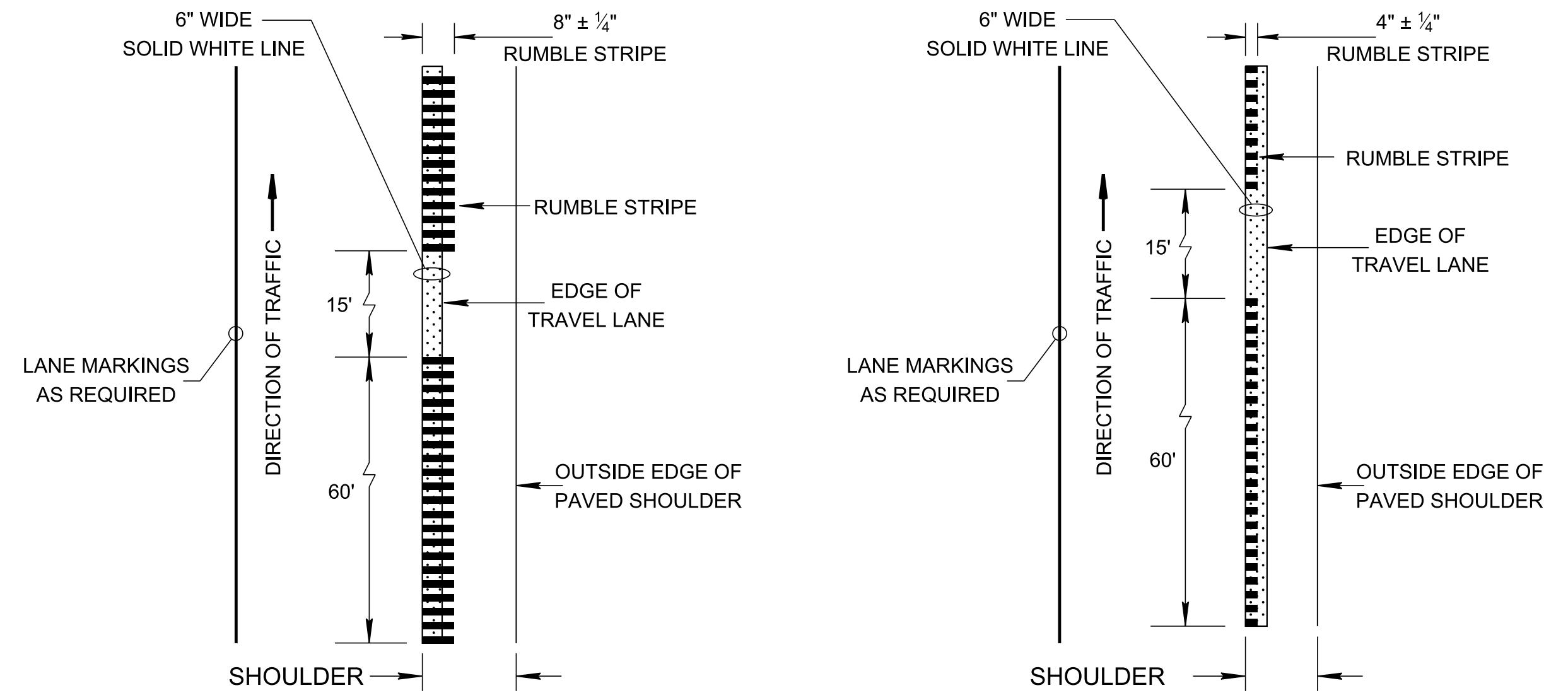


3/16/2021 10:53:42 AM P:\StandDraw\DESIGN STANDARDS\Standards Library\Standard Roadway Drawings - CURRENT\In Progress\10-107.00 Design - Traffic Control IP\170.01 Pavements Markings IP\T16-20210304.dgn



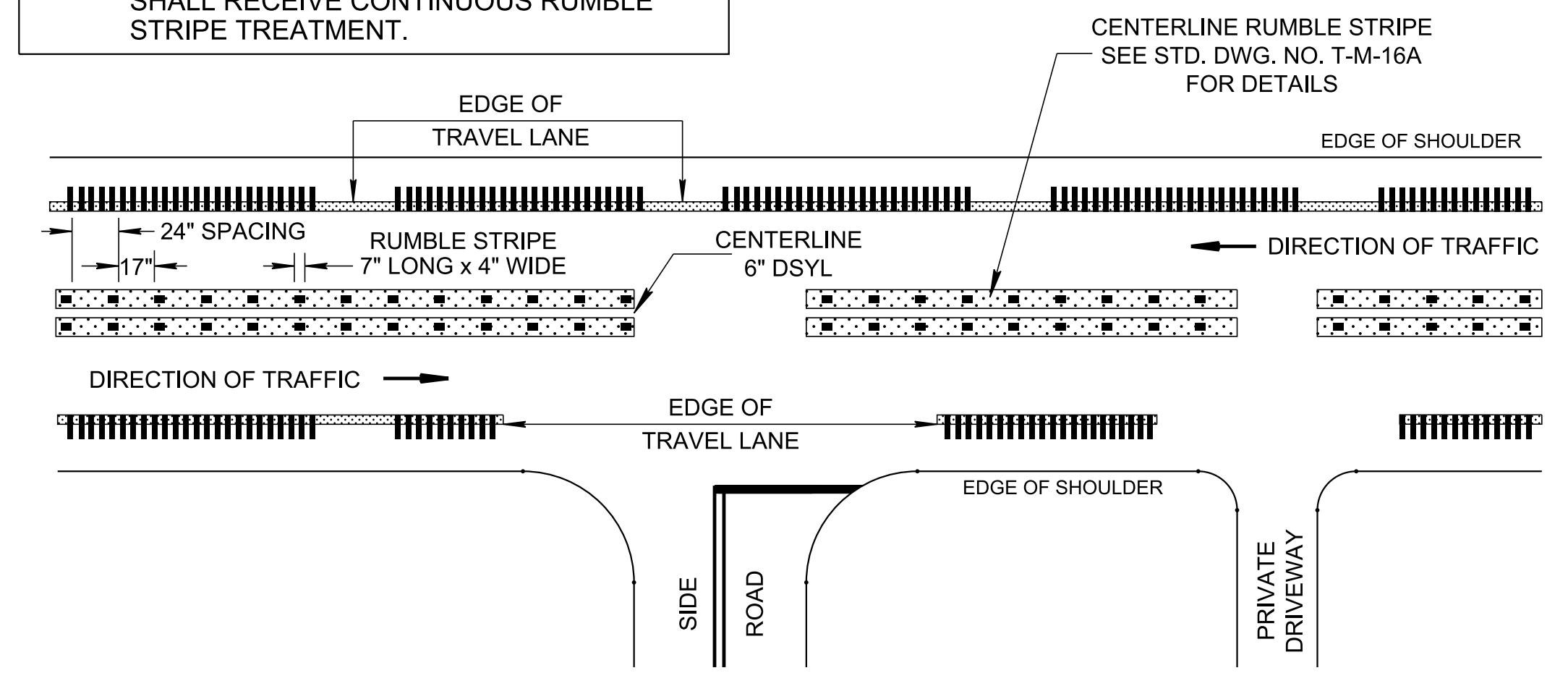
**PLAN VIEW  
FOR PAVED SHOULDER WIDTH, 2' < W < 8'**

EXISTING PAVED SHOULDER MAY ACCOMMODATE BIKE LANE ON SHOULDER 4' OR WIDER. SEE TDOT ROADWAY DESIGN GUIDELINES AND STD. DWG. MM-PM-2 FOR PAVEMENT MARKING AND SIGNING.

NOTE: INSIDE SHOULDERS OF DIVIDED HIGHWAYS SHALL RECEIVE CONTINUOUS RUMBLE STRIPE TREATMENT.

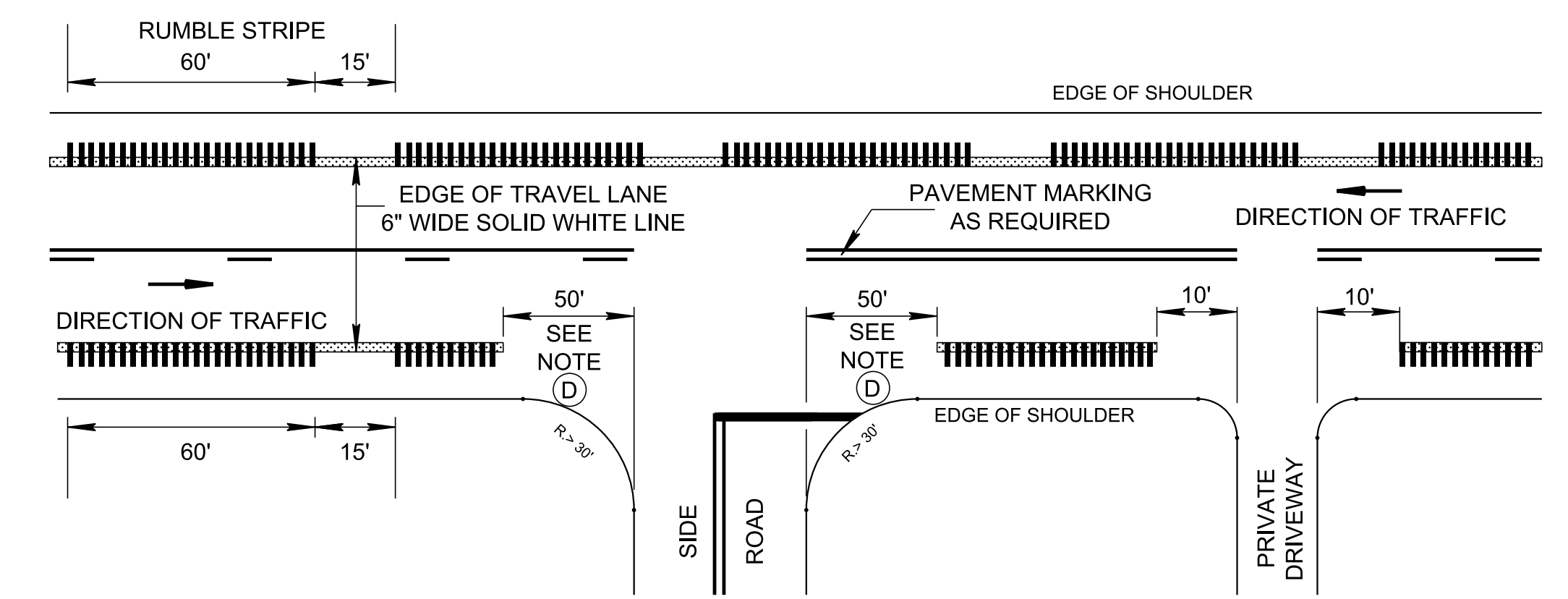
**PLAN VIEW  
FOR PAVED SHOULDER WIDTH, W ≤ 2'**

EXISTING ROADWAY MAY ACCOMMODATE BIKE ROUTE IF POSTED SPEED IS JUSTIFIED. SEE TDOT ROADWAY DESIGN GUIDELINES AND STD. DWG. MM-PM-2 FOR PAVEMENT MARKING AND SIGNING.



**PLAN VIEW FOR CENTERLINE RUMBLE STRIPE**

IF BIKE LANE OR ROUTE IS PROPOSED  
SEE MM-PM-2 FOR PAVEMENT MARKING AND SIGNING



**PLAN VIEW FOR EDGE OF PAVEMENT RUMBLE STRIPE  
AT SIDE ROAD AND DRIVEWAY**

IF BIKE LANE OR ROUTE IS PROPOSED  
SEE MM-PM-2 FOR PAVEMENT MARKING AND SIGNING

**GENERAL NOTES**

- (A) ALL ROADWAYS SHALL HAVE RUMBLE STRIP OR STRIPE. THEY SHOULD BE DISCONTINUED IN ADVANCE OF DRIVEWAYS, INTERSECTIONS, AND MEDIAN OPENINGS. REFER TO CURRENT PAVEMENT MARKING POLICY IN THE DESIGN GUIDELINES FOR PROPER APPLICATION.
  - (B) RUMBLE STRIPES SHOULD BE USED AT LOCATIONS WHERE SHOULDER LIMITS THE USE OF RUMBLE STRIP (SEE STD. DWG'S. T-M-15 & 15A FOR RUMBLE STRIP DETAILS). REFER TO THE CURRENT PAVEMENT MARKING POLICY IN THE DESIGN GUIDELINES FOR PROPER APPLICATION.
  - (C) RUMBLE STRIPE SHOULD NOT BE USED IN RESIDENTIAL OR COMMERCIAL AREAS.
  - (D) WHEN A SIDE ROAD RADIUS IS GREATER THAN 30', RUMBLE STRIPE APPLICATION SHOULD BE DISCONTINUED 50' IN ADVANCE.
  - (E) A 15' LONG GAP BETWEEN 60' LONG SECTIONS OF THE RUMBLE STRIPES, AS SHOWN IN THE PLAN VIEWS, ARE REQUIRED TO ACCOMMODATE BICYCLES TO THE MAXIMUM EXTENT ON THE ROADWAY OR SHOULDER.
  - (F) ON CONVENTIONAL PAVEMENT, APPLY MILLED-IN RUMBLE STRIPE WITH 7" ±1/4" GROOVES, 7/16" ±1/16" SCORING DEPTH, ON 12" ±1/4" SPACING. ON THIN LIFT PAVEMENT (<1"), APPLY MILLED-IN RUMBLE STRIPE WITH 6" ±1/4" GROOVES, 5/16" ±1/16" SCORING DEPTH, ON 12" ±1/4" SPACING.
  - (G) THE COLOR OF AN EDGE LINE OR CENTERLINE ASSOCIATED WITH LONGITUDINAL RUMBLE STRIPE SHALL BE IN ACCORDANCE WITH SECTION 3A.05 OF THE MUTCD.
  - (H) IF RUMBLE STRIPES ARE INSTALLED ON ACCESS CONTROLLED ROUTES AND IF THIN PAVEMENT TYPE IS USED FOR RESURFACING, THE RUMBLE STRIPE IS TO BE INSTALLED CONTINUOUSLY WITHOUT THE 15' GAP. RUMBLE STRIPE WIDTH SHALL BE 16" WIDE AS DETAILED ON STD. DWG. T-M-15.
  - (I) SEE STD. DWG. NO. T-M-16A FOR MILLED-IN RUMBLE STRIPE DETAILS.
- CENTERLINE RUMBLE STRIPE:**
- (J) FOR NEW CONSTRUCTION; CENTERLINE RUMBLE STRIPES MAY BE SPECIFIED IF THE FOLLOWING CONDITIONS EXIST:
    - 1) DESIGN SPEED > 45 MPH
    - 2) ADT OF 2000 OR MORE
    - 3) LANE WIDTH 12' MINIMUM
    - 4) ROAD SEGMENT IS A TWO OR FOUR LANE UNDIVIDED SECTION
    - 5) ROAD SEGMENT IS A NO PASSING OR ONE WAY PASSING ZONE
  - (K) THE MILLED-IN RUMBLE STRIPE FOR THE CENTERLINE SHALL HAVE A WITH 7" ±1/4" GROOVES, 7/16" ±1/16" SCORING DEPTH, ON 24" ±1/4" SPACING.
  - (L) WHEN INSTALLING THE MILLED-IN RUMBLE STRIPE FOR THE CENTERLINE THE PAVEMENT JOINT SHALL NOT BE MILLED.
  - (M) CENTERLINE RUMBLE STRIPES SHALL NOT BE USED ON BRIDGES.
  - (N) RUMBLE STRIPES FOR THE CENTERLINE SHALL BE DISCONTINUED WHENEVER THE CENTERLINE PAVEMENT MARKING IS DISCONTINUED.
  - (O) IF RAISED PAVEMENT MARKINGS ARE REQUIRED, SEE STD. DWG. T-M-1 FOR SPACING. IN LOCATIONS WHERE RPMS ARE PRESENT, STAGGER RUMBLES SUCH THAT RPMS ARE CENTERED BETWEEN RUMBLES.
- PAYMENT**
- (P) RUMBLE STRIPE, ALL COST OF INSTALLATION SHALL BE INCLUDED IN ITEM NOS:
 

411-12.03	SCORING FOR RUMBLE STRIPE (NON-CONTINUOUS) (8IN WIDTH),	L.M.
411-12.04	SCORING FOR RUMBLE STRIPE (NON-CONTINUOUS) (4IN WIDTH),	L.M.
  - (Q) SCORING FOR RUMBLE STRIPE SHALL BE CALCULATED BASED ON THE ACTUAL LENGTH OF PAVEMENT SCORED FOR EACH RUN OF SCORING. EXAMPLE: EACH EDGELINE, 4" OR 8" WIDTH LINE, PER. L.M. AND CENTERLINE x 2, ONE FOR EACH LINE, AT 4 IN WIDTH EACH, PER L.M.
  - (R) PAVEMENT MARKINGS, ALL COST OF INSTALLATION SHALL BE INCLUDED IN ITEM NOS:
 

716-12.02	ENHANCED FLATLINE THERMOPLASTIC PAVEMENT MARKING (6 IN LINE)	L.M.
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  - (S) THE DESIGNER OR THE FIELD ENGINEER MAY CHOOSE TO ALTERNATE RUMBLE STRIPE WITH PROFILED THERMOPLASTIC PAVEMENT MARKING WHEN THE FOLLOWING CONDITIONS EXIST:
    - 1) WHEN IT IS NOT PRACTICAL OR DESIRABLE TO INSTALL MILLED-IN RUMBLE STRIPES FOR INSIDE AND OUTSIDE EDGE LINE PAVEMENT MARKINGS ON ROADWAYS WITH RIGID PAVEMENT SHOULDERS.
    - 2) WHEN EDGE LINES ON TWO - LANE ROADWAYS THAT DO NOT HAVE PAVED SHOULDERS.
    - 3) WHEN EDGE LINES ON BRIDGES WITH NARROW SHOULDERS, AS A SAFETY COUNTERMEASURE FOR BRIDGE PARAPET IMPACTS.

ALL COST OF INSTALLATION SHALL BE INCLUDED IN ITEM NOS:

716-14.02.	PROFILED THERMO PVMT MRKNG AUDIBLE (6IN),	L.M.
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- REV. 11-1-11: CHANGED GENERAL NOTES (E), (F), AND (G). DELETED T-M-11A. ADDED BIKE SYMBOL/ARROW SHARED LANE MARKING DETAILS AND ADDED GENERAL NOTE (H) AND (I).
- REV. 12-1-14: REVISED RUMBLE STRIPE SPACING ADDED REFERENCE TO T-M-11.
- REV. 08-02-18: CHANGED THE SHOULDER WIDTH FROM 2' OR GREATER TO 2' - 8' FOR THE 8" WIDE RUMBLE STRIPE. ADDED NOTE (H), (I) AND (J). ADDED PAVEMENT MARKING PAY ITEM NUMBERS TO NOTE (F). REDREW SHEET.
- REV. 06-28-19: REMOVED 4" PAVEMENT MARKING. REDREW SHEET.
- REV. 01-24-20: ADDED GENERAL NOTE (K) AND NOTE (I). REVISED SECTIONS A-A AND B-B.
- REV. 02-03-20: MOVED TYPICAL SECTIONS FOR SCORING FOR RUMBLE STRIPE TO DRAWING NO. T-M-16A. ADDED PLAN VIEW FOR CENTERLINE STRIPE. REVISED DRAWING NAME AND GENERAL NOTES. REDREW SHEET.
- REV. 03-04-21: MINOR REVISIONS ON GENERAL NOTES (A) AND (B). ADDED NOTE TO THE PLAN VIEW.

APPROVED BY FHWA  
(ALL OTHERS APPROVED BY TDOT)

STATE OF TENNESSEE  
STANDARD DRAWING  
DEPARTMENT OF TRANSPORTATION

RUMBLE STRIPE  
INSTALLATION  
LAYOUT