NOTES:
1. On approach end provide Index No. 402 (as shown) or other site specific treatment, see Roadway Plans.
   For treatment of trailing end see Roadway Plans.
2. Actual joint dimension and orientation vary. For Intermediate Deck Joints use the Modified Post Spacing at Intermediate Deck Joints Detail, Index No. 470, Sheet 2, as required.
3. Areas where existing structure has been removed shall match adjoining areas and shall be finished flat by grouting or grinding as required. Exposed existing reinforcing steel shall be burned off 1" below existing concrete and grouted over.

CROSS REFERENCES:
For Section A-A see Sheet 2.
For Traffic Railing Notes and Details see Index No. 470.
SECTION A-A
TYPICAL SECTION THRU RAILING ON BRIDGE DECK

BILL OF REINFORCING STEEL

<table>
<thead>
<tr>
<th>MARK</th>
<th>SIZE</th>
<th>LENGTH</th>
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<tbody>
<tr>
<td>D</td>
<td>4</td>
<td>3'-7&quot;</td>
</tr>
<tr>
<td>L</td>
<td>4</td>
<td>3'-1&quot;</td>
</tr>
<tr>
<td>M</td>
<td>4</td>
<td>2'-8&quot;</td>
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BAR BENDING DIAGRAMS

Dowel Bar 4D

Dowel Bar 4L

BAR 4M

NOTE: All bar dimensions are out to out.

SECTION B-B
TYPICAL SECTION THRU RAILING ALONG APPROACH SLAB
(SCHMES 5 AND 6 SHOWN, SCHEMES 3 AND 4 SIMILAR)

VIEW C-C

DETAIL "A"

CROSS REFERENCES:
For location of Section A-A see Sheet 1, 3 & 4.
For location of Section B-B see Sheet 4.
For location of View C-C see Sheet 3.
For application of Dim. A see Post Dimension Table on Index 470, Sheet 3.
TRAFFIC RAILING - (THRIE-BEAM RETROFIT)
WIDE CURB TYPE 1

SCHEME 1: RAILING END TREATMENT FOR PERPENDICULAR OR ANGLED WING WALLS

1. Provide Transition Block (as shown) or Curb if existing Approach Slab does not have a curb and if opposing traffic will be removed. See Roadway Plans for Details of Sidewalk replacement.

SCHEME 2: RAILING END TREATMENT FOR PARALLEL OR FLARED CURBS WITH DETACHED SIDEWALKS OR INTEGRAL SIDEWALKS LESS THAN 6" THICK

1. Provide Transition Block (as shown) or Curb if existing Approach Slab Curb does not extend to end of Approach Slab. Shape and height of Transition Block or Curb shall match existing bridge curb. Transition Block may be omitted on trailing ends with no opposing traffic and on bridges with flared Approach Slab Curb.

2. Field bend Dowel Bars 4D (10" Embedment) (See Note 1) when present.

PARTIAL ELEVATION OF INSIDE FACE OF RAILING

EXISTING WING POST AND TRAFFIC RAILING NOT SHOWN FOR CLARITY

(Existing Wing Post and Traffic Railing not shown for clarity)

SCHEME 1 NOTES:

1. Provide Transition Block (as shown) or Curb if existing Approach Slab does not have a curb, see Roadway Plans. Shape and height of Transition Block or Curb shall match existing bridge curb. Transition Block may be omitted on trailing ends with no opposing traffic.

2. Field bend Dowel Bars 4D within Transition Block as required to maintain 2" top and side clearance and 3" bottom clearance.

SCHEME 2 NOTES:

1. Provide Transition Block (as shown) or Curb if existing Approach Slab Curb does not extend to end of Approach Slab. Shape and height of Transition Block or Curb shall match existing bridge curb. Transition Block may be omitted on trailing ends with no opposing traffic and on bridges with flared Approach Slab Curb.

2. Field bend or tilt Dowel Bars 4D and Bars 4M within Transition Block as required to maintain 2" top and side clearance and 3" bottom clearance.
RAILING END TREATMENT FOR PARALLEL INTEGRAL CURBS

SCHEMES 5 AND 6 NOTES:

1. Provide Transition Block (as shown) or Curb if existing Approach Slab Curb does not extend to end of Approach Slab. Shape and height of existing Transition Block or Curb shall match existing bridge curb. Transition Block may be omitted on trailing ends with no opposing traffic.

2. Field bend Dowel Bars 4L within Transition Block as required to maintain top $2"$, side clearance of $3"$, and bottom clearance of $2"$.

SCHEMES 3 AND 4:

RAILING END TREATMENT FOR FLARED INTEGRAL CURBS

PARTIAL ELEVATION OF INSIDE FACE OF RAILING (Existing Wing Post and Traffic Railing not shown for clarity)

PARTIAL PLAN OF RAILING

<table>
<thead>
<tr>
<th>Type</th>
<th>Post Spacing Scheme</th>
<th>2 - Variable Spaces</th>
<th>3'-10&quot; Max. spacing</th>
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<td>Varies (3-1/2&quot; Max. spacing)</td>
<td>Post Spacing Scheme 3 as measured to $\frac{1}{4}&quot;$ Post Bolts</td>
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<tr>
<td>2 - Variable Spaces</td>
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<td>Post Spacing Scheme 4 as measured to $\frac{1}{4}&quot;$ Post Bolts</td>
<td></td>
</tr>
</tbody>
</table>

Asphalt Overlay when present (Varies)

Guardrail Post Assembly with Offset Block (Typ.)

Existing Bridge Deck

Front Face of Backwall & Begin or End Bridge

Rear Face of Backwall & Begin or End Bridge

Existing Bridge Deck

Existing Approach Slab

Front Face of Backwall & Begin or End Bridge

Roadway Guardrail Transition (See Note 1, Sheet 1)

TRAFFIC RAILING - (THRIE-BEAM RETROFIT) WIDE CURB TYPE 1 INDEX NO. 475 SHEET NO. 4 of 4 FY 2017-18 DESIGN STANDARDS

ROADWAY GUARDRAIL TRANSITION (See Note 1, Sheet 1)

Traffic Railing (3'-1" Max. spacing) (Typ. along Approach Slab) measured to $\frac{1}{4}"$ Post Bolts and Match Line (Approach or Trailing End) (See Sheet 1)

PARTIAL PLAN OF RAILING

2 - Variable Spaces

3'-10" Max. | $2"$ Top and $3"$ Bottom Clearance

2 - Variable Spaces

3'-10" Max. | $2"$ Top and $3"$ Bottom Clearance

$1/4"$ Post Bolts (Last Index No. 475 Post)

$1/4"$ Post Bolts (Last Index No. 475 Post)