FENCING NOTES

FENCE INSTALLATION:
Install posts plumb (within a tolerance of ± 1/2`). Use shim plates as required to achieve plumb. The required quantity and thickness of shim plates will be determined in the field. Install chain link fence in accordance with ASTM F567 as applicable.

TRAFFIC RAILING DETAILS:
See Superstructure Sheets for Traffic Railing details.

CONCRETE PARAPET DETAILS:
See Index 521-820 - Pedestrian/Bicycle Railing for Concrete Parapet details. Provide fencing in lieu of aluminum bullet railing as shown on Index 521-820.

LIMITS OF FENCING:
Limits of fencing are from begin of approach slab at Begin Bridge to end of approach slab at End Bridge, unless otherwise shown in the plans.

PAYMENT:
Payment will be made under Fencing, Type R. Payment includes posts, horizontal and expansion rails, brace rails and bands, rail ends, combination rail ends, boulevard clamps, chain link fabric, tension wire, ties, hog rings, tension bars and bands, post and loop caps, pipe clamps, base plates, anchor rods, bolts, nuts, washers, shim plates, spacers, bearing pads, miscellaneous fence fittings and hardware and all incidental materials and labor required to complete installation of the fence.

CROSS REFERENCE:
For Table of Fence Components, Table of Post Attachment Components, View A-A and Detail "A" see Sheet 2.
For Pull Post Assembly Detail for Traffic Railings see Sheet 3.
For Pull Post Assembly Detail for Concrete Parapets and Detail "B" see Sheet 4.

NOTES:
1. A Pull Post Assembly is required at maximum intervals of 500'-0". See Sheet 3.
2. Brace rails are only required for vertical fence installations on Traffic Railing.
3. Provide horizontal rails for vertical fence installations on Concrete Parapets in lieu of tension wire. Locate horizontal rails as shown in the Typical Section for Concrete Parapets at right.

* Do not anchor fencing to the top of Traffic Railings.
TABLE OF CHAIN LINK FENCE COMPONENTS

<table>
<thead>
<tr>
<th>COMPONENT INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galvanized Steel Pipe - 3&quot; NPS, Schedule 40 Regular Grade</td>
</tr>
<tr>
<td>Galvanized Steel Pipe - 2&quot; NPS, Schedule 40 Regular Grade</td>
</tr>
<tr>
<td>Zinc Coated Steel - 9 gage (coated wire diameter), Class 2 Coating</td>
</tr>
<tr>
<td>Aluminum Coated Steel - 9 gage (coated wire diameter)</td>
</tr>
<tr>
<td>Polyvinyl Chloride (PVC) Coated Steel - 9 gage Class 2b</td>
</tr>
<tr>
<td>Zinc Coated Steel Wire - 9 gage</td>
</tr>
<tr>
<td>12 Gage (Min. thickness) x 3/8&quot; (Min. width) Steel Bands (Blewled or Heavy)</td>
</tr>
<tr>
<td>1/2&quot; (Min. thickness) x 3/8&quot; (Min. width) x 5'-10&quot; (Min. height) Steel Bars</td>
</tr>
<tr>
<td>Zinc Coated Steel - (includes post or loop caps, horizontal and brace rail ends, combination rail ends, boulevard clamps and all other miscellaneous fittings &amp; hardware)</td>
</tr>
<tr>
<td>Galvanized Steel Pipe - 2&quot; NPS, Schedule 40 Regular Grade</td>
</tr>
<tr>
<td>14 Gage (Min. thickness) x 3/8&quot; (Min. width) Steel Bands</td>
</tr>
</tbody>
</table>

TABLE OF POST ATTACHMENT COMPONENTS

<table>
<thead>
<tr>
<th>COMPONENT INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe Clamps</td>
</tr>
<tr>
<td>Base Plates</td>
</tr>
<tr>
<td>Shim Plates</td>
</tr>
<tr>
<td>Spacers</td>
</tr>
<tr>
<td>Adhesive Anchor Rods</td>
</tr>
<tr>
<td>Adhesive Anchor Rods</td>
</tr>
<tr>
<td>Bolts</td>
</tr>
<tr>
<td>Nuts</td>
</tr>
<tr>
<td>Washers</td>
</tr>
<tr>
<td>Bearing Pads (Plain Neoprene)</td>
</tr>
</tbody>
</table>

POST ATTACHMENT NOTES

ANCHOR RODS, NUTS AND WASHERS:
After the nuts have been tightened, distort the Anchor Rod threads to prevent removal of the nuts. Coat distorted threads and exposed trimmed ends of anchors with a galvanizing compound in accordance with Specification Section 562.

COATINGS:

ADHESIVE-BONDED ANCHORS AND DOWELS:
Adhesive Bonding Material Systems for Anchors and Dowels will comply with Specification Section 937 and be installed in accordance with Specification Section 966. Cutting of reinforcing steel is permitted for drilled hole connections to Posts.

WELDING:
All welding will be in accordance with the American Welding Society Structural Welding Code (Steel) ANSI/AWS D1.1 (current edition). Weld metal will be E60XX or E70XX. Nondestructive testing of welds is not required.

CROSS REFERENCE:
For location of View A-A and Detail "A" see Sheet 1.
Must be manufactured from an incompressible material (i.e., steel or aluminum).

3" Ø Holes for 3" Ø Anchors (Typ.)

Outside Edges of Post

Pipe Clamp Connection (Typ.)

3'-0" Expansion Joint Opening

Bulge Chain Link Fabric to allow for joint movement

SPACER DETAIL

Must be manufactured from an incompressible material (i.e., steel or aluminum)

NOTES:
1. For treatment at bridge ends, see Sheet 1.
2. Expansion Joint Opening is the width at the time of fence installation.

Pipe Clamp (Connection without spacer shown, Connection with spacer similar)

Tension Wire

Tension Wire

Traffic Railing (Type varies, 36" Single-Slope shown)

Bridge Deck (shown) or Raised Sidewalk

Bridge Deck (shown) or Raised Sidewalk

Hog Rings @ 2'-0" Centers

Pipe Clamp

Post

2 3/8" C-I-P Anchor Rods or Adhesive-Bonded Anchors (shown)

set in drilled holes with Heavy Hex Nuts and Washers

9½" x 3" x 3/8" Thick Bearing Pad

3½" x 3" x 3/8" Thick Bearing Pad

PULL POST ASSEMBLY DETAIL FOR TRAFFIC RAILING

(Brake Rail)

Pipe Clamp Connection (Typ.)

Outside Edges of Post

3½" Ø Holes for 3½" Ø Anchors (Typ.)

3½" Ø Holes for 3½" Ø Anchors (Typ.)

3½" Ø Holes for 3½" Ø Anchors (Typ.)

1½" Spacer (See Note 3)
NOTES:
1. For treatment at the bridge ends, see Index 811 Sheet 1.
2. Expansion rails are required at expansion joint locations where the total movement exceeds 1'. Install expansion rails midway between the fence posts spanning the expansion joint.
3. An Expansion Assembly is required where the total joint movement exceeds 6'. Expansion Assembly includes Expansion Rails and two pull posts (as shown). When the Expansion Joint Opening is greater than 9' add an additional length to the free end of the Expansion Rail to the difference between the Expansion Joint Opening and 9'.
4. Install the post on the fixed (bolted) side of the Expansion Rail 1'-6" from the edge of the expansion joint. Install the post on the slip (unbolted) side of the Expansion Rail 1'-6" from the edge of the expansion joint unless the Expansion Joint Opening is greater than 9'. When the Expansion Joint Opening exceeds 9' increase the 1'-6" dimension by the difference between the Expansion Joint Opening and 9'.
5. Install the expansion rail finger-tight. The nut will fully engage bolts with a minimum of one bolt thread extending beyond the nuts. Distort the first thread on the outside of the nut to prevent loosening.

EXPANSION ASSEMBLY DETAIL
(Required only at expansion joint locations where total movement exceeds 6')

CROSS REFERENCE:
For location of Detail "B" see Sheet 1.

EXPANSION RAIL DETAIL

DETAIL "B"

BASE PLATE DETAIL

BASE
Post
"B" Holes for 3/8" Anchors (Typ.)
Permanent Anchor Rods or Adhesive-Bonded Anchors (shown) set in drilled holes with Heavy Hex Nuts and Washers

6" x 8" x 4" Thick Bearing Pad

Concrete Parapet

2 - 3/8" C-1-6 Anchor Rods or Adhesive-Bonded Anchors (shown) set in drilled holes with Heavy Hex Nuts and Washers

DETAIL "B"

EXPANSION RAIL DETAIL

Base

Post

Variations (Expansion Rail Length)

Expansion Joint Opening = 9'

Variations (9' Min.)

5'

4'

3/8" Bolt with Hex Nut and Washer (See Note 5)

Horizontal Rail

Expansion Rail

Bridge Deck (shown) or Raised Sidewalk

EXPANSION ASSEMBLY DETAIL

(Required only at expansion joint locations where total movement exceeds 6')