

215 Roadside Safety

215.4.1.3 Rigid Barrier

Rigid Barriers are assumed to exhibit no deflection under impact conditions; however, crash severity will likely be the highest of all barrier options. Rigid barrier includes Concrete Barriers and Traffic Railings. Concrete barriers are included for roadway applications and Traffic Railings are designed for structural bridge applications (e.g., bridges, noise walls, wall copings).

Align Rigid Barrier parallel to adjacent traffic lanes; this orientation may vary by the maximum taper rates given in the *Standard Plans Instructions* for *Index 521-001*.

Modifications to Rigid Barriers require approval from Office of Design (SDO or RDO). Modifications may include the following:

- Reinforcement details
- Surface treatments
- Material substitutions
- Geometric discontinuities along the length of the barrier
- Non-standardized attachments that do not meet the requirements of either this manual or [SDG](#)
- Non-standardized and unfilled pockets or blockouts
- End transition details
- Traffic face geometry

Rigid Barriers include the following:

- (1) Single-Slope Concrete Barriers (roadside applications):
 - (a) Median – [Standard Plans, Index 521-001](#) (TL-4, MASH)
 - (b) Shoulder – [Standard Plans, Index 521-001](#) (TL-4, MASH)
 - (c) Curb & Gutter - [Standard Plans, Index 521-001](#) (TL-2, MASH)

Commented [SR1]: Modified Thrie-beam removed from the Standard

Formatted: Highlight

Field Code Changed

Field Code Changed

Field Code Changed

(d) Retaining ~~Wall Shielding Barrier~~ – Standard Plans, Index 521-001 (TL-4, MASH)

(e) Pier Protection – Standard Plans, Index 521-002 (TL-5, MASH)

(f) Noise Wall – Standard Plans, Index 521-510 thru 521-515 (TL-4, MASH)

~~(e)~~(g) Wall Coping – Standard Plans, Index 521-610 and 521-620 (36" Single-Slope and 42" Vertical, TL-4, MASH) (42" Single-Slope, TL-5, MASH)

(2) Traffic Railings (bridges, noise walls, and wall copings applications):

(a) Bridges – Standard Plans, Index 521-422 thru 521-427 (TL-4, MASH) and Index 521-428 (TL-5, MASH)

(b) Thrie-Beam Retrofits – Standard Plans, Index 460-470 thru 460-476 (TL-3, MASH) and Index 460-477 (TL-2, MASH)

(c) Vertical Face Retrofits – Standard Plans, Index 521-480 thru 521-484 (TL-3, MASH)

Note: Use Tapered End Transition, Standard Plans, Index 521-484, for Design Speed ≤ 40 mph only. Not permitted within the clear zone of approaching traffic unless site-specific justification is provided and approved by the District Design Engineer.

(d) Noise Wall – Standard Plans, Index 521-509 thru 521-515 (TL-4, MASH) (TL-5 option available from Structures Design Office)

~~(e)~~(e) Rectangular Tube Retrofit – Standard Plans, Index 460-490 (TL-4, MASH)

(e) Wall Coping – Standard Plans, Index 521-610 and 521-612 (36" Single-Slope and 42" Vertical, TL-4, MASH) (42" Single-Slope, TL-5, MASH)

Commented [SR2]: To make "Wall Shielding Barrier" term consistent with Standard and BOE, and to make consistent with (a)-(c) (remove "barrier")

Field Code Changed

Formatted: Not Highlight

Field Code Changed

Formatted: Highlight

Formatted: Highlight

Formatted: Highlight

Formatted: Font: Bold, Italic, Highlight

Formatted: Highlight

Formatted: Font: Bold, Italic, Highlight

Formatted: Highlight

Field Code Changed

Field Code Changed

Formatted: Highlight

Formatted: Highlight

Formatted: Highlight

Formatted: Font: Bold, Italic

Formatted: Highlight

Formatted: Highlight

Formatted: Highlight