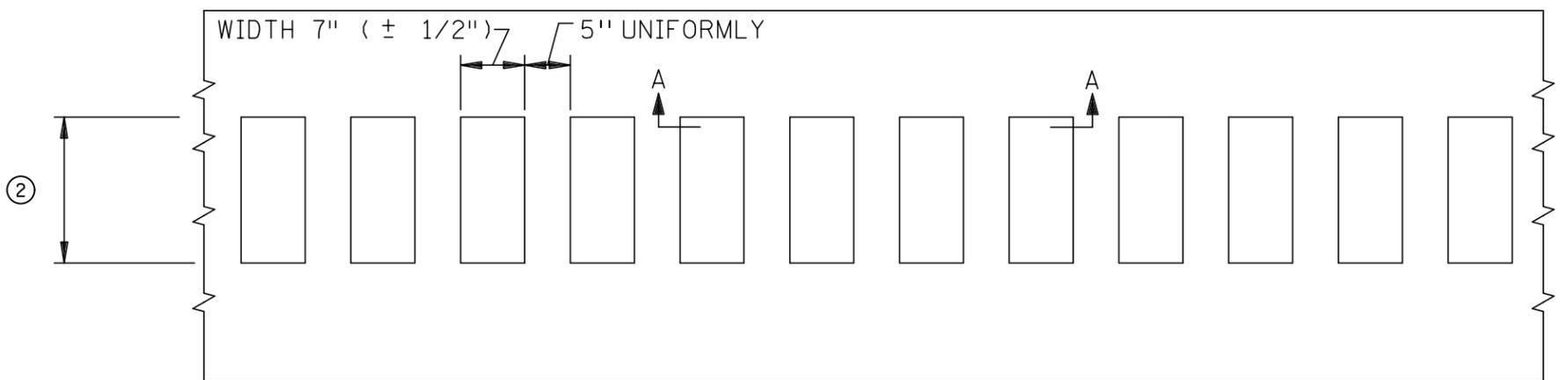
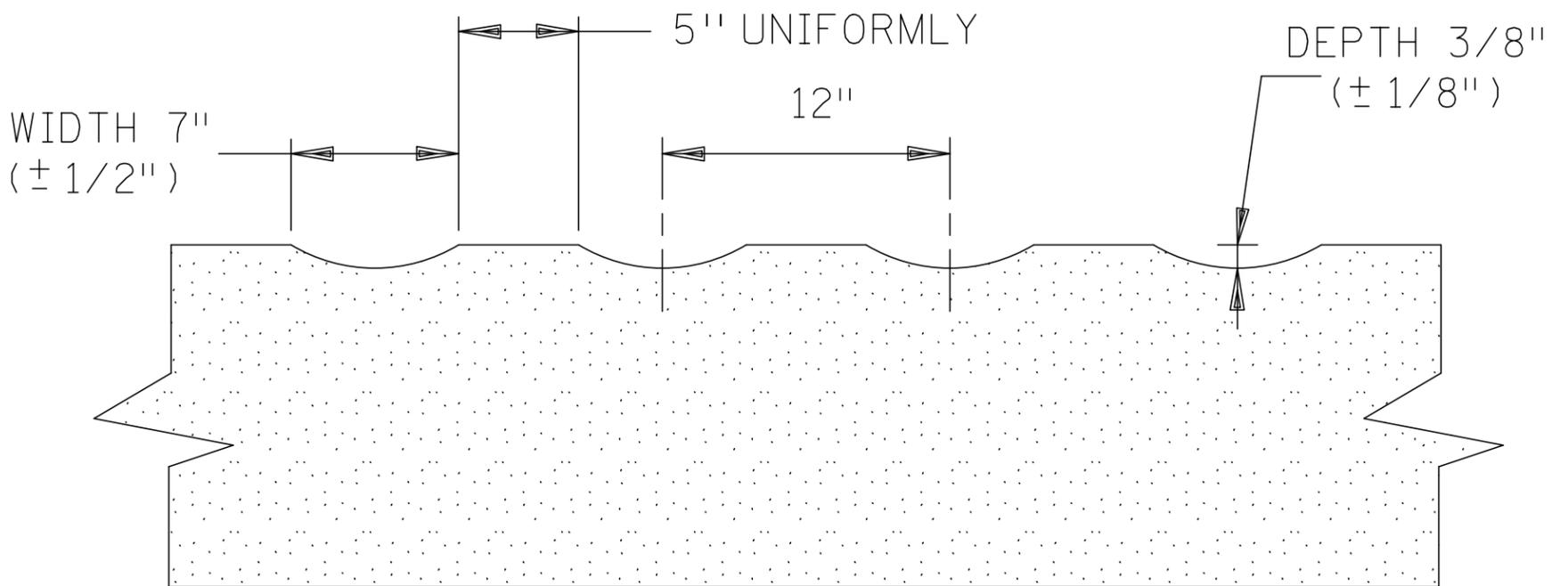


# ① RECTANGULAR CORRUGATED RUMBLE STRIP PATTERN

## PLAN VIEW



## SECTION A-A

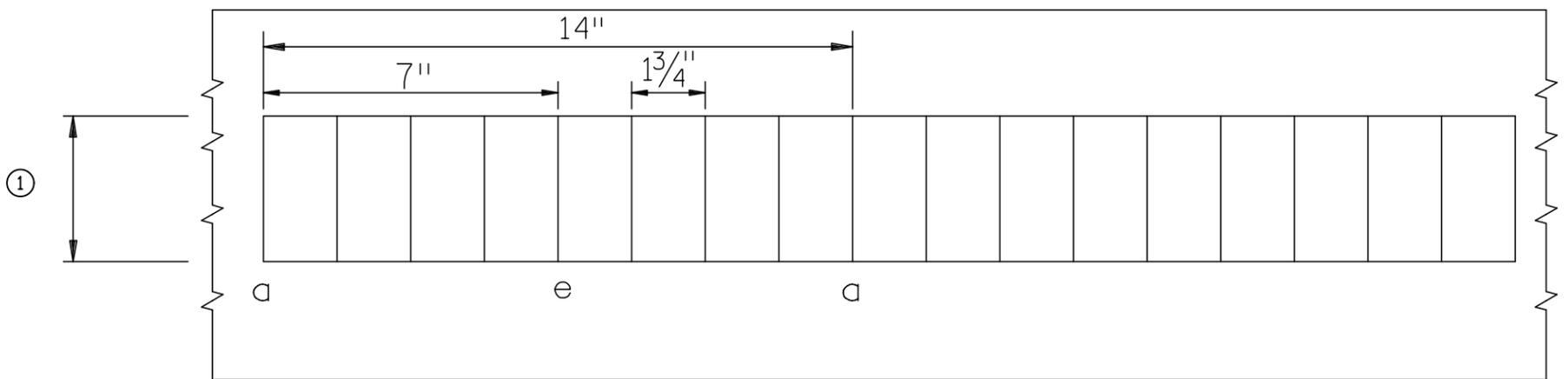


### DESIGNER NOTES:

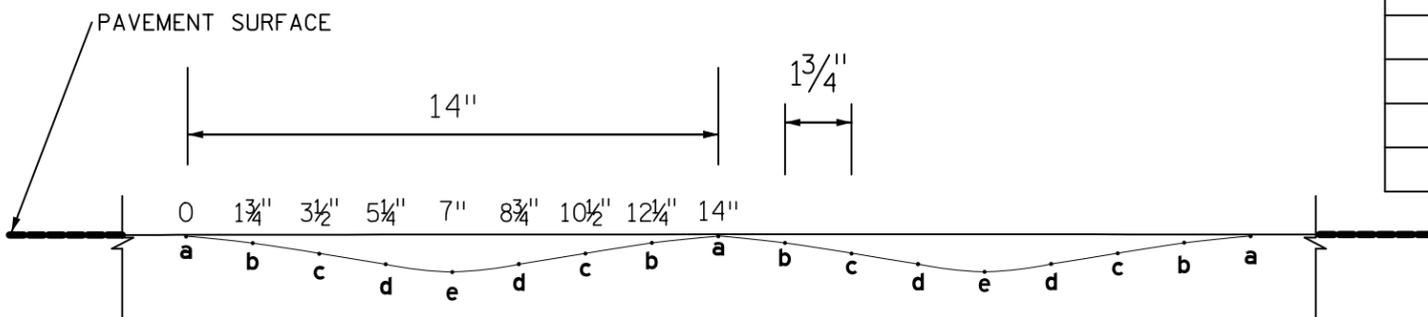
- ① RECTANGULAR CORRUGATED RUMBLE STRIPS SHALL NOT BE USED AS A CENTERLINE RUMBLE STRIP ON CONCRETE PAVEMENTS.
  - ② SHOULDER RUMBLE STRIPS ARE WITHIN THE RANGE OF 8-12 IN. A 16 IN SHOULDER RUMBLE STRIP IS REQUIRED ON FREEWAY SEGMENTS.
- THE STANDARD WIDTH OF CENTERLINE RUMBLE STRIPS ON BITUMINOUS PAVEMENTS IS 14 IN.

# SINUSOIDAL RUMBLE STRIP PATTERN

## PLAN VIEW



## PROFILE VIEW



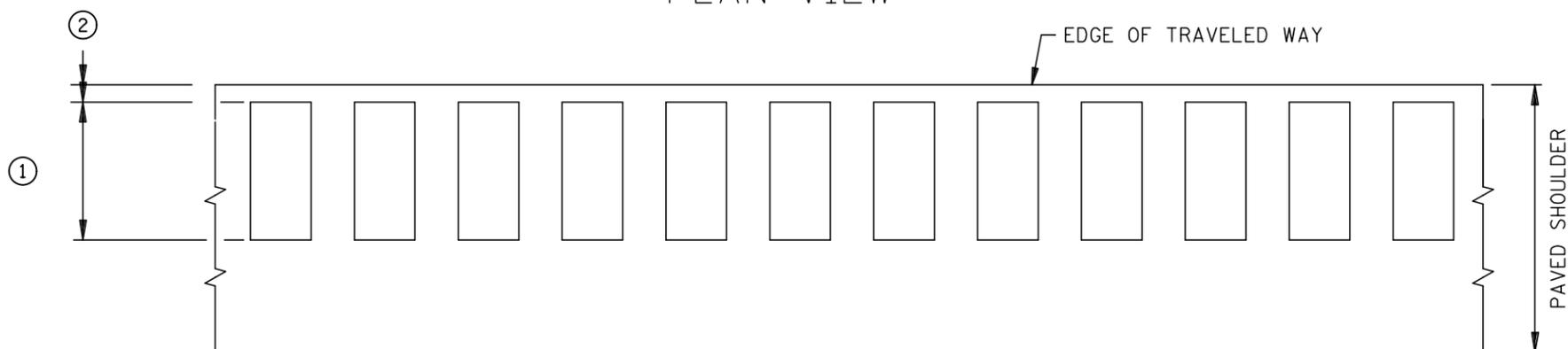
LOCATION	DEPTH	
	MIL	INCHES
a	62.5	1/16"
b	156	5/32"
c	281	9/32"
d	438	7/16"
e	500	1/2"

### DESIGNER NOTES:

- ① SHOULDER RUMBLE STRIPS ARE WITHIN THE RANGE OF 8-12 IN. A 16 IN SHOULDER RUMBLE STRIP IS REQUIRED ON FREEWAY SEGMENTS. THE STANDARD WIDTH OF CENTERLINE RUMBLE STRIPS ON BITUMINOUS PAVEMENTS IS 14 IN. INPUT CORRECT RUMBLE WIDTH. FOR CONCRETE PAVEMENTS, A SPLIT RUMBLE DESIGN OF 6 IN SHALL BE USED.

# BITUMINOUS SHOULDER RUMBLE STRIP - CONTINUOUS CYCLE

## PLAN VIEW



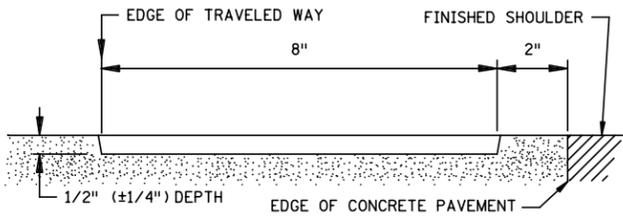
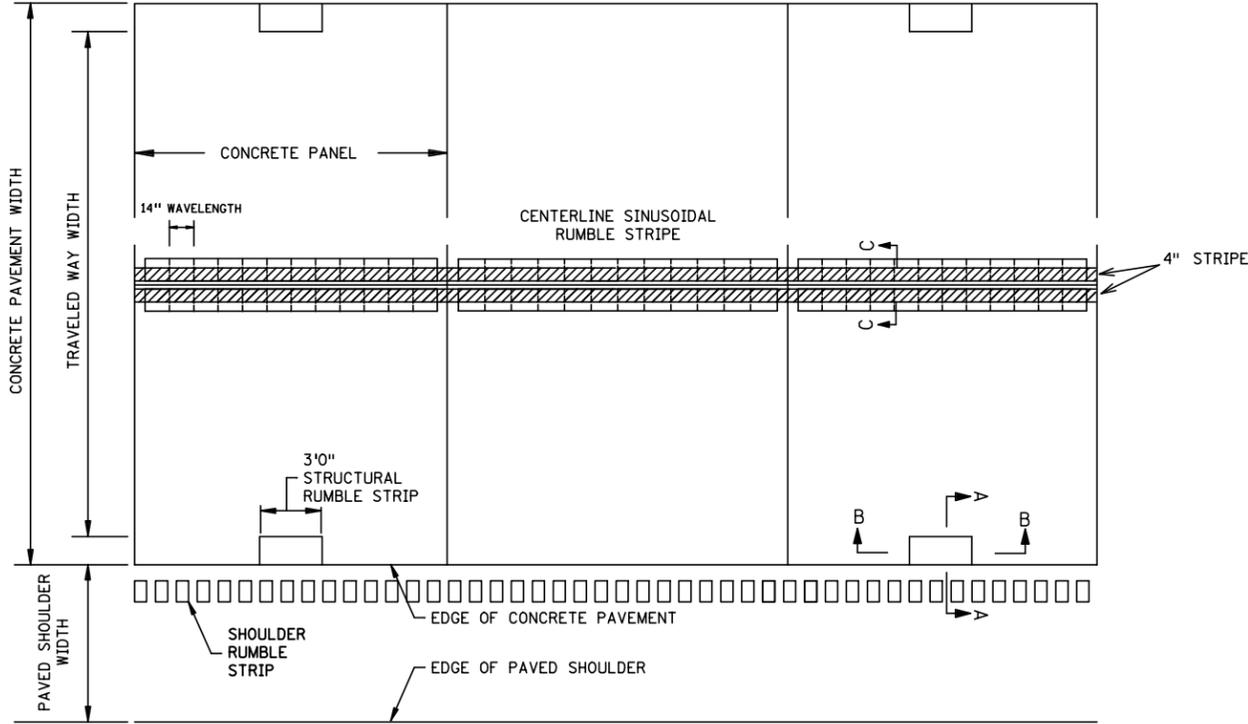
**DESIGNER NOTES:**

- ① SHOULDER RUMBLE STRIPS ARE WITHIN THE RANGE OF 8-12 IN. A 16 IN SHOULDER RUMBLE STRIP IS REQUIRED ON FREEWAY SEGMENTS.
- ② THE DISTRICT TRAFFIC ENGINEER HAS FLEXIBILITY RELATED TO THE LATERAL PLACEMENT OF THE RUMBLE STRIP. TYPICAL DISTANCES FOLLOW THE TABLE BELOW.

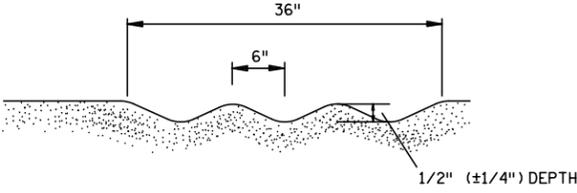
	SHOULDER WIDTH	DISTANCE FROM JOINT
<b>BITUMINOUS FREEWAYS</b>	-	24"
<b>BITUMINOUS MULTILANE HIGHWAY</b>	WIDTH < 6'	2"
<b>BITUMINOUS MULTILANE HIGHWAY</b>	WIDTH ≥ 6'	12"

# CONCRETE STRUCTURAL RUMBLE STRIP OPTION 1 - CONTINUOUS CYCLE

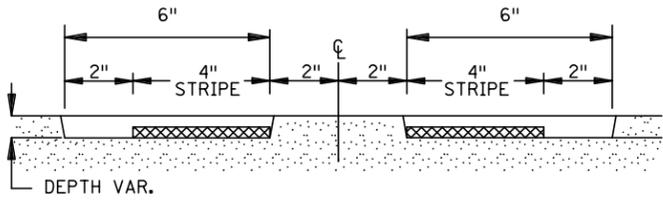
## PLAN VIEW



SECTION A-A



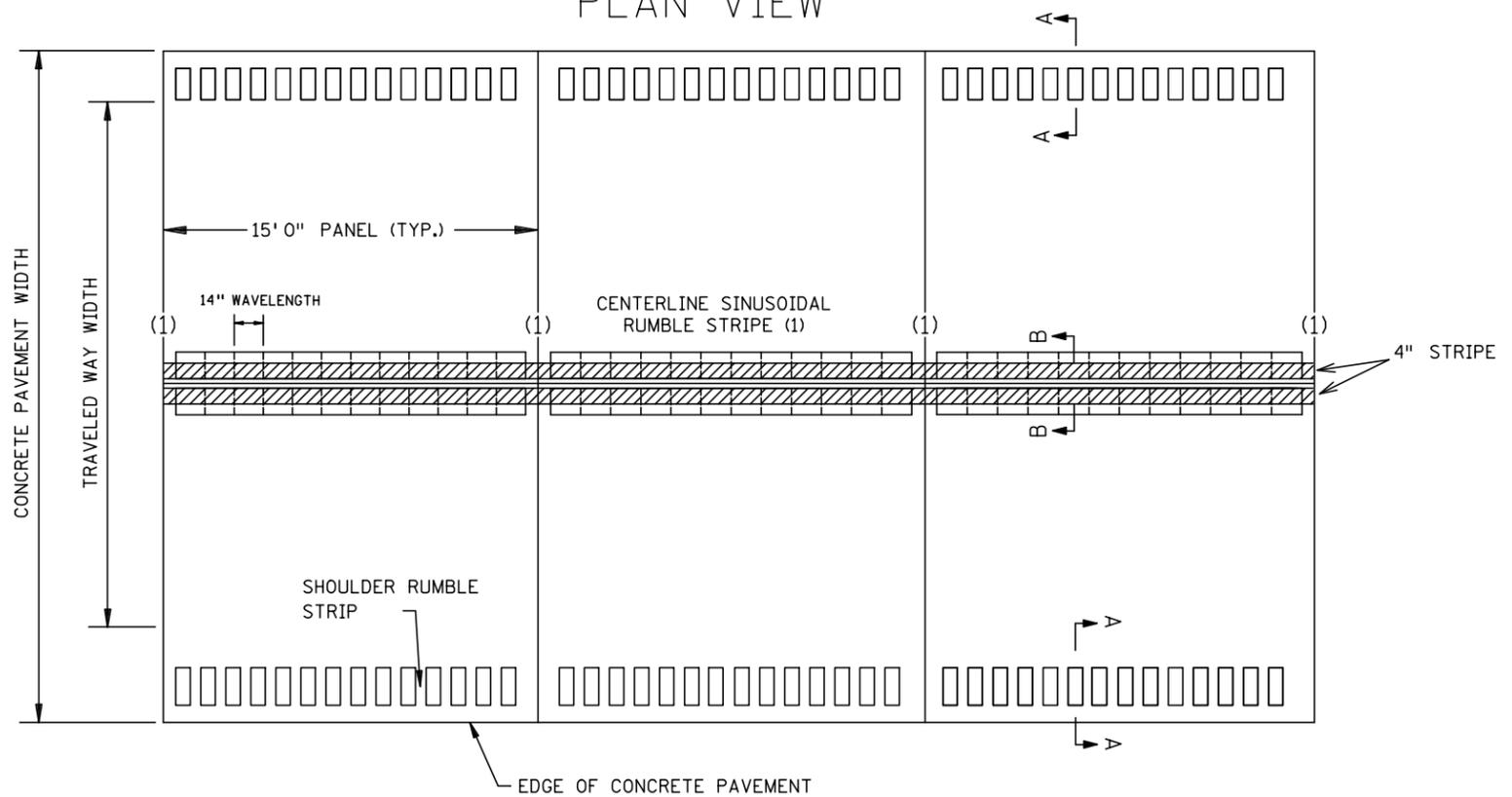
SECTION B-B



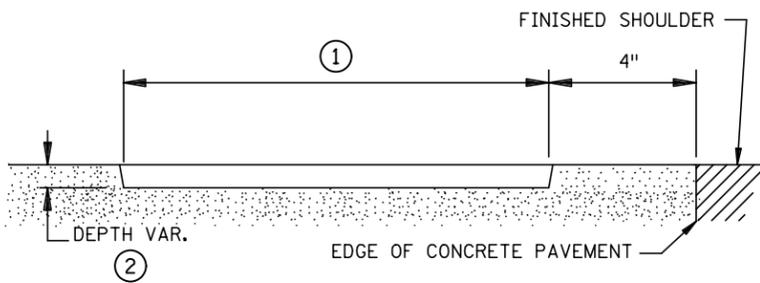
SECTION C-C

# CONCRETE STRUCTURAL RUMBLE STRIP OPTION 2

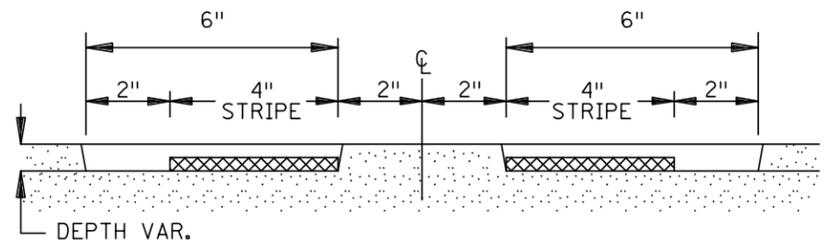
## PLAN VIEW



### SECTION A-A



### SECTION B-B



#### DESIGNER NOTES:

- ① SHOULDER RUMBLE STRIPS ARE WITHIN THE RANGE OF 8-12 IN. A 16 IN SHOULDER RUMBLE STRIP IS REQUIRED ON FREEWAY SEGMENTS. LABEL SECTION A-A WITH THE DESIRED RUMBLE STRIP WIDTH.
- ② INPUT THE CORRECT DEPTH CORRESPONDING TO THE CHOSEN RUMBLE STRIP DESIGN

# APPROPRIATE BREAKS - SHOULDER RUMBLE STRIPS

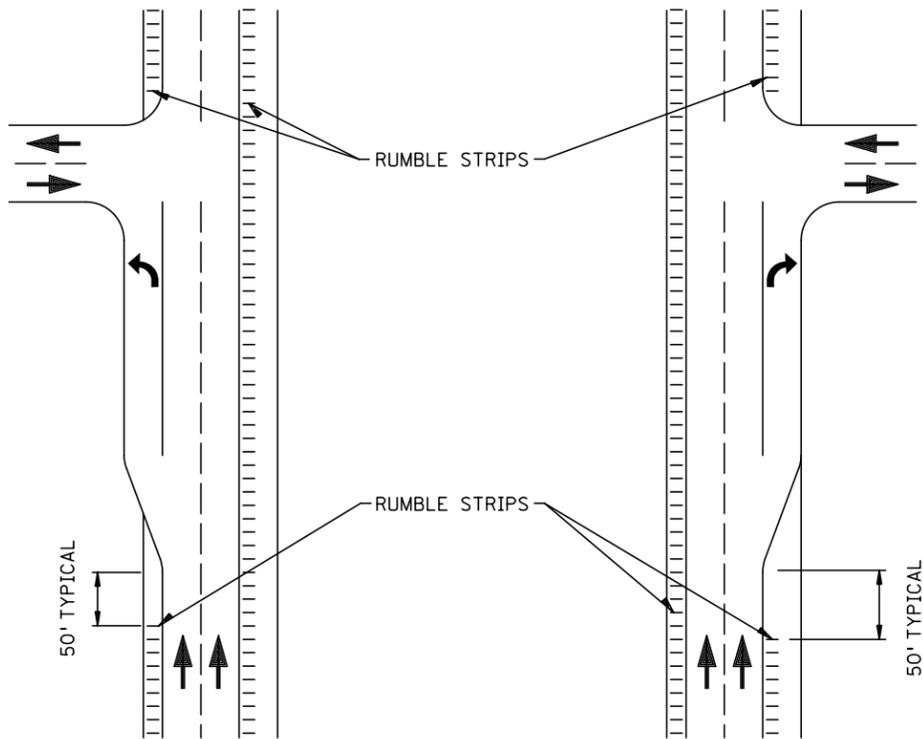


FIGURE 9A  
LEFT TURN LANE

FIGURE 9B  
RIGHT TURN LANE

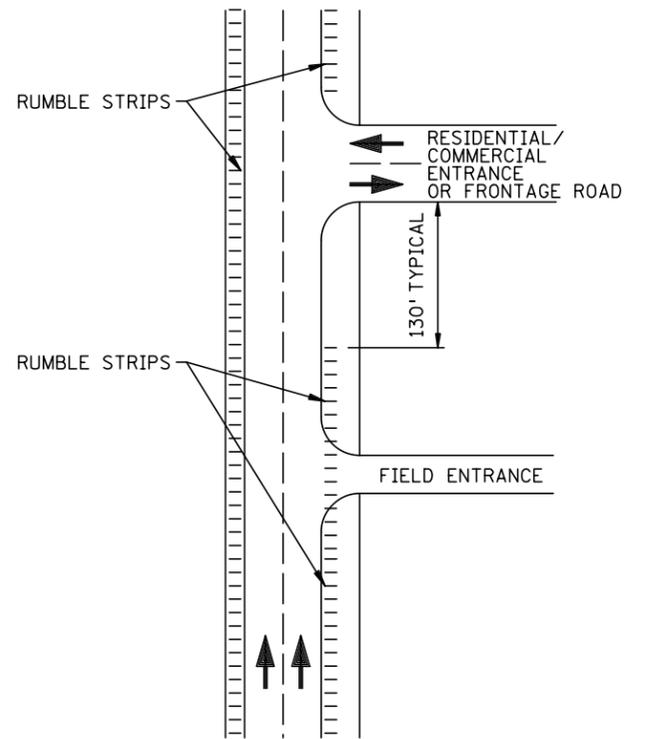


FIGURE 9C  
ENTRANCE ROADS

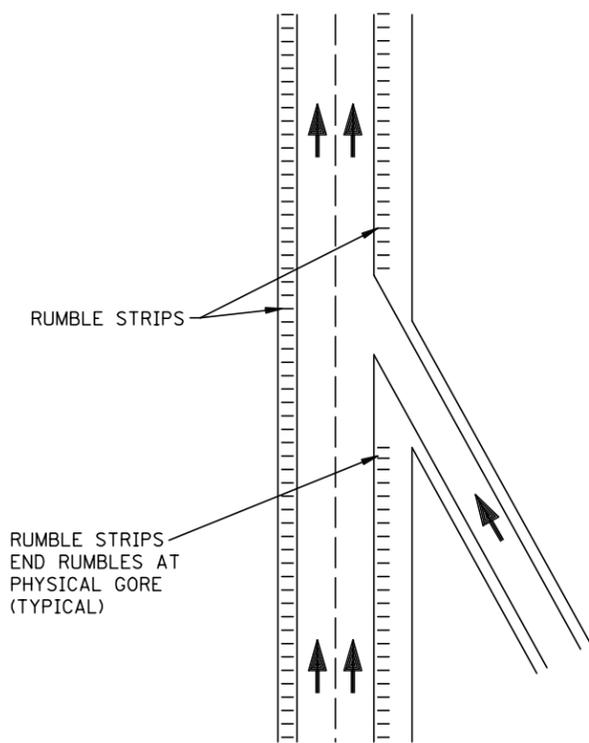


FIGURE 9D  
ENTRANCE RAMP

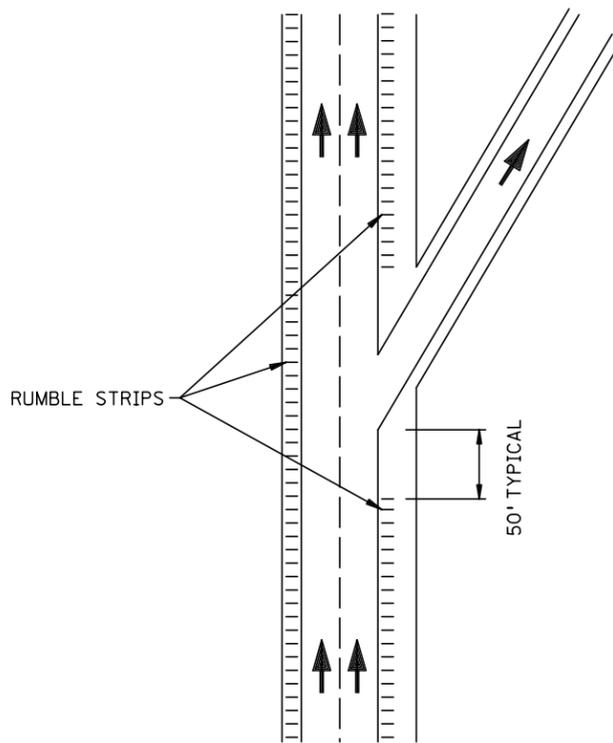
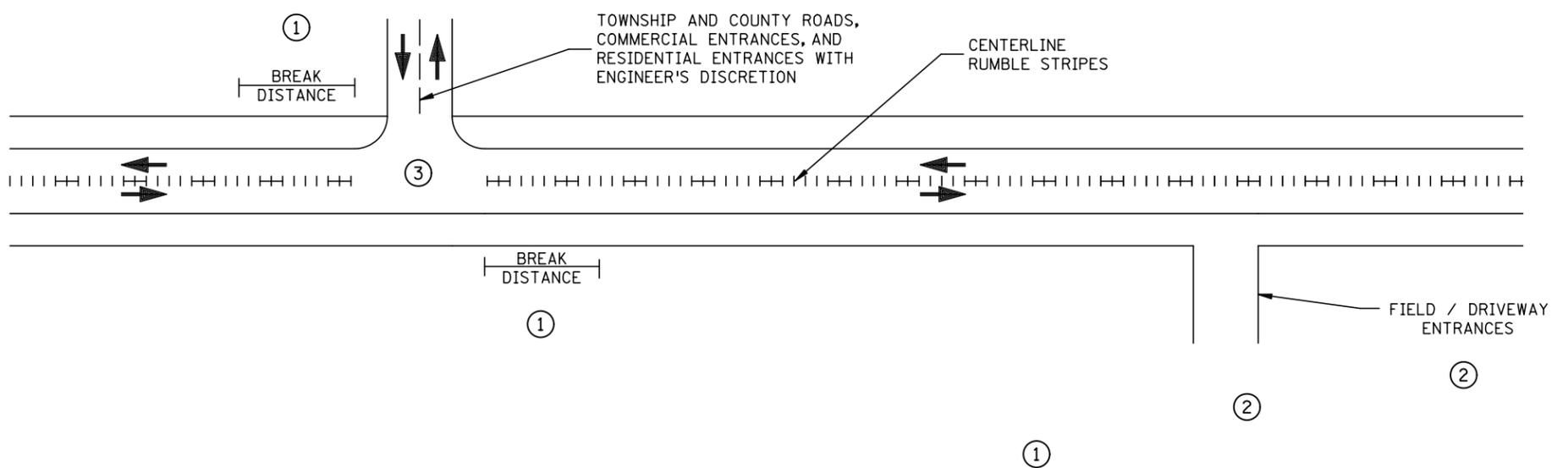


FIGURE 9E  
EXIT RAMP

## APPROPRIATE BREAKS

### - CENTERLINE RECTANGULAR CORRUGATED RUMBLE STRIP

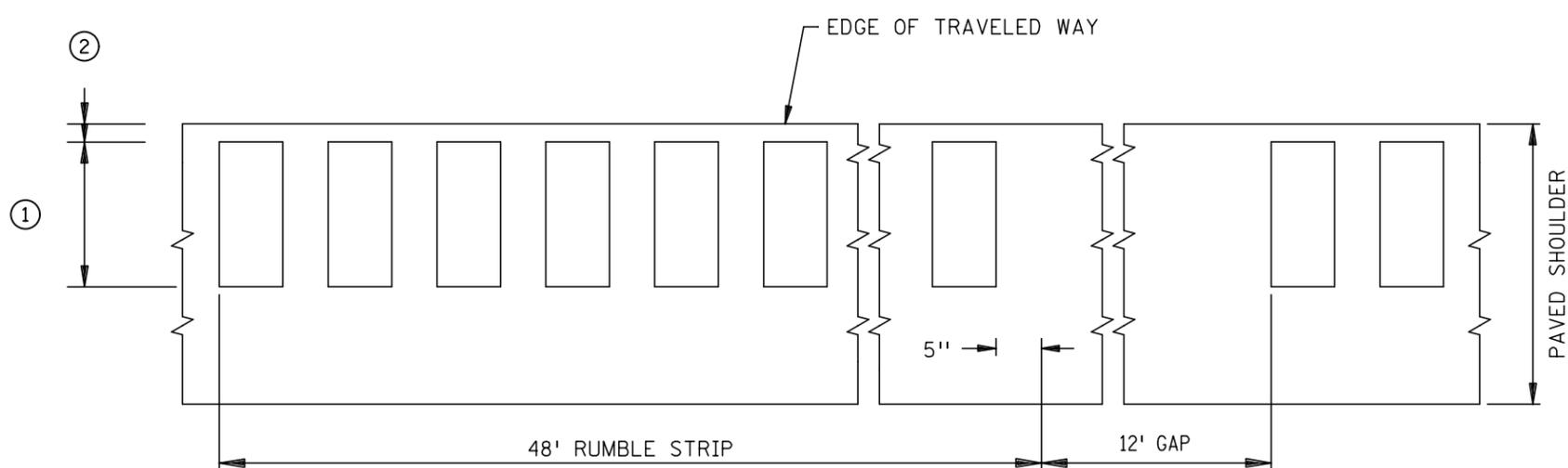


#### DESIGNER NOTES:

- ① THE DESIGNER HAS THE FLEXIBILITY TO INCLUDE A BREAK DISTANCE. THE RUMBLE MAY END AT THE MAINLINE RADII POINT, IF NOT, TYPICAL BREAK DISTANCES HAVE BEEN APPROXIMATELY 200 FT. IF BREAK DISTANCE IS USED, PLACE DIMENSION FOR BREAK DISTANCE ON THE TYPICAL AND MODIFY GENERAL NOTE 2.
- ② REMOVE THE FIRST GENERAL NOTE IF RUMBLING IS DISCONTINUED FOR ANY FIELD/DRIVEWAY ENTRANCE AND ALSO DELETE THE FIELD/DRIVEWAY ENTRANCE FROM THE FIGURE.
- ③ FOR ENTRANCES OTHER THAN FIELD/DRIVEWAY ENTRANCES, RUMBLE STRIPS TYPICALLY DO NOT CONTINUE THROUGH THE INTERSECTION DUE TO NOISE CONCERNS. IF AN INTERSECTION IS RUMBLED, THE FIGURE MUST BE ADJUSTED SO THAT RUMBLES CONTINUE THROUGH THE INTERSECTION.

# SHOULDER RUMBLE STRIP - INTERMITTENT CYCLE

## PLAN VIEW

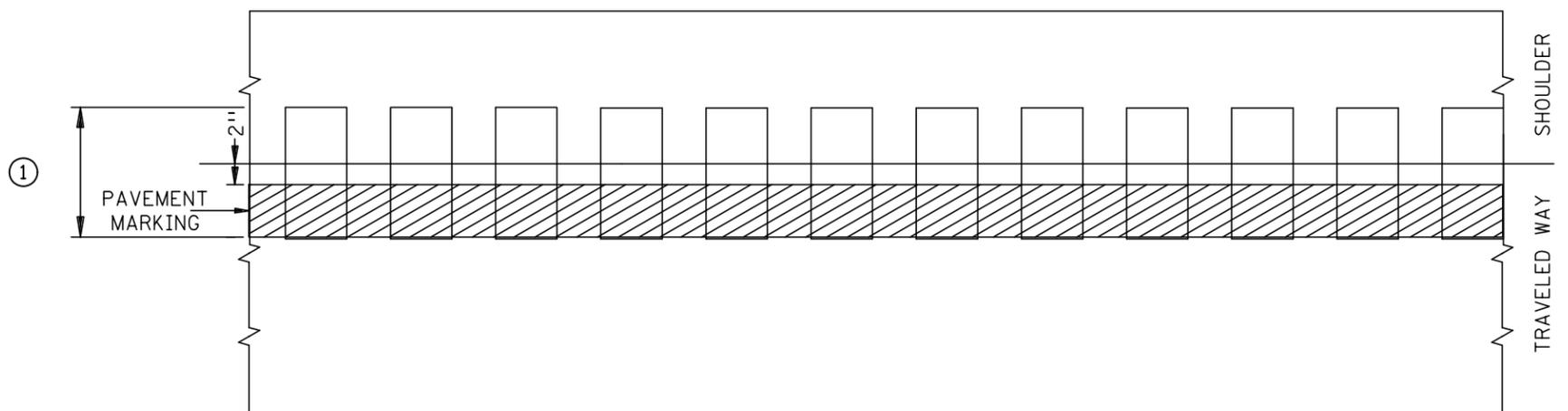


### DESIGNER NOTES:

- ① SHOULDER RUMBLE STRIPS ARE WITHIN THE RANGE OF 8-12 IN. A 16 IN SHOULDER RUMBLE STRIP IS REQUIRED ON FREEWAY SEGMENTS.
- ② FOR BITUMINOUS FREEWAYS THE SPACING IS 24 IN. FOR BITUMINOUS MULTI-LANE EXPRESSWAYS, THE SPACING SHOULD BE 2 IN WHERE SHOULDER WIDTH IS LESS THAN 6 FT AND 12 IN WHERE SHOULDER WIDTH IS 6 FT OR GREATER.

# BITUMINOUS EDGELINE RUMBLE STRIPE - CONTINUOUS CYCLE

## PLAN VIEW

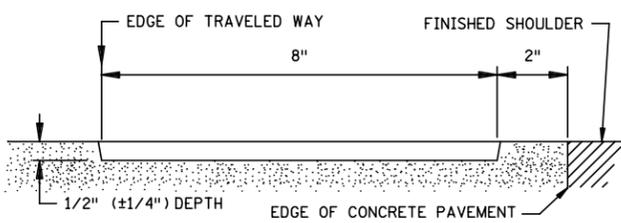
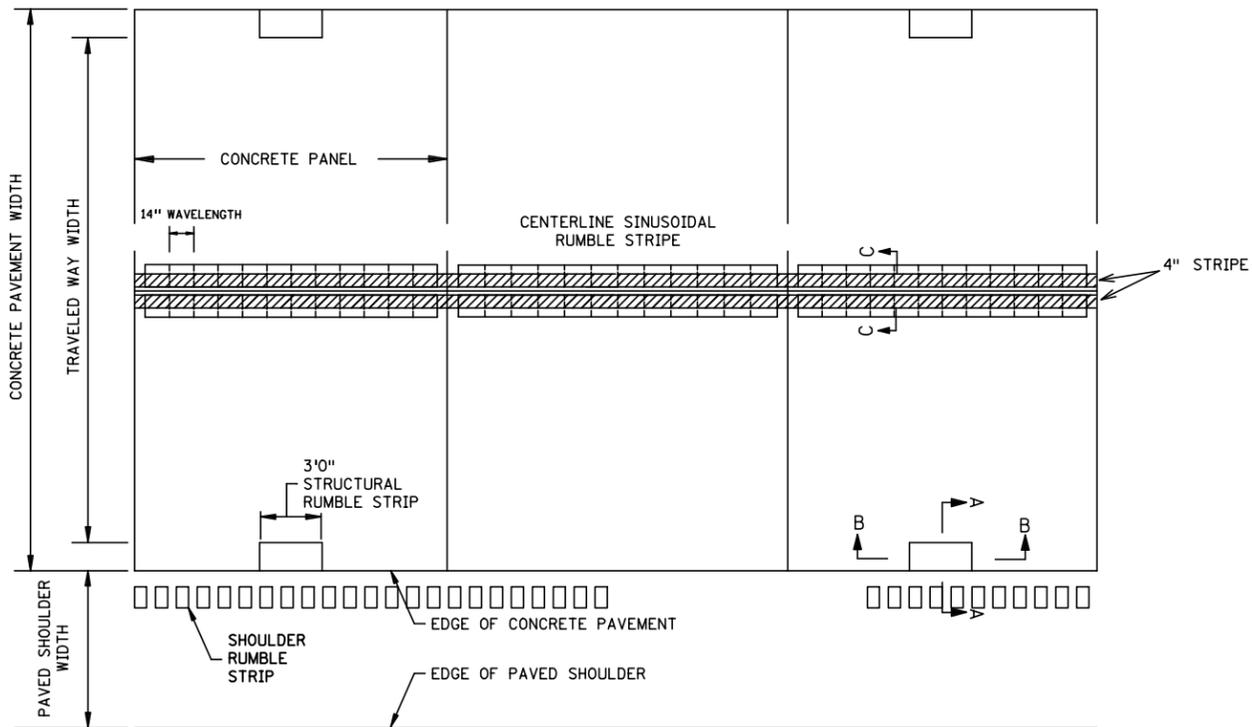


### DESIGNER NOTES:

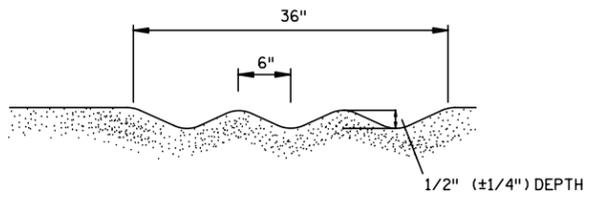
- ① EDGELINE RUMBLE STRIPS ARE WITHIN THE RANGE OF 8-12 IN. ALONG FREEWAY SEGMENTS, EDGELINE RUMBLE STRIPS SHALL BE 16 IN.

# CONCRETE STRUCTURAL RUMBLE STRIP OPTION 1 - INTERMITTENT CYCLE

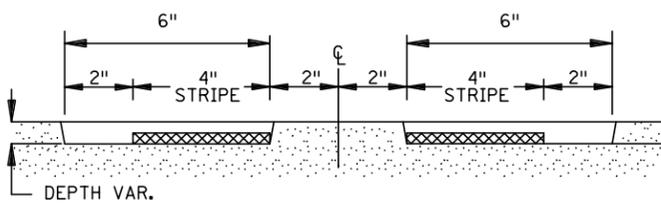
## PLAN VIEW



SECTION A-A



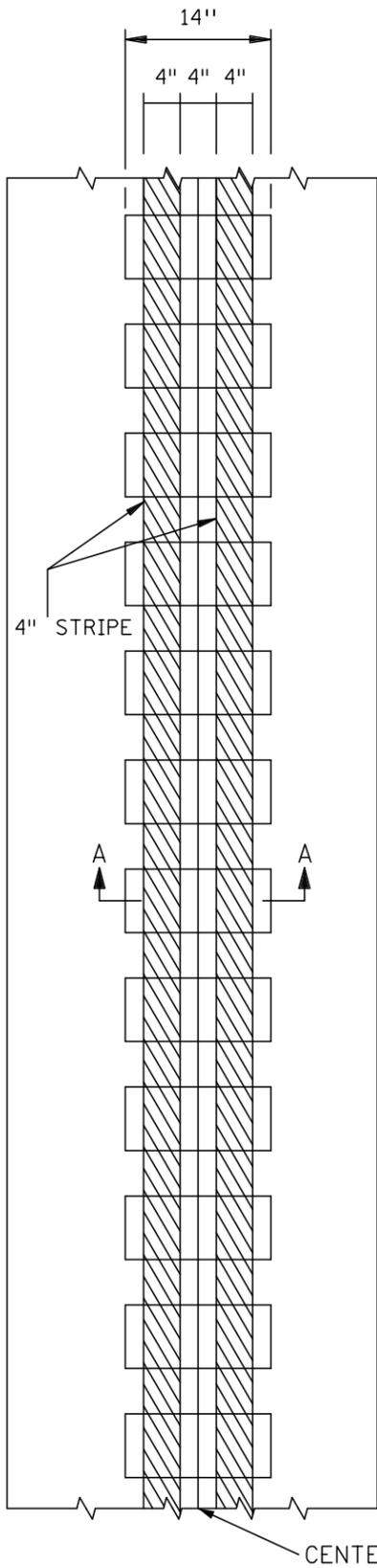
SECTION B-B



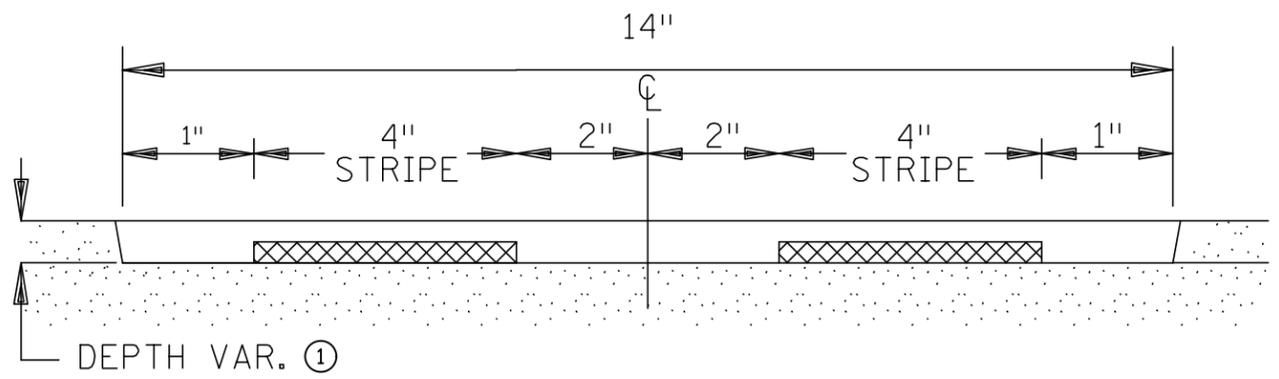
SECTION C-C

# BITUMINOUS CENTERLINE RUMBLE STRIPE

PLAN VIEW



SECTION A-A

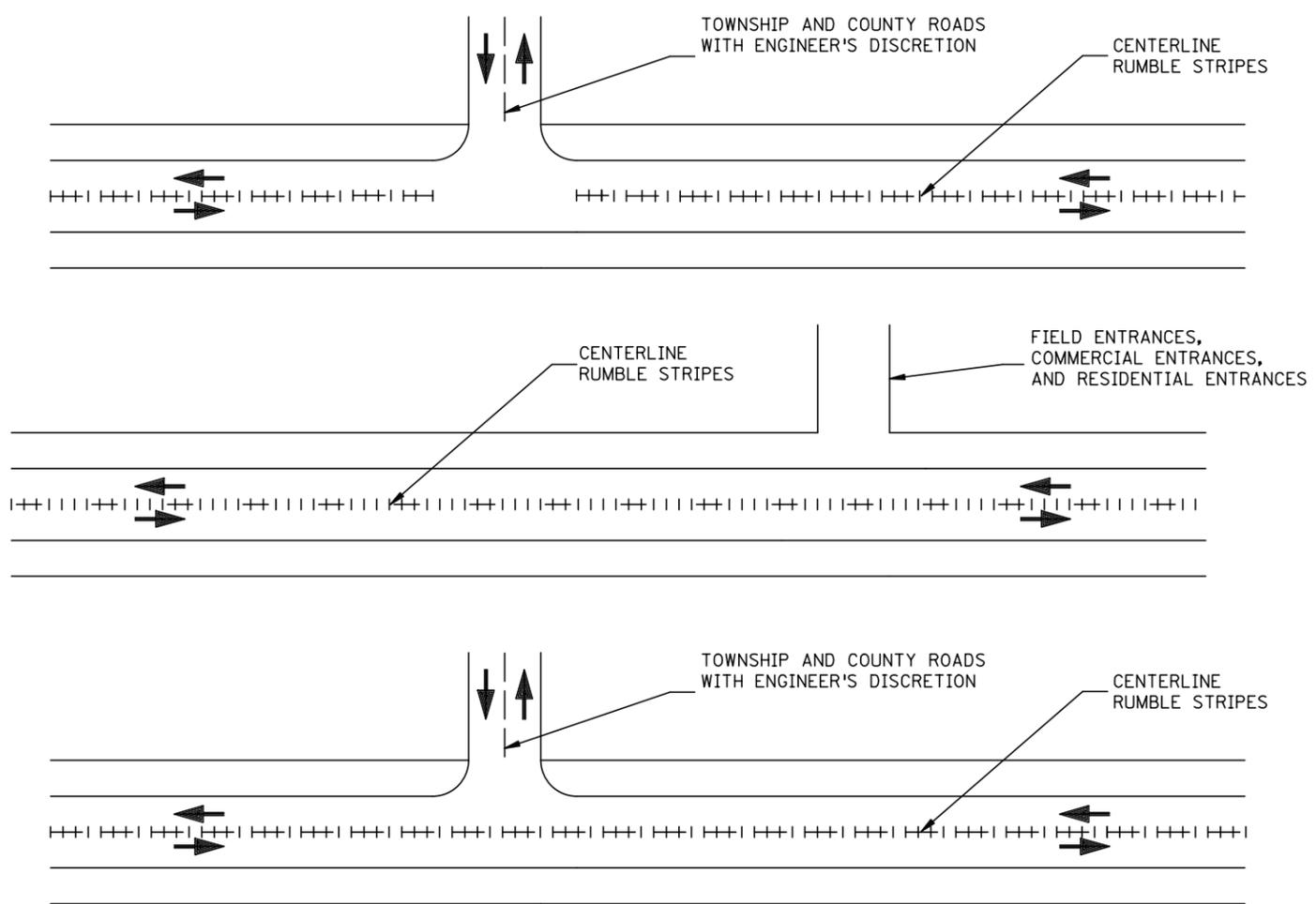


**DESIGNER NOTES:**

- ① INPUT THE CORRECT DEPTH CORRESPONDING TO THE TYPE OF RUMBLE STRIP USED.  
USE "DEPTH VAR." FOR THE SINUSOIDAL DESIGN OR [3/8 IN ( 1/8 IN)] FOR THE RECTANGULAR CORRUGATED DESIGN.

# APPROPRIATE BREAKS

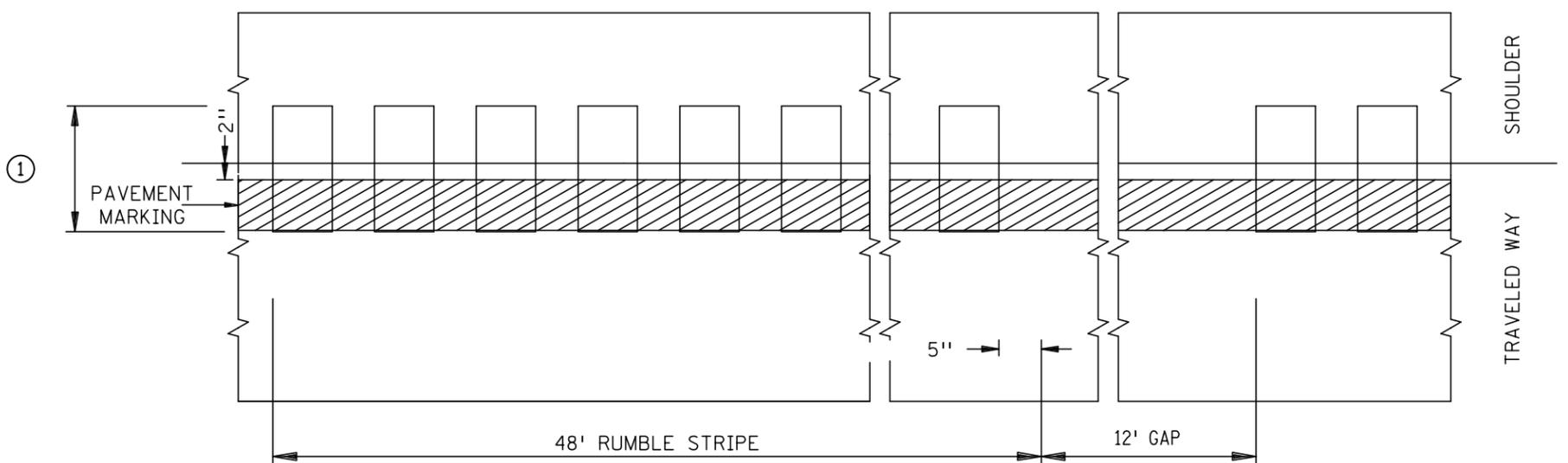
## - CENTERLINE SINUSOIDAL RUMBLE STRIP



# BITUMINOUS EDGELINE RUMBLE STRIPE - INTERMITTENT CYCLE

PLAN VIEW

PLAN VIEW



DESIGNER NOTES:

- ① EDGELINE RUMBLE STRIPS ARE WITHIN THE RANGE OF 8-12". ALONG FREEWAY SEGMENTS, EDGELINE RUMBLE STRIPS SHALL BE 16".