GUARDRAIL TRANSITION ALIGNMENTS FOR BRIDGE THRIE-BEAM AND VERTICAL FACE TRAFFIC RAILING RETROFIT

TOP VIEW

SPECIAL STEEL POST FOR ROADWAY THRIE-BEAM TRANSITIONS TO BRIDGE TRAFFIC RAILING RETROFITS

- 10 Gage Thrie-Beam Or Thrie-Beam Terminal Connector
- Traffic Railings (Thrie-Beam Or Vertical Face Retrofits)

SIDE VIEW

CURB TYPE F FLARE WHEN END OF EXISTING APPROACH SLAB CURB EXPOSED

- 1/2" Ø Bolt Holes
- 1" Ø x 10" Galvanized Adhesive-Bonded Anchor Studs (8 Req'd.), Hex Nuts (8 Req'd.), & Standard Washers (4 Req'd.)
- Adjusting Nuts
- 2" Ø Recess
- Anchor Hole
- Remove Any Asphalt To Set Base Plate Flush With Slab 7" (Min.)
- 11/2" (Max.)

NOTES FOR GUARDRAIL TRANSITIONS CONNECTING TO TRAFFIC RAILING RETROFITS ON EXISTING BRIDGES

1. The transition detail shown on this sheet shows all of the standard post spacings within the typical thrie-beam approach transitions connecting to existing bridges with retrofit traffic railings, and (b) depict the typical alignments of the approach transitions.

2. The curb and gutter flare shown on this sheet is typical of flares that are to be constructed when approach slab curbs extend to the beginning of the slab, and where other treatment to curb blunt ends are not in place.

3. The special steel post for roadway thrie-beam transitions detailed on this sheet is specific to all transition applications on this index that require one or more steel posts.

The special steel post and base plate assembly shall be fabricated in accordance with Specification 967.

Anchor studs shall be fully threaded rods in accordance with ASTM F1554 Grade 36 or ASTM A193 Grade B7. All nuts shall be heavy hex in accordance with ASTM A563 or ASTM A19

4. Anchor studs and nuts shall be hot-dip zinc coated in accordance with the Specifications. After the nuts have been snug tightened, the anchor stud threads shall be single punch distorted immediately above the top nuts to prevent loosening of the nuts. Distorted threads shall be coated with a galvanizing compound in accordance with the Specifications.

Adhesive bonding material systems for anchors shall comply with Specification 937 and be installed in accordance with Specification 416.4. Nested beam extensions and points for terminal connector attachments will vary for traffic railing barrier vertical face retrofits. The plan views for the vertical face retrofits barriers show the primary configurations for each particular scheme. The associated pictorial views show the variations.

5. For installing thrie-beam terminal connector to traffic railing vertical face retrofits, see notes on Sheets 15 through 18 and the flag notation on Sheet 26.

6. Payment for connections to traffic railing vertical face retrofits are to be made under the contract unit price for Bridge Anchorage Assembly, EA., and shall be full compensation for bolt hole construction, terminal connector, terminal connector plate and bolts, nuts and washers.
MEDIAN LENGTHS

<table>
<thead>
<tr>
<th>MEDIAN WIDTH (Ft.)</th>
<th>10' BRIDGE SHOULDERS</th>
<th>6' BRIDGE SHOULDERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1:10 TAPER RATE</td>
<td>1:15 TAPER RATE</td>
</tr>
<tr>
<td>PANELS (No.)</td>
<td>LENGTH (Ft.)</td>
<td>PANELS (No.)</td>
</tr>
<tr>
<td>28</td>
<td>118.75</td>
<td>28</td>
</tr>
<tr>
<td>26</td>
<td>148.75</td>
<td>26</td>
</tr>
<tr>
<td>24</td>
<td>178.75</td>
<td>24</td>
</tr>
</tbody>
</table>

The lengths shown in this table are based on standard widths for roadway and bridge median shoulders. Length requirements for both standard width and narrow bridge shoulders and end anchorage or end shielding requirements shall be determined on a site specific basis. The number of panels may be reduced when installing a crash cushion more than 2.5' in width; see * below.

*Number shown is the minimum number of panels plus a W-Thrie beam transition panel; single faced guardrail must have a length of five (5) or more panels.

APPENDIX GUARDRAIL TREATMENTS FOR BRIDGES WITH CONCRETE TRAFFIC RAILING
EXTENDING LESS THAN FULL APPROACH SLAB LENGTH IN NARROW MEDIAN WITH FLUSH SHOULDERS
PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS
FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS
FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS
FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)

SEE INDEXES 460-472 & 460-475 - SCHEMES 3 & 4

SEE INDEXES 460-472 & 460-475 - SCHEMES 5 & 6
PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
SEE INDEXES 460-473 & 460-476 - SCHEMES 5 & 6

PARTIAL PLAN VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS
FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
Part of the document contains diagrams showing transitions and connections for bridge traffic railing (Thrie-Beam Retrofit). The diagrams illustrate various scenarios involving existing curbs, approach slabs, and railings, with specific notes on configurations and required actions such as removing portions of curbs as needed. The sections are labeled as "SEE INDEX 460-474 - SCHEME 1," "SEE INDEX 460-474 - SCHEME 2," and "SEE INDEX 460-474 - SCHEME 3."
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)

- Pictorial View See Index 460-471 - Scheme 1
- Pictorial View See Index 460-471 - Scheme 2
- Pictorial View See Index 460-471 - Scheme 3

DESCRIPTION:

REV 11/01/17

11/01/17

SOURCE: FDOT

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GUARDRAIL TRANSITIONS AND CONNECTIONS FOR EXISTING BRIDGES

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PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)

On Bridge Structure Blocks located Both Ends of Bridge

See Indexes 460-472, 460-473, 460-475 & 460-476 - Schemes 3 & 4

SEE INDEXES 460-472, 460-473, 460-475 & 460-476 - SCHEMES 5 & 6

PICTORIAL VIEWS

Traffic Railing (Thrie-beam Retrofit)

Key Post Reference Line

Transition Block In Absence Of Curb

Nested W-Beam

Traffic Railing (W-beam Shown)

Roadway Guardrail Transition

Nested W-Beam

Nested W-Beam

ROADWAY GUARDRAIL TRANSITION

Nested W-Beam

Nested W-Beam

Traffic Railing (W-beam Shown)

SEE INDEXES 460-472, 460-473, 460-475 & 460-476 - SCHEMES 5 & 6

On Bridge Structure Blocks located Both Ends of Bridge

See Indexes 460-472, 460-473, 460-475 & 460-476 - Schemes 3 & 4

SEE INDEXES 460-472, 460-473, 460-475 & 460-476 - SCHEMES 5 & 6

PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR
BRIDGE TRAFFIC RAILING (THRIE-BEAM RETROFIT)
PARTIAL PLAN VIEWS OF TRAFFIC RAILING (VERTICAL FACE RETROFIT)

Note:
*1-1/2" x 3/8" Thrive-Beam Terminal Connector Plate (Back-Up Plate), And 1-3/8" x 12" Long HS Hex Bolts And Nuts (5 Reqd.) With 3/16 OD Plain Round Washers Under Heads And Nuts

SEE INDEX 460-481 - SCHEME 1

SEE INDEX 521-481 - SCHEME 2

SEE INDEX 521-481 - SCHEME 3

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PARTIAL PLAN VIEWS OF TRAFFIC RAILING (VERTICAL FACE RETROFIT)
(INDEX 521-482 SHOWN, INDEX 521-405 SIMILAR)

Note:
* 21" x 12" x 1¾ Thrie-Beam Terminal Connector Plate (Back-Up Plate), And ¾ x 12" Long
* 5/8 Hex Bolts And Nuts (5 Req'd) With 2 ¼ Plain Round Washers Under Heads And Nuts

SEE INDEX 521-405 OR 521-482 - SCHEME 2

SEE INDEX 521-405 OR 521-482 - SCHEME 3
PARTIAL PLAN VIEWS OF TRAFFIC RAILING (VERTICAL FACE RETROFIT)
(INDEX 521-482 SHOWN, INDEX 521-405 SIMILAR)
PARTIAL PLAN VIEWS OF TRAFFIC RAILING (VERTICAL FACE RETROFIT)

Note:
* 21" x 12" x 3/8" Thrie-Beam Terminal Connector Plate (Back-Up Plate), And 3/8" HS Hex Bolts And Nuts (12" Long For Scheme 1 And Length To Fit For Schemes 2 And 3/15 Req'd) With 21/2" OD Plain Round Washers Under Heads And Nuts

SEE INDEX 521-483 - SCHEME 1

SEE INDEX 521-483 - SCHEME 2

SEE INDEX 521-483 - SCHEME 3
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)

PICTORIAL VIEW
SEE INDEX 521-481 - SCHEME 2

PICTORIAL VIEW
SEE INDEX 521-481 - SCHEME 1

PICTORIAL VIEW
SEE INDEX 536-002 - SCHEME 2

* Post Bolts At First Standard (3'-1") Post Hole Location On Bridge (7" Min. From End Of Bridge). Use 1/2" NS Hex Bolts And Nuts With 2½" OD Plain Round Washers Under Heads And Nuts.
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)

EXISTING RAILING AND FIXED WING POST REMOVED
TRAFFIC RAILING (VERTICAL FACE RETROFIT) CONSTRUCTED

* Post Bolts at First Standard (3'-1"") Post Hole Location on Bridge (1" Min. from End of Bridge). Use 1/4" HS Hex Bolts and Nuts With 21/2" OD Plain Round Washers Under Heads And Nuts.

TRAFFIC RAILING (VERTICAL FACE RETROFIT) CONSTRUCTED

EXISTING RAILING AND FIXED WING POST REMOVED
TRAFFIC RAILING (VERTICAL FACE RETROFIT) CONSTRUCTED

PICTORIAL VIEW

SEE INDEX 521-481 - SCHEME 3

PICTORIAL VIEW

SEE INDEX 521-481 - SCHEME 3

PICTORIAL VIEW

SEE INDEX 521-481 - SCHEME 3

PICTORIAL VIEW

SEE INDEX 521-481 - SCHEME 3

PICTORIAL VIEW

SEE INDEX 521-481 - SCHEME 3

PICTORIAL VIEW

SEE INDEX 521-481 - SCHEME 3
FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)
(INDEX 521-482 SHOWN, INDEX 521-405 SIMILAR)

* Post Bolts At First Standard (3'-1"") Post Hole Location On Bridge
(7" Min. From End Of Bridge) Use 1/2" HS Hex Bolts And Nuts
With 1/4" DD Plain Round Washers Under Heads And Nuts

PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS
FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)
(INDEX 521-482 SHOWN, INDEX 521-405 SIMILAR)

PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS
FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)
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PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS
FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)
(INDEX 521-482 SHOWN, INDEX 521-405 SIMILAR)

* Post Bolts At First Standard (3'-1"") Post Hole Location On Bridge
(7" Min. From End Of Bridge). Use 5/8" HS Hex Bolts And Nuts
With 21/2" OD Plain Round Washers Under Heads And Nuts.
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)
(INDEX 521-482 SHOWN, INDEX 521-405 SIMILAR)
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS
AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING
(VERTICAL FACE RETROFIT)

* Post Bolts At First Standard (3'-1"") Post Hole Location On Bridge
(7" Min. From End Of Bridge). Use 3/8" HS Hex Bolts And Nuts
With 3/4" OD Plain Round Washers Under Heads And Nuts.
PICTORIAL VIEWS OF GUARDRAIL APPROACH TRANSITIONS AND CONNECTIONS FOR BRIDGE TRAFFIC RAILING (VERTICAL FACE RETROFIT)

SEE INDEX 521-483 - SCHEME 3

* Post Bolts At First Standard (3'-1½") Post Hole Location On Bridge (7" Min. From End Of Bridge). Use 1/2" HS Hex Bolts And Nuts With 2½" OD Plain Round Washers Under Heads And Nuts.
GUARDRAIL TRANSITIONS AND CONNECTIONS FOR EXISTING BRIDGES

TRAILING END GUARDRAIL AND ANCHORAGE FOR BRIDGE TRAFFIC RAILING (THRIE BEAM RETROFITS)

GUARDRAIL TRAILING END ANCHORAGE IN ABSENCE OF OTHER HAZARDS

GUARDRAIL TRAILING END ANCHORAGE WHEN OTHER HAZARDS PRESENT

THE LATERAL LOCATION OF THESE POSTS AND REQUIRED OFFSETS MAY NEED TO BE DETERMINED FROM THE APPROACH SIDE AND END ANCHORAGE DETAILS FOR THE APPROACH SIDE.

ROADWAY TRAILING END GUARDRAIL

TRAFFIC RAILING (THRIE-BEAM RETROFIT)

CONNECTIONS FOR EXISTING BRIDGES

GUARDRAIL TRANSITIONS AND

11/01/17

REVISED

DESCRIPTION:

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