

---

## ORINATION FORM

---

### Proposed Revisions to a Standard Plans Index

(Please provide all information — Incomplete forms will be returned)

**Contact Information:**

Date: January 12, 2022

Originator: Joshua Turley

Phone: (850) 414-4475

Email: [joshua.turley@dot.state.fl.us](mailto:joshua.turley@dot.state.fl.us)

**Standard Plans:**

Index Number: 515-022

Sheet Number (s): 3 of 3

Index Title: Pedestrian/Bicycle Bullet Railing Details

**Summary of the changes:**

Sheet 3: Corrected the relative location and dimensions of the base plate and post with respect to the edge of the bullet rail.

**Commentary / Background:**

Dimensions and drafting associated with the rail were corrected to reflect its correct orientation. The rail had been drafted as if it were facing down in plan which was incorrect.

**Other Affected Offices / Documents: (Provide name of person contacted)**

- | Yes                      | No                                  |                             |
|--------------------------|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other Standard Plans –      |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | FDOT Design Manual –        |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Basis of Estimates Manual – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Standard Specifications –   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Approved Product List –     |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Construction –              |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Maintenance –               |

**Origination Package Includes:** (Submit package to Rick Jenkins)

- | Yes                                 | N/A                      |   |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Redline Mark-ups                                    |
| <input type="checkbox"/>            | <input type="checkbox"/> | Revised or Proposed Standard Plan Instruction (SPI) |
| <input type="checkbox"/>            | <input type="checkbox"/> | Other Support Documents                             |

**Implementation:**

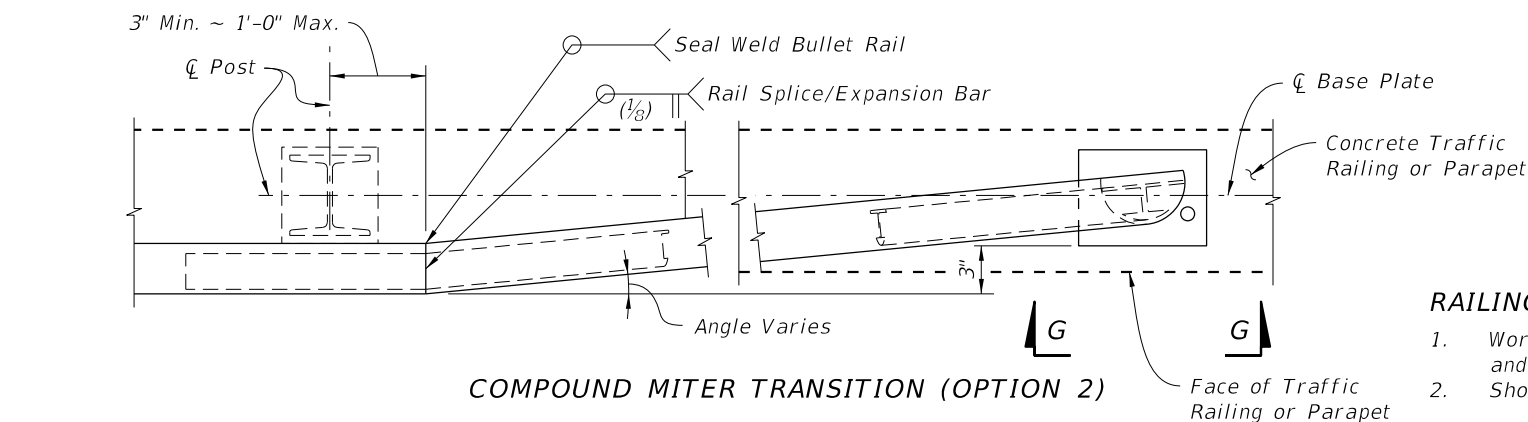
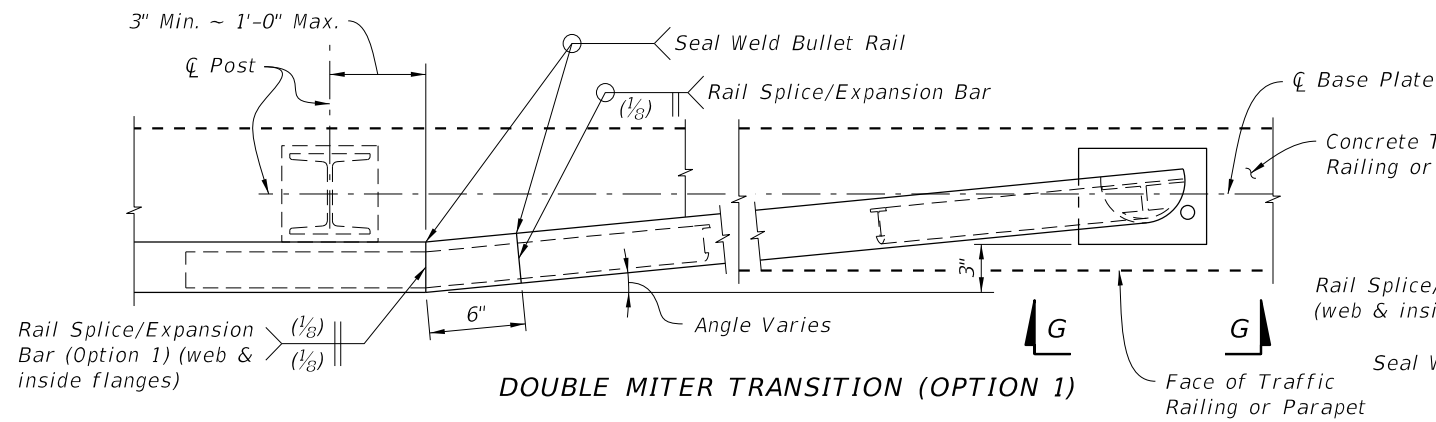
- |                                     |                                  |
|-------------------------------------|----------------------------------|
| <input type="checkbox"/>            | Design Bulletin (Interim)        |
| <input type="checkbox"/>            | DCE Memo                         |
| <input type="checkbox"/>            | Program Mgmt. Bulletin           |
| <input checked="" type="checkbox"/> | FY-Standard Plans (Next Release) |

---

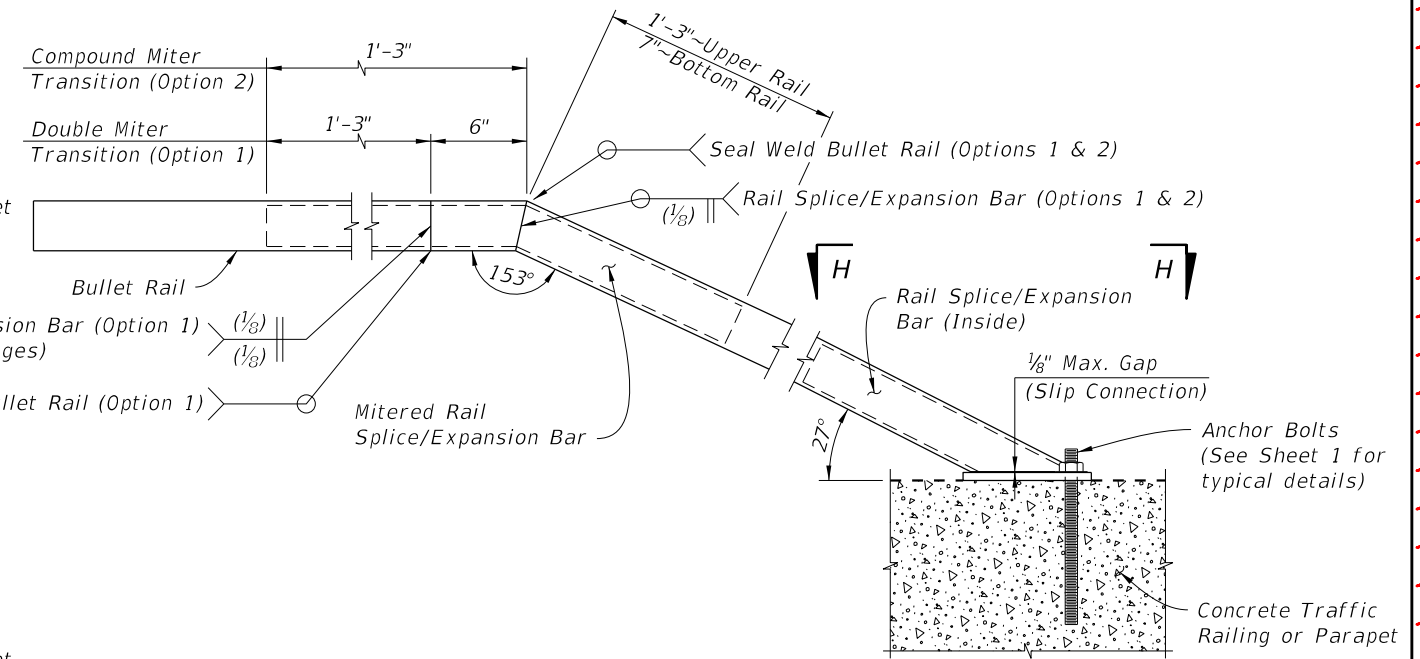
Contact the Roadway Design Office for assistance in completing this form

---

Email to: Rick Jenkins [rick.jenkins@dot.state.fl.us](mailto:rick.jenkins@dot.state.fl.us) and Darren Martin [darren.martin@dot.state.fl.us](mailto:darren.martin@dot.state.fl.us)



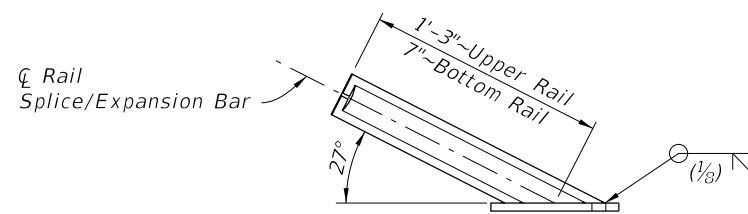
**PARTIAL PLAN OF TAPERED END TRANSITIONS**  
(Single Rail Shown, Double or Triple Rail Similar)



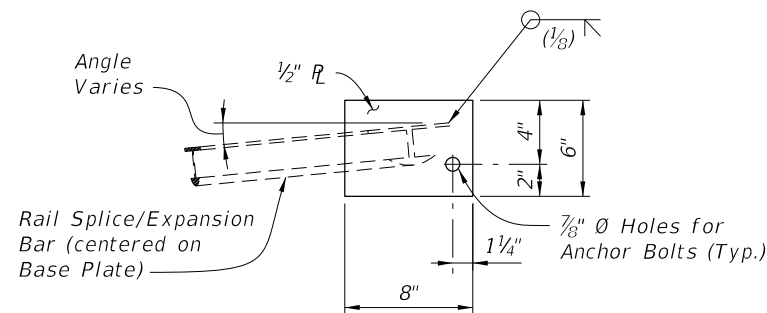
**ELEVATION OF TAPERED END TRANSITION**  
(Single Rail Shown, Double or Triple Rail Similar)

**RAILING NOTES:**

- Work this Index with Index 521-423, 521-427, 521-428, 521-820 and 515-021 and Specification Section 515.
- Shop Drawings: Submit shop drawings prior to fabrication.
  - Include post and rail splice/expansion assembly location for curved alignments with radii < 40 feet and for all end terminations.
- Materials:
  - Supply Aluminum materials in accordance with Specification Section 965 and the following:  
Wrought Aluminum Post: ASTM B221, Alloy 6061-T6 or 6351-T5  
Rail End Cap: ASTM B26 sand cast aluminum alloy 356.0-F  
Plate and Bars: ASTM B209 Alloy 6061-T6  
Rails: ASTM B221 Alloy 6061-T6 or 6351-T5.  
Stop Pins: Press-fit aluminum or stainless steel pins or tubes
  - Stainless Steel Fasteners: ASTM F-593, Alloy Group 2 (316).
  - Bearing Pads: Plain or Fiber Reinforced meeting Specification Section 932 for Ancillary Structures.
  - Anchor Bolts: Galvanized ASTM A307 Grade 36 Hex Head. Galvanized ASTM 1554 Grade 55 Threaded rods for Adhesive Anchors.
- Layout:
  - Posts shall be uniformly spaced with reasonable consistency.
  - Tapered End Transitions are required at the terminus of the approach ends of Bullet Railing mounted on a Traffic Railing. Bullet Railings on concrete parapets shielded by a traffic railing do not require Tapered End Transitions unless noted otherwise in the Plans.
  - Adjust post spacing's to avoid parapet obstacles, such as armor expansion plates, by 9 inches minimum.
  - Rails shall be continuous over a minimum of 3 posts, except that lengths less than 12 feet need only be continuous over 2 posts.
  - Space splices at 40 feet maximum. Splice all rails in a given railing section at about the same center line.
  - Provide rail expansion assemblies in panels between posts on either side of a bridge expansion joint. Rail expansion assemblies are similar to the rail splice assemblies with increased space at the expansion assembly to allow for movement equal to 1.5 times the bridge joint opening or 1" greater than the expected joint movement.
- Installation:
  - Set rails near bridge expansion joints to allow for expected movement.
  - Cutting of reinforcing steel is permitted for post installed anchors.
- Payment: Includes the full cost of installed bullet railing. Cost of the Concrete Parapet or Traffic Railing is separate.



**VIEW G-G TRANSITION BASE PLATE**  
(Bullet Rail not shown for Clarity)



**VIEW H-H TRANSITION BASE PLATE**  
(Bullet Rail not shown for Clarity)

Edited details to correct the orientation of the rail.

9/23/2021 9:16:06 AM

LAST REVISION	DESCRIPTION:
11/01/20	
11/01/22	

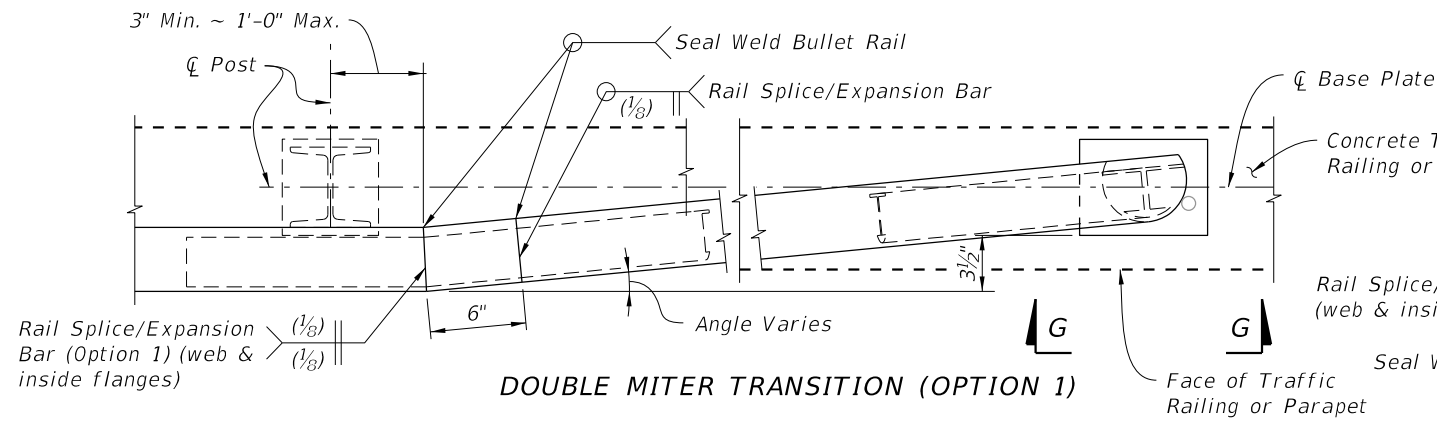


FY 2022-23  
STANDARD PLANS

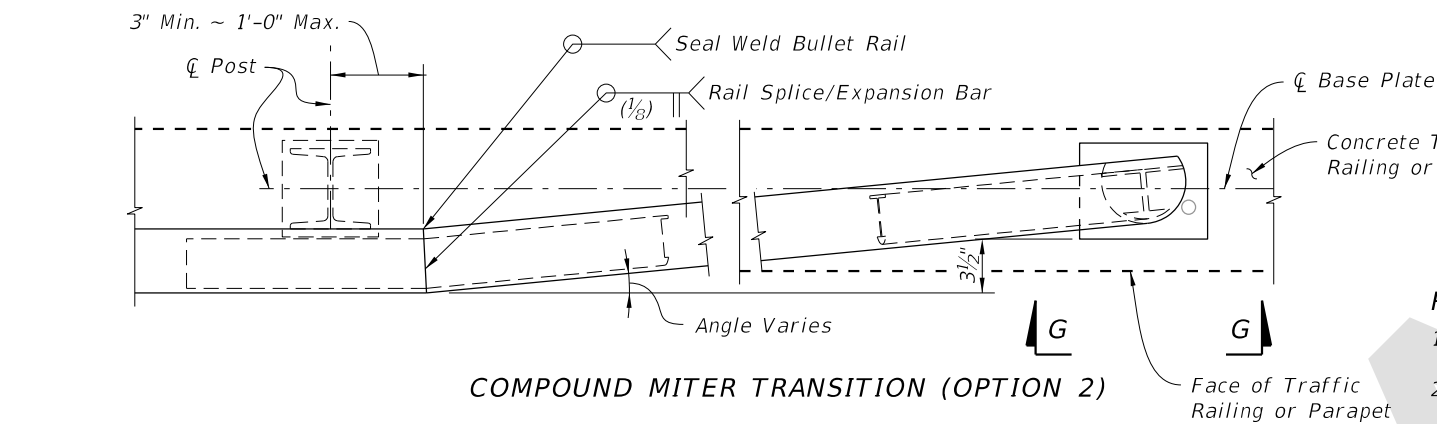
PEDESTRIAN/BICYCLE  
BULLET RAILING DETAILS

INDEX  
515-022

SHEET  
3 of 3

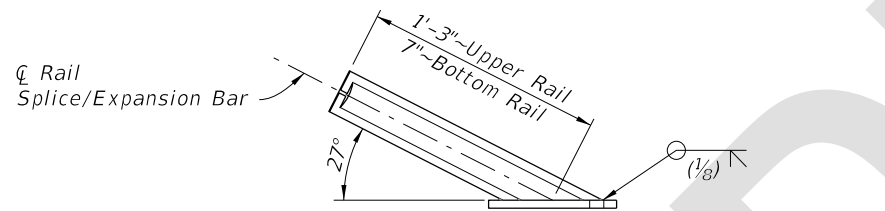


**DOUBLE MITER TRANSITION (OPTION 1)**

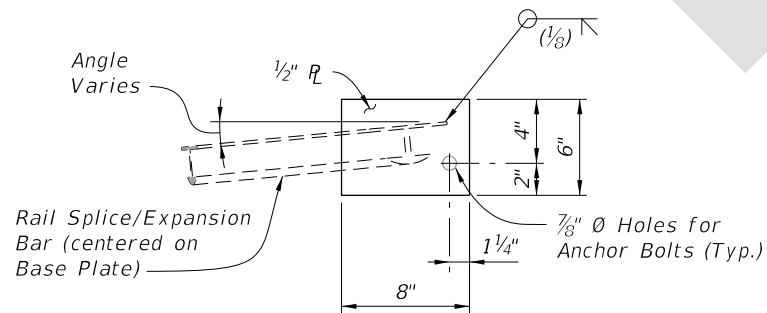


**COMPOUND MITER TRANSITION (OPTION 2)**

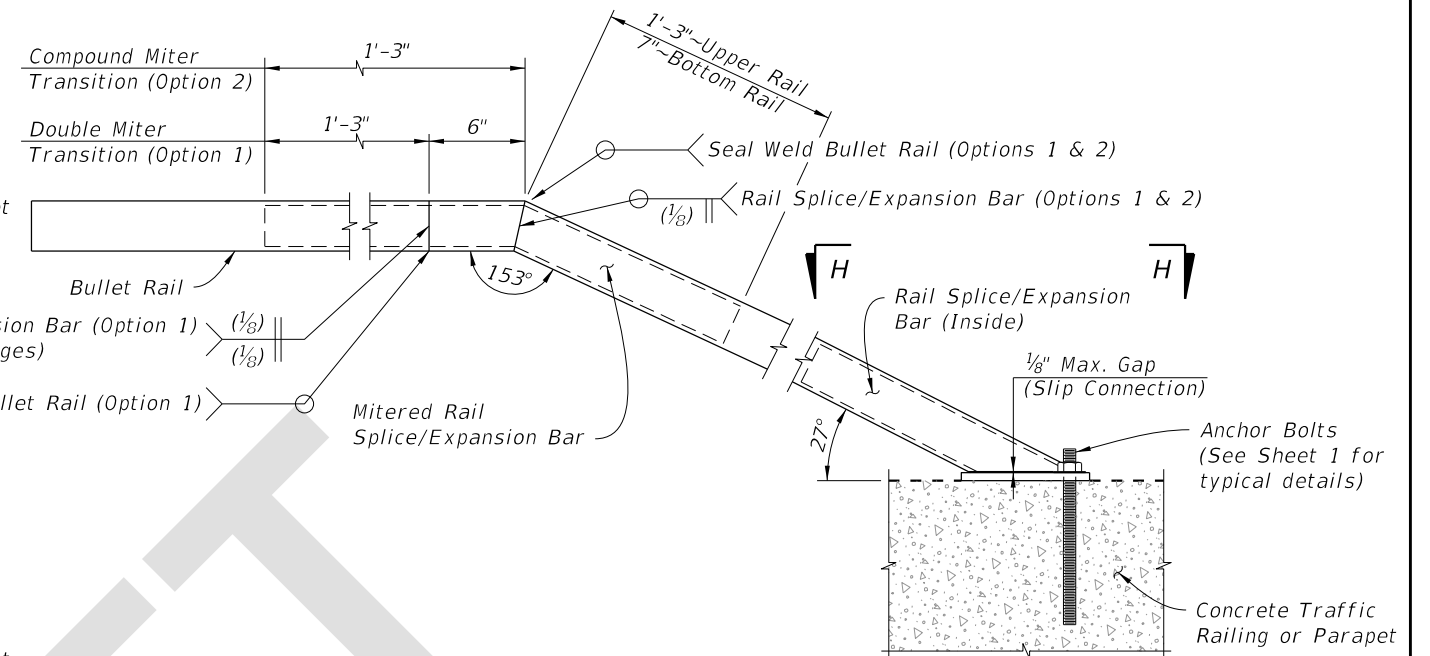
**PARTIAL PLAN OF TAPERED END TRANSITIONS**  
(Single Rail Shown, Double or Triple Rail Similar)



**VIEW G-G TRANSITION BASE PLATE**  
(Bullet Rail not shown for Clarity)



**VIEW H-H TRANSITION BASE PLATE**  
(Bullet Rail not shown for Clarity)




**ELEVATION OF TAPERED END TRANSITION**  
(Single Rail Shown, Double or Triple Rail Similar)

**RAILING NOTES:**

1. Work this Index with Index 521-423, 521-427, 521-428, 521-820 and 515-021 and Specification Section 515.
2. Shop Drawings: Submit shop drawings prior to fabrication.
  - A. Include post and rail splice/expansion assembly location for curved alignments with radii < 40 feet and for all end terminations.
3. Materials:
  - A. Supply Aluminum materials in accordance with Specification Section 965 and the following:  
 Wrought Aluminum Post: ASTM B221, Alloy 6061-T6 or 6351-T5  
 Rail End Cap: ASTM B26 sand cast aluminum alloy 356.0-F  
 Plate and Bars: ASTM B209 Alloy 6061-T6  
 Rails: ASTM B221 Alloy 6061-T6 or 6351-T5.  
 Stop Pins: Press-fit aluminum or stainless steel pins or tubes
  - B. Stainless Steel Fasteners: ASTM F-593, Alloy Group 2 (316).
  - C. Bearing Pads: Plain or Fiber Reinforced meeting Specification Section 932 for Ancillary Structures.
  - D. Anchor Bolts: Galvanized ASTM A307 Grade 36 Hex Head. Galvanized ASTM 1554 Grade 55 Threaded rods for Adhesive Anchors.
4. Layout:
  - A. Posts shall be uniformly spaced with reasonable consistency.
  - B. Tapered End Transitions are required at the terminus of the approach ends of Bullet Railing mounted on a Traffic Railing. Bullet Railings on concrete parapets shielded by a traffic railing do not require Tapered End Transitions unless noted otherwise in the Plans.
  - C. Adjust post spacing's to avoid parapet obstacles, such as armor expansion plates, by 9 inches minimum.
  - D. Rails shall be continuous over a minimum of 3 posts, except that lengths less than 12 feet need only be continuous over 2 posts.
  - E. Space splices at 40 feet maximum. Splice all rails in a given railing section at about the same center line.
  - F. Provide rail expansion assemblies in panels between posts on either side of a bridge expansion joint. Rail expansion assemblies are similar to the rail splice assemblies with increased space at the expansion assembly to allow for movement equal to 1.5 times the bridge joint opening or 1" greater than the expected joint movement.
5. Installation:
  - A. Set rails near bridge expansion joints to allow for expected movement.
  - B. Cutting of reinforcing steel is permitted for post installed anchors.
6. Payment: Includes the full cost of installed bullet railing. Cost of the Concrete Parapet or Traffic Railing is separate.

8/9/2022 10:08:14 AM

LAST REVISION 11/01/22	REVISION	DESCRIPTION:	 FY 2023-24 STANDARD PLANS	<b>PEDESTRIAN/BICYCLE BULLET RAILING DETAILS</b>	INDEX 515-022	SHEET 3 of 3
---------------------------	----------	--------------	---	--	------------------	-----------------