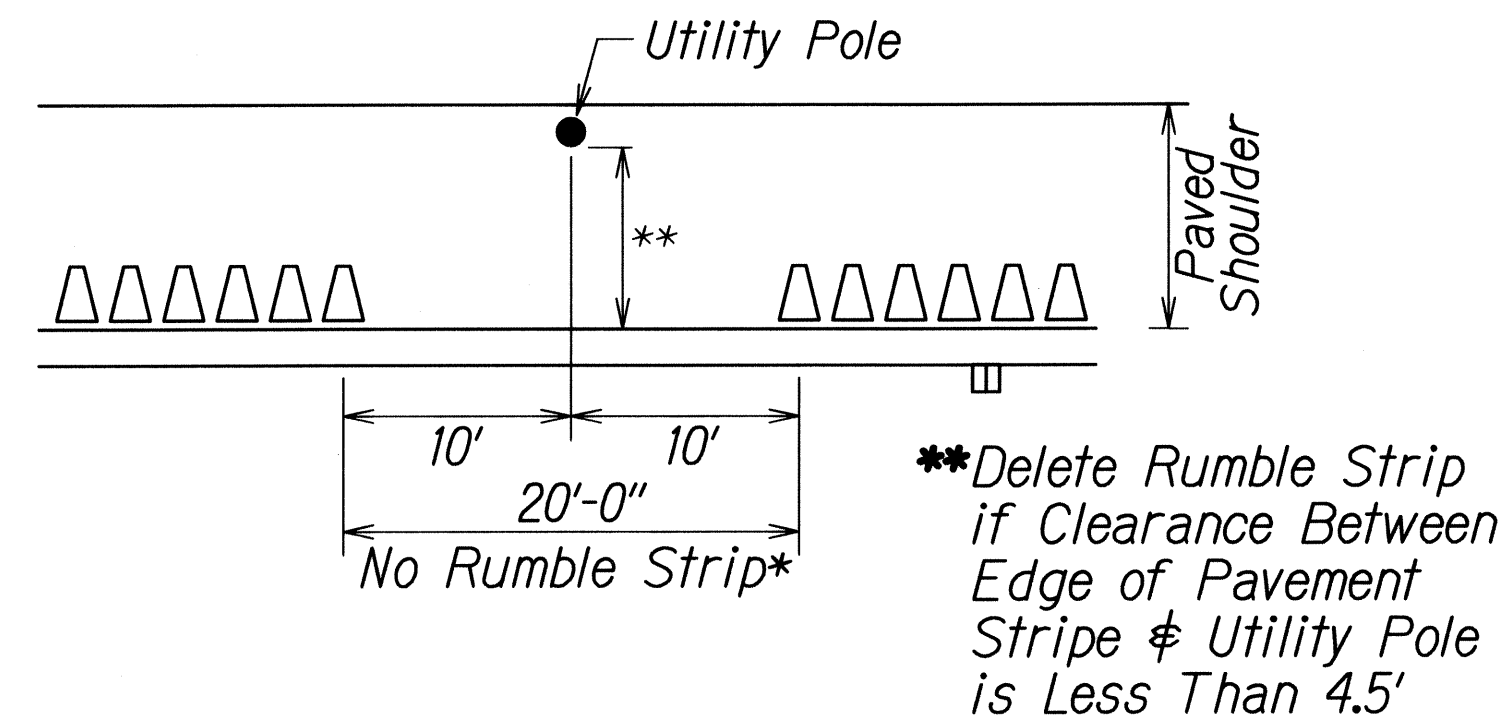
PLAN - SHOULDER MILLED RUMBLE STRIP  
Not to Scale



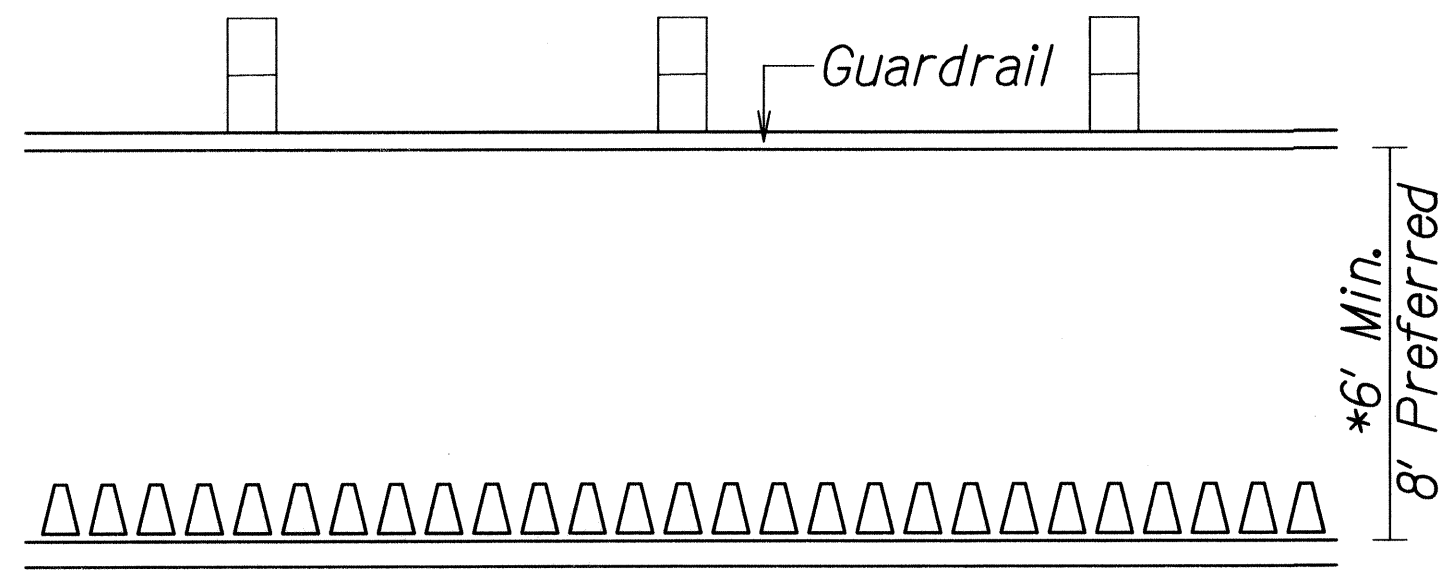
DETAIL - SHOULDER MILLED RUMBLE STRIP  
Not to Scale



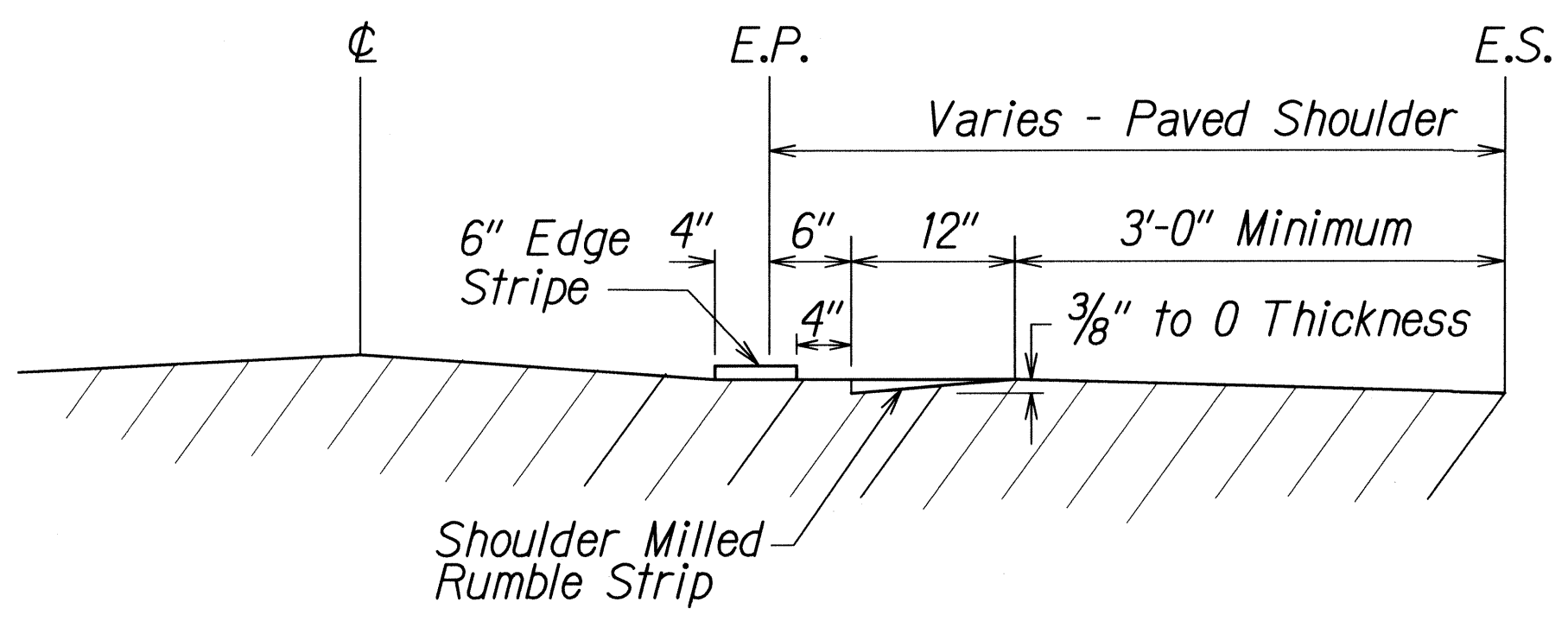
CROSS SECTION - SHOULDER MILLED RUMBLE STRIP  
Not to Scale



DETAIL - CONDITION WHERE UTILITY POLE EXISTS  
Not to Scale



DETAIL - CONDITION WHERE GUARDRAIL EXISTS  
Not to Scale



LONGITUDINAL SECTION - SHOULDER MILLED RUMBLE STRIP  
Not to Scale

NOTES:

- Shoulder milled rumble strips may be installed for paved shoulder width of 4.5' or more from edge of pavement (E.P.).
- The method of constructing the shoulder milled rumble strip shall be submitted to the Engineer for acceptance prior to the actual work.
- Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement marking prior to installation.
- Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.
- The construction of the shoulder milled rumble strip and 13-foot gaps shall be paid for under Item No. 615.0200 - 12-Inch Milled Rumble Strip, Shoulder.
- The milling apparatus, 20 L.F. - 6" white stripe, and removal of existing pavement markings will not be paid for separately and shall be considered incidental to Item 615.0200 - 12-Inch Milled Rumble Strip, Shoulder.
- Rumble strips shall be installed along all shoulders, except at right turn deceleration and acceleration lanes, as noted on the plans.
- Do not place Type "C" Raised Pavement markers within 2 ft. of the 13 ft. Rumble Strip opening.
- Do not install edgeline rumble strips on bridge decks.
- Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.
- Shoulder Rumble Strips are to be installed after the edge of pavement stripe and before the installation of the Type "C" raised pavement markers.
- Hot spray thermoplastic shall be used for solid line markings within the shoulder milled rumble strip area.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SHOULDER MILLED RUMBLE STRIP**  
**DETAIL FOR SHOULDER 4.5' OR MORE**  
HONOAPIILANI HIGHWAY RESURFACING  
Honokowai to Kahana  
Federal-Aid Project No. STP-030-1(046)

Scale: As Shown
Date: December, 2010

SHEET No. 4 OF 4 SHEETS

\*If shoulder width is less than 6', do not install shoulder rumble strip where guardrail exists.

ORIGINAL PLAN	DATE
DESIGNED BY	
DRAWN BY	
CHECKED BY	
IN CHARGE	