GENERAL NOTES

1. This standard sheet provides guidelines for installing centerline rumble strips on multilane undivided highways.

2. Centerline and edgeline rumble strips or profile markings shall not be placed on roadways with a posted speed limit of 45 mph or less.

3. Milled rumble strips are preferred when adequate pavement depth is available. If pavement thickness is less than 3 inches, milled rumble strips shall not be used. Rumble strips shall not be milled or depressed into bridge decks.

4. See dimensions for milled rumble strips. Other shapes and dimensions may be used if approved by the Traffic Operations Division.

5. Breaks in milled centerline rumble strips shall occur at least 50 feet and no more than 150 feet in advance of bridges, rail road crossings, intersections and driveways with high usage of large trucks.

6. Use Standard Sheet PM(2) for positioning, dimensioning, and scaling of all reflective raised pavement markers, pavement markings and profile markings.

7. Consideration should be given to noise levels when centerline rumble strips are installed near residential areas, schools, churches, etc. A minimum of 3/8 inch depth of milled rumble strips may be considered in these areas.

8. Pavement markings must be applied over milled centerline rumble strips for normal centerline spacing. For wider medians, specify in the plans the exact placement of the rumble strips. Place the rumble strips under each centerline marking or centered in the middle of the median.

WHEN INSTALLING CENTERLINE RUMBLE STRIPS

9. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per manufacturer's recommendations.

10. When using non-reflective raised traffic buttons as a centerline rumble strip, the button shall be placed adjacent to the pavement marking delineating the centerline. The color of the button should be yellow for a continuous no passing roadway. The button will be painted yellow. Non-reflective traffic buttons must meet the requirements of DMS-4300.

WHEN INSTALLING EDGELINE RUMBLE STRIPS WITH OR WITHOUT CENTERLINE RUMBLE STRIPS ON UNDIVIDED HIGHWAYS

11. See standard sheet RS(4).

Multilane Undivided Highway with Shoulder

Milled Centerline Rumble Strips

Raised Centerline Rumble Strips

Profile Centerline Markings

Traffic Operations Division Standard

RS(2)-13

Texas Department of Transportation

Traffic Operations Division Standard
## General Notes

1. This standard sheet provides guidelines for installing centerline rumble strips on two-lane highways with or without shoulders.
2. Centerline and edgeline rumble strips or profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.
3. Milled rumble strips are preferred when adequate pavement depth is available. If pavement thickness is less than 2 inches, milled rumble strips shall not be used. Thermoplastic profile markings shall not be used or depressed in large potholes.
4. See dimensions for milled rumble strips. Other shapes and dimensions may be used if approved by the Traffic Operations Division.
5. Breaks in milled centerline rumble strips shall occur at least 300 feet and no more than 150 feet in advance of bridges, railroad crossings, intersections and driveways with high usage of large trucks.
6. Use Standard Sheet PM(2) for positioning, dimensioning, and spacing of all reflective raised pavement markers, and dimensions pavement markings and profile markings.
7. Consideration should be given to noise levels when centerline rumble strips are installed near residential areas, schools, churches, etc. A minimum of 3/4 inch depth of milled rumble strip may be considered in these areas.
8. Pavement markings must be applied over milled centerline rumble strips.

### WHEN INSTALLING CENTERLINE RUMBLE STRIPS:

9. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per manufacturer's recommendations.
10. When using non-reflective raised traffic buttons as a centerline rumble strip, one button shall be placed adjacent to the pavement marking delineating the centerline. The buttons shall be spaced 500 mils apart, or 250 mils apart if the button is visible. See Note 6.
11. The color of the button should be yellow for a continuous no passing roadway. Black buttons should be used in areas where passing is allowed.

### WHEN INSTALLING EDGELINE RUMBLE STRIPS

12. See standard sheet RS(4).

## Traffic Operations Division Standard

### Centerline Rumble Strips on Two Lane Two-Way Highways

<table>
<thead>
<tr>
<th>RPM</th>
<th>See Note 6 (reflectorized)</th>
<th>RPM</th>
<th>See Note 6 (reflectorized)</th>
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<tbody>
<tr>
<td>500 mil</td>
<td>300 to 500 mil</td>
<td>500 mil</td>
<td>125 to 250 mil</td>
</tr>
</tbody>
</table>

### Profile View

- **Profile Centerline Markings**
- **Profile Markings**
- **Profile View Option 4**
- **Profile View Option 3**
- **Profile View Option 2**
- **Profile View Option 1**

## Plan View

- **Plan View Option 1**
- **Plan View Option 2**
- **Plan View Option 3**
- **Plan View Option 4**

### Centerline Rumble Strips

- **Milled Centerline Rumble Strips**
- **Raised Centerline Rumble Strips**
- **Raised Centerline Rumble Strips and Preformed Thermoplastic Strips**
- **Profile Centerline Markings and Preformed Thermoplastic Strips**
Disclaimers:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard.

When Installing Raised Edgeline Rumble Strips:

11. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per the manufacturer’s recommendations.

12. Non-reflective traffic buttons must be placed adjacent to the pavement marking delineating the edgeline when used as a rumble strip. The color of the button should match the color of the adjacent edgeline marking (white or yellow). The buttons will be painted for urban streets. Non-reflective traffic buttons must meet the requirements of DMS-4300.

13. Non-reflective traffic buttons shall not be placed across exit or entrance ramps, railroad crossings, and driveways with high usage of large trucks when installed on conventional highways.

14. Rumble strips shall not be placed across exit or entrance ramps, railroad crossings, intersections, and driveways with high usage of large trucks when installed on conventional highways.

15. The minimum distance between the edgeline and the buttons shall occur at least 50 feet and no more than 150 feet in advance of bridges, railroad crossings, intersections, and driveways with high usage of large trucks when installed on conventional highways.

16. The minimum distance between the edgeline and the buttons shall be given before the installation of edgeline rumble strips.

When Installing Alternate Edgeline Rumble Strips:

17. Raised profile thermoplastic markings used as edgelines may substitute for buttons.

18. Breaks in edgeline rumble strips shall occur at least 50 feet and no more than 150 feet in advance of bridges, railroad crossings, intersections, and driveways with high usage of large trucks when installed on conventional highways.

19. Rumble strips shall not be placed across exit or entrance ramps, railroad crossings, intersections, and driveways with high usage of large trucks when installed on conventional highways.

20. Consideration should be given to noise levels when edgeline rumble strips are installed near residential areas, schools, churches, etc. A minimum of 0.5 inches depth of milled rumble strips may be considered in these areas.

21. On roadways with high bicycle activity, consideration should be given before the installation of edgeline rumble strips. Things to consider include size of rumble strips, rumble strip material, and location of rumble strips on the shoulder. If the designer determines that grooves are needed in the rumble strips due to bicycle use of the road, then follow the requirement given in Texas Tech Notes TNE-6030B or森林版本, or forest version.

Things to consider include the plane in which the plane may have been made and the plane in which the plane may have been made. Things to consider include size of rumble strips, rumble strip material, and location of rumble strips on the shoulder. If the designer determines that grooves are needed in the plane due to bicycle use of the road, then follow the requirement given in Texas Tech Notes TNE-6030B or forest version.

When Installing Raised or Profile Edgeline Rumble Strips:

22. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per the manufacturer’s recommendations.

23. Non-reflective traffic buttons must be placed adjacent to the pavement marking delineating the edgeline when used as a rumble strip. The color of the button should match the color of the adjacent edgeline marking (white or yellow). The buttons will be painted for urban streets. Non-reflective traffic buttons must meet the requirements of DMS-4300.

24. Non-reflective traffic buttons shall not be placed across exit or entrance ramps, railroad crossings, intersections, and driveways with high usage of large trucks when installed on conventional highways.

25. Rumble strips shall not be placed across exit or entrance ramps, railroad crossings, intersections, and driveways with high usage of large trucks when installed on conventional highways.

26. Consideration should be given to noise levels when edgeline rumble strips are installed near residential areas, schools, churches, etc. A minimum of 0.5 inches depth of milled rumble strips may be considered in these areas.

27. On roadways with high bicycle activity, consideration should be given before the installation of edgeline rumble strips. Things to consider include size of rumble strips, rumble strip material, and location of rumble strips on the shoulder. If the designer determines that grooves are needed in the rumble strips due to bicycle use of the road, then follow the requirement given in Texas Tech Notes TNE-6030B or forest version.

28. Things to consider include the plane in which the plane may have been made and the plane in which the plane may have been made. Things to consider include size of rumble strips, rumble strip material, and location of rumble strips on the shoulder. If the designer determines that grooves are needed in the plane due to bicycle use of the road, then follow the requirement given in Texas Tech Notes TNE-6030B or forest version.
1. Transverse or in-lane rumble strips should only be used at high incident and special geometric locations. These special geometric locations may include approaches to rural, high-speed signalized or stop-controlled intersections with either restrictions on traffic, high-speed roads, approaches to unexpected urban intersections, approaches to newly installed stop or signalized controlled intersections, approaches to toll plazas, approaches to hazardous horizontal curves, and approaches to railroad grade crossings.

2. When used, the rumble strips shall be placed 200 feet prior to and after the placement of the warning device.

3. The use of rumble strips should not be widespread or used indiscriminately.

4. Preformed black raised rumble strips should be used. They should be installed in accordance with the manufacturer’s recommendations.

5. A list of approved, preformed raised rumble strips can be obtained from the Traffic Operations Division.

6. Consideration should be given to noise levels when in-lane or transverse rumble strips are installed near residential areas, schools, churches, etc.

7. The use of the “Rumble Strips Ahead” sign may be used in advance of in-lane or transverse rumble strips, based on engineering judgment. This sign is typically not necessary for rumble strip installations built to the guidelines on this standard sheet. When used, this sign should be spaced in advance of the rumble strips based on the guidelines for advance placement of warning sign included in the “Texas Manual on Uniform Traffic Control Devices”.

8. Consideration should be given to bicyclists. A 12 inch gap from the edge line may be used to accommodate bicyclists when a usable shoulder is not available. Additional gaps in the in-lane or transverse rumble strips are not recommended since they could cause motorists to swerve to avoid the rumble strips.

9. Other signs can be used as conditions warrant.