Origination Form

Proposed Revisions to a Standard Plans Index

Originator:	Stepp, Richard	Index Number:	102-110
Date:	10/18/2024	Sheet Number(s):	1,4, 7-10
E-mail:	richard.stepp@dot.state.fl.us	Index Title:	Type K Temporary Concrete Barrier System

Summary of the changes:

Sheet 1: General Notes - Rename "THRIE-BEAM GUARDRAIL SPLICE INSTALLATION NOTES" to "CONNECTION TO PERMANENT RIGID BARRIER NOTES". Added a new Note 1 to reference sheet numbers with splice connections and define barrier nomenclature. Incremented previous note numbers to account for the new Note 1.

Sheet 4: Deleted "Fabric" from "Geotextile Fabric" callout on Typical Section details Sheets 7-10: Revised detail labels to simplify and include "Single-Slope" Traffic Railings and Concrete Barriers where applicable.

Commentary/Background:

callouts.

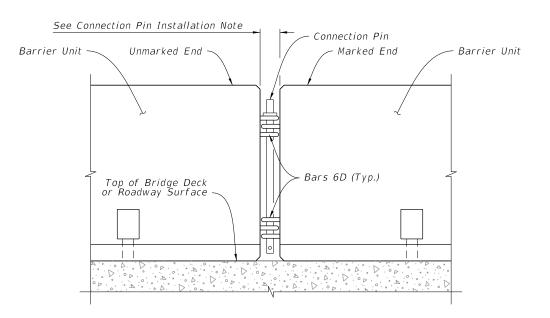
To accommodate newer Standard Plans options, "Single-Slope" traffic railing and concrete barrier shapes are being added as permanent barrier connection options throughout Index 102-110.

Also, per a revision request from the State Materials Office, the word "fabric" is being removed from "geotextile"

Other Affected Documents/Offices	Person Contacted	Affected (Yes/No)
Other Standard Plans		No
FDOT Design Manual		No
Standard Specifications		No
Basis of Estimates Manual		No
Approved Product List		No
Construction Office		No
Maintenance Office		No

Implementation			

- 4. <u>CONNECTION PIN ASSEMBLY:</u> Use steel for Connection Pin and Top Plate assemblies in accordance with ASTM A36 or ASTM A709 Grade 36. Nondestructive testing of welds is not required. At the Contractor's option, a 3/8" diameter hole may be provided at the bottom of the Connection Pin, as shown, for the installation of a vandal resistance bolt.
- 5. <u>CONNECTION PIN INSTALLATION</u>: Initially set Barrier Units by using a 3½" wooden block between ends of adjacent units. Install Connection Pin between adjacent Barrier Unit as shown, then pull newly placed Barrier Unit away from adjacent Barrier Unit to remove slack between Connection Pin and Bars 6D (except as shown on Sheet 2). Do not use Barrier Units unconnected.
- 6. REUSE OF CONNECTION PINS AND STAKES: Connection pins and stakes may be reused if they have the structural integrity of new pins.
- 7. <u>REMOVAL OF BOLTS, STAKES AND KEEPER PINS:</u> Upon removal or relocation of Barrier Units, remove all Anchor Bolts and completely fill the remaining holes in bridge decks, approach slabs and roadway rigid pavements that are to remain with Magnesium Ammonium Phosphate Concrete in accordance with Specification 930 or with an Epoxy Resin Compound, Type F or Q, in accordance with Specification 926. If a flexible pavement is present and is to remain, completely fill the remaining holes in the flexible pavement with hot or cold patch asphalt material.
- 8. <u>TYPE K ANCHORED TO FREE-STANDING TRANSITIONS:</u> Use the 3-3-2-1 Anchorage Transition Detail when transitioning Free-Standing and Anchored Units or when connecting Free-Standing runs to Crash Cushions, as shown in this Index.

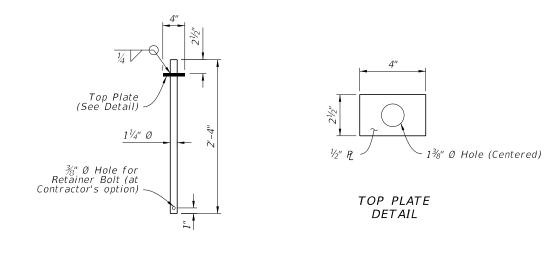


— DETAIL OF CONNECTION BETWEEN BARRIER UNITS

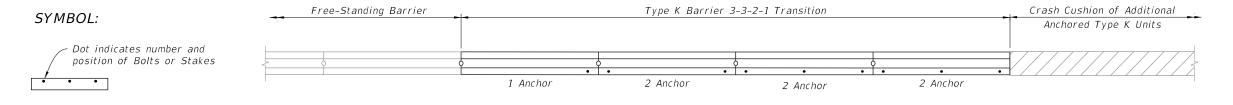
CONNECTION TO PERMANENT RIGID BARRIER NOTES: THRIE-BEAM GUARDRAIL SPLICE INSTALLATION NOTES:

1. For splice connection details between Type K Temporary Concrete Barriers and Permanent Traffic Railings, see Sheets 7 thru 10. Within this Index, the term Traffic Railing also applies to Concrete Barrier, where both terms refer to permanent installations shown in the Index 521 series.

- 2. * THRIE-BEAM GUARDRAIL: Provide Thrie-Beam Guardrail for splices meeting the requirements of Specification 967 and as follows: Two panels per splice (One panel per side) of Class B (10 Gauge), or Four panels per splice (Two nested panels per side) of Class A (12 Gauge). Use a 12'-6" guardrail panel. Provide and install all other associated metallic guardrail components (Terminal Connectors, Shoulder Bolts, Hex Bolts and Nuts, Filler Plates, etc.) in accordance with Index 536-001. Install five Guardrail Anchor Bolts at each end of each splice in any of the standard seven anchor bolt holes in the Thrie-Beam Terminal Connector. If reinforcing steel is encountered when drilling holes for Guardrail Anchor Bolts in Type K Barrier Units, shift Thrie-Beam Terminal Connector so as to clear reinforcing steel within the given tolerances or select a different bolt hole to use. Do not drill or cut through reinforcing steel within Type K Barrier Units. Drilling or cutting through reinforcing steel within permanent concrete traffic railings is permitted.
- 3. <u>QUARDRAIL OFFSET BLOCKS</u>: Provide and install timber Offset Blocks meeting the requirements of Specification 967. Field trim Offset Blocks as required for proper fit. Utilize Offset Blocks as shown and required in order to prevent bending or kinking of Thrie-Beam Guardrail panels.
- 4. Source of the concrete for filling tapered toes of Traffic Railings as shown meeting the material requirements of Specification 346, any Class, or a commercially available pre-bagged concrete mix (3000 psi minimum compressive strength). Sampling, testing, evaluation and certification of the concrete in accordance with Specification 346 is not required. Saturate with water the surfaces upon and against which the concrete fill will be placed prior to placing concrete. Place and finish concrete fill using forms or by hand methods to the general configurations shown so as to provide a smooth shape transition between the Type K Barrier and the adjacent traffic railing. A low slump is desirable if placing and finishing concrete by hand methods. Cure the concrete fill by application of a curing compound, or by covering with a wet tarp or burlap for a minimum of 24 hours. Completely remove the concrete fill upon relocation or removal of the Type K Temporary Concrete Barrier.



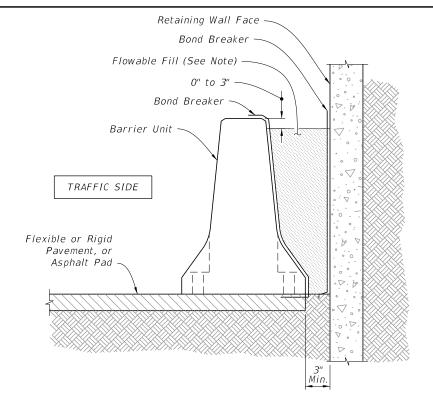
_____CONNECTION PIN DETAIL ___



3-3-2-1 ANCHORAGE TRANSITION DETAIL =

10/30/2024

DESCRIPTION:

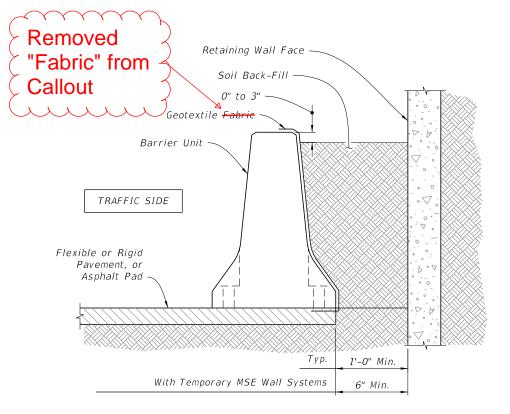


NOTE:

Provide Excavatable Flowable Fill in accordance with Specification 121.

TYPICAL SECTION ADJACENT TO RETAINING WALL WITH FLOWABLE FILL BACK-FILL

FLOWABLE FILL BACK-FILL ROADSIDE INSTALLATIONS

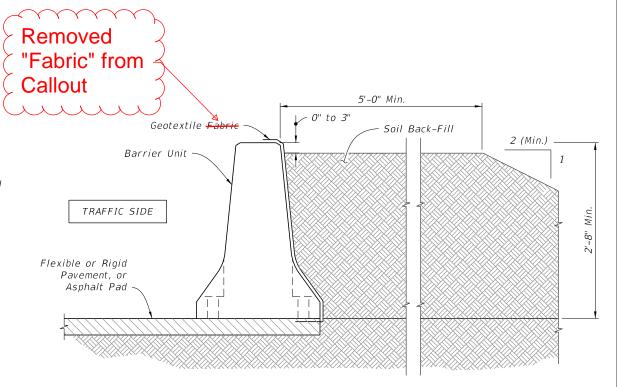


TYPICAL SECTION ADJACENT TO RETAINING WALL WITH SOIL BACK-FILL

NOTES:

SOIL BACK-FILL MATERIAL: Provide Back-Fill Material consisting of any available clean soil. Compact Back-Fill Material until the soil mass is firm and unyielding. Provide erosion control as specified in the Plans. If none is specified in the Plans, provide erosion control as required to maintain the integrity of the Back-Fill embankment.

GEOTEXTILE: Provide and install Type D-5 geotextile in accordance with Specification 514 to contain Back-Fill Material behind the Barrier Units. Geotextile may be continuous over the length and height of the installation or may be individual pieces as required to cover the Lift/DrainSlots and open vertical joints between Barrier Units.



TYPICAL SECTION WITH SOIL BACK-FILL

SOIL BACK-FILLED ROADSIDE INSTALLATIONS

DESCRIPTION: LAST REVISION 111/01/23 11/01/25

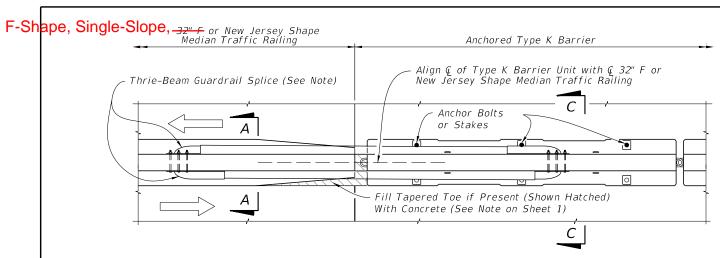
FDOT

FY **₹**|025-26 2026-27 STANDARD PLANS

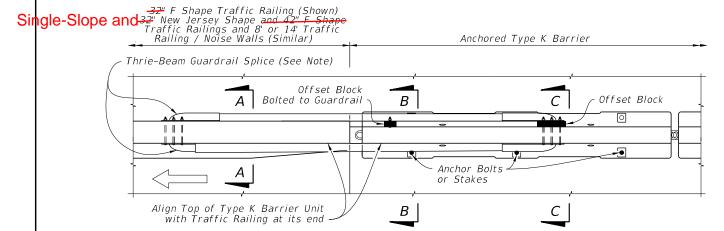
INDEX

SHEET

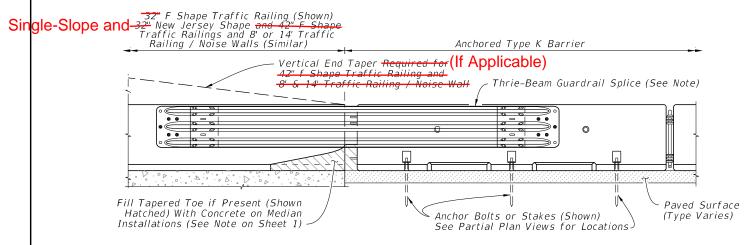
102-110 4 of 17



PARTIAL PLAN VIEW AT MEDIAN TRAFFIC RAILING



PARTIAL PLAN VIEW AT SHOULDER TRAFFIC RAILING



PARTIAL ELEVATION VIEW

For Single-Slope, F-Shape

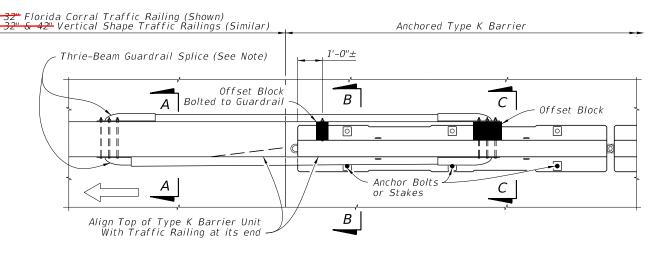
APPROACH TRANSITION SPLICE DETAIL = FOR F AND NEW JERSEY SHAPE TRAFFIC RAILINGS AND 8' & 14' TRAFFIC RAILING / NOISE WALLS (CONCRETE BARRIER WALL SIMILAR)

SYMBOL:

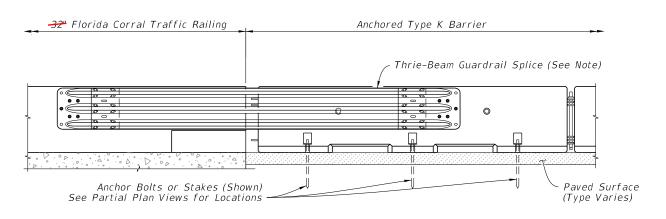
□⇒ Direction of Traffic

NOTE:

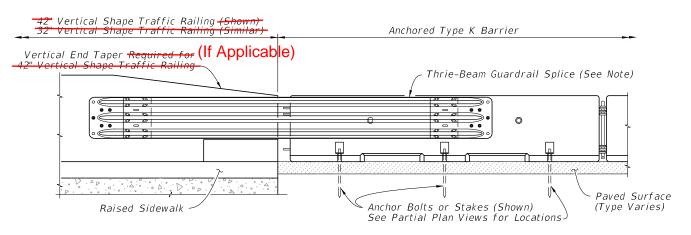
See Thrie-Beam Guardrail Positioning Detail, Sheet 10 and Notes for Thrie-Beam Guardrail Splice Installations, Sheet 1.



PARTIAL PLAN VIEW



PARTIAL ELEVATION VIEW - FLORIDA CORRAL TRAFFIC RAILING



PARTIAL ELEVATION VIEW - VERTICAL SHAPE TRAFFIC RAILINGS

APPROACH TRANSITION SPLICE DETAIL FOR FLORIDA CORRAL AND VERTICAL SHAPE TRAFFIC RAILINGS

CROSS REFERENCES:

See Sheet 10 for Section A-A, Section B-B and Section C-C.

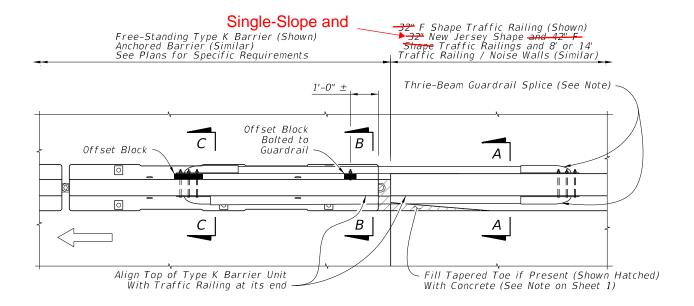
DESCRIPTION: LAST REVISION 11/01/17 11/01/25

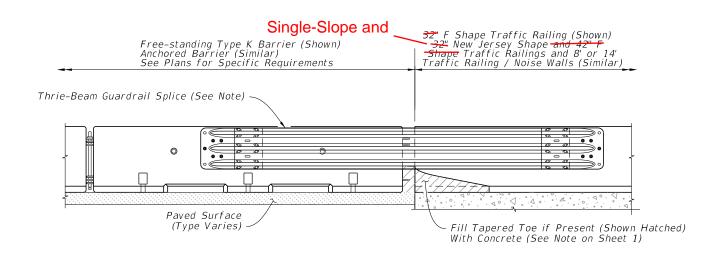
FDOT

FY 2025-26 2026-27 STANDARD PLANS

INDEX

SHEET 7 of 17





PARTIAL ELEVATION VIEW

= ${\sf TRAILING}$ ${\sf END}$ ${\sf SPLICE}$ ${\sf DETAIL}$ =For Single-Slope, F-Shape, FOR F AND NEW JERSEY SHAPE TRAFFIC RAILINGS AND 8' & 14' TRAFFIC RAILING / NOISE WALLS (Concrete Barrier Similar)

SYMBOL:

□⇒ Direction of Traffic

NOTE:

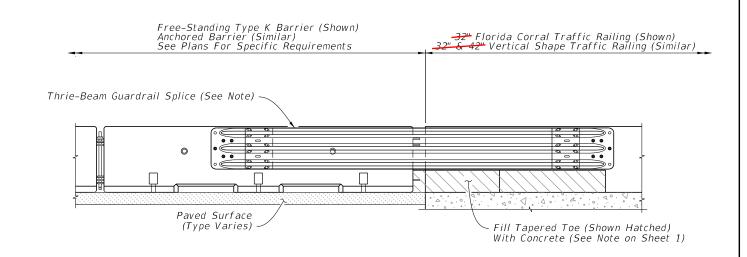
See Thrie-Beam Guardrail Positioning Detail, Sheet 10 and Notes for Thrie-Beam Guardrail Splice Installations, Sheet 1.

CROSS REFERENCES:

See Sheet 10 for Section A-A, Section B-B and Section C-C.

Free-Standing Type K Barrier (Shown) Anchored Barrier (Similar) - 32" Florida Corral Traffic Railing (Shown) - & 42" Vertical Shape Traffic Railing (Similar) See Plans for Specific Requirements 1'-0" ± Thrie-Beam Guardrail Splice (See Note) ~ Offset Block 'Max. at (Concrete Offset Block Bolted to С В Α Guardrail 97. С Fill Tapered Toe if Present (Shown Hatched) With Concrete (See Note on Sheet 1) Align Top of Type K Barrier Unit With Traffic Railing at its end 7'-0" ± Limits of concrete fill

PARTIAL PLAN VIEW



PARTIAL ELEVATION VIEW

TRAILING END SPLICE DETAIL FOR FLORIDA CORRAL AND VERTICAL SHAPE TRAFFIC RAILINGS

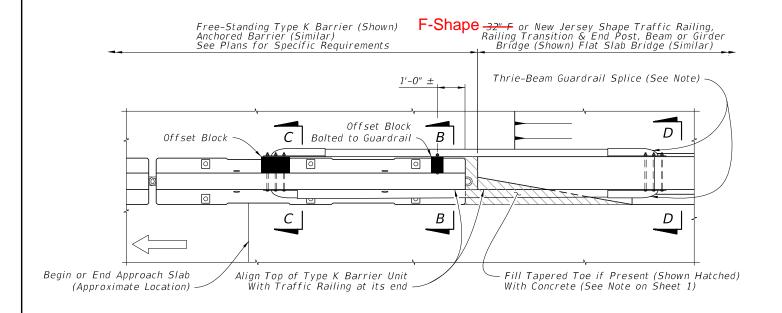
DESCRIPTION: REVISION 11/01/17 11/01/25

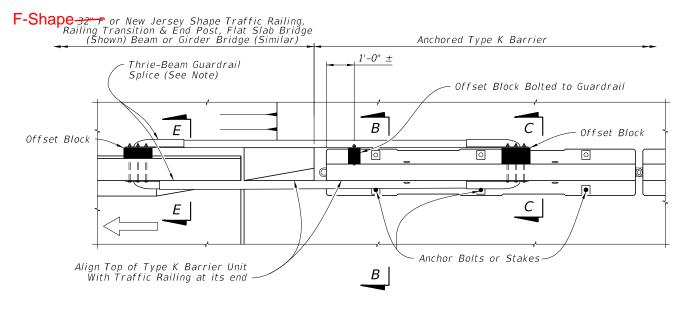
FDOT

FY 2025-26 2026-27 STANDARD PLANS

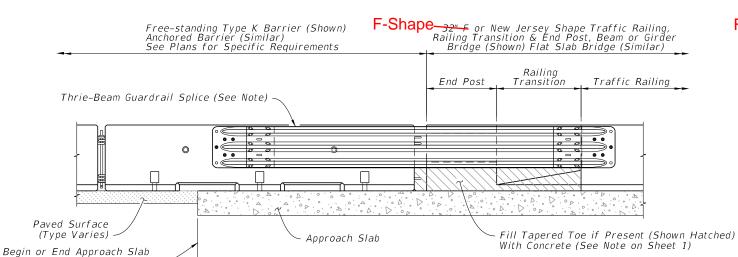
INDEX

SHEET 8 of 17

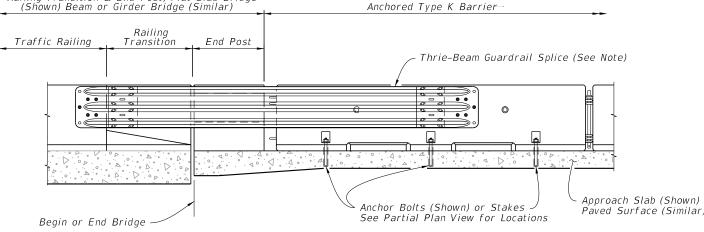




PARTIAL PLAN VIEW



F-Shape 32" F or New Jersey Shape Traffic Railing,
Railing Transition & End Post, Flat Slab Bridge



CROSS REFERENCES: See Sheet 10 for Section B-B, Section C-C and Section D-D.

(Approximate Location)

PARTIAL ELEVATION VIEW

PARTIAL ELEVATION VIEW

CROSS REFERENCES: See Sheet 10 for Section B-B, Section C-C and Section E-E.

= ${\sf TRAILING}$ ${\sf END}$ ${\sf SPLICE}$ ${\sf DETAIL}$ =For F-Shape FOR 32" F AND NEW JERSEY SHAPE TRAFFIC RAILINGS WITH RAILING TRANSITION AND END POST

= APPROACH TRANSITION SPLICE DETAIL = For F-Shape FOR 32" F AND NEW JERSEY SHAPE TRAFFIC RAILINGS WITH RAILING TRANSITION AND END POST

SYMBOL:

□⇒ Direction of Traffic

NOTE:

See Thrie-Beam Guardrail Positioning Detail, Sheet 10 and Notes for Thrie-Beam Guardrail Splice Installations, Sheet 1.

DESCRIPTION: LAST REVISION 11/01/17 11/01/25

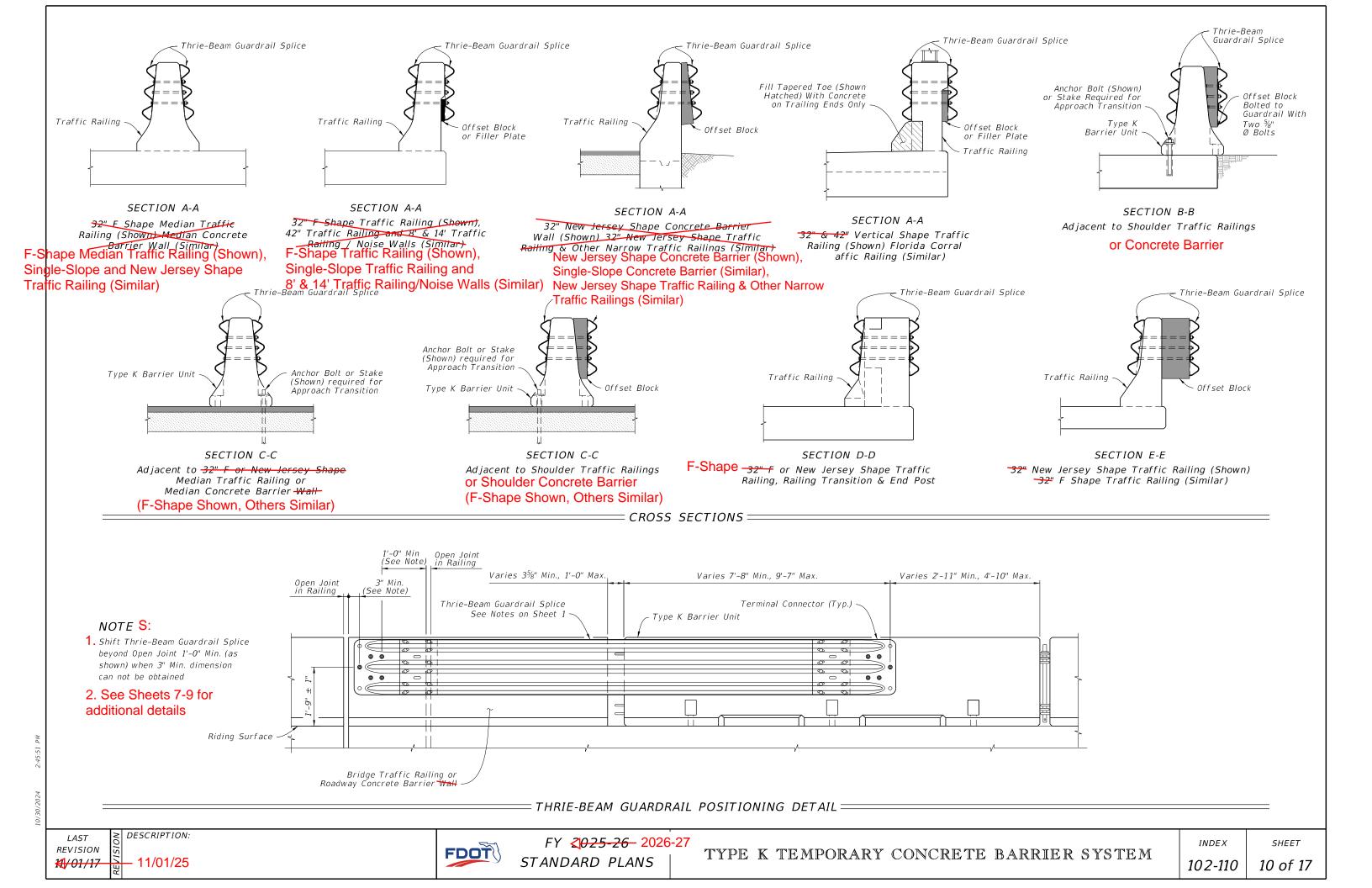
FDOT

FY 2025-26 2026-27 STANDARD PLANS

INDEX

SHEET

9 of 17

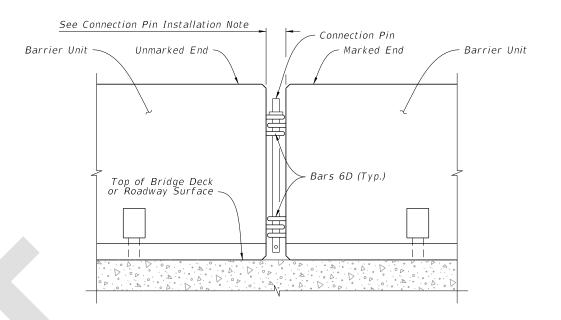


GENERAL NOTES:

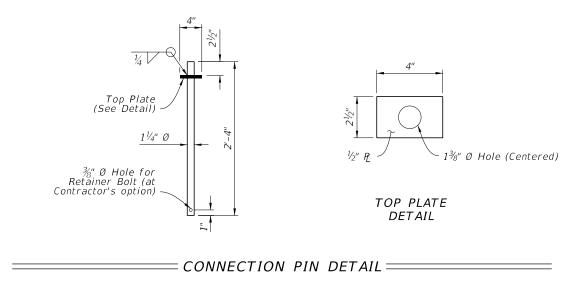
- 1. Meet the requirements of Index 102-100.
- 2. For fabrication details see Sheets 15 thru 17.
- 3. HANDLING: Do not lift or move the Barrier Units by using Bars 6D that extend from the ends of the units. Approximate weight of one unit equals 2.7 tons.
- 4. CONNECTION PIN ASSEMBLY: Use steel for Connection Pin and Top Plate assemblies in accordance with ASTM A36 or ASTM A709 Grade 36. Nondestructive testing of welds is not required. At the Contractor's option, a 🐉 diameter hole may be provided at the bottom of the Connection Pin, as shown, for the installation of a vandal resistance bolt.
- 5. CONNECTION PIN INSTALLATION: Initially set Barrier Units by using a 35%" wooden block between ends of adjacent units. Install Connection Pin between adjacent Barrier Units as shown, then pull newly placed Barrier Unit away from adjacent Barrier Unit to remove slack between Connection Pin and Bars 6D (except as shown on Sheet 2). Do not use Barrier Units unconnected.
- 6. REUSE OF CONNECTION PINS AND STAKES: Connection pins and stakes may be reused if they have the structural integrity of new pins.
- 7. REMOVAL OF BOLTS, STAKES AND KEEPER PINS: Upon removal or relocation of Barrier Units, remove all Anchor Bolts and completely fill the remaining holes in bridge decks, approach slabs and roadway rigid pavements that are to remain with Magnesium Ammonium Phosphate Concrete in accordance with Specification 930 or with an Epoxy Resin Compound, Type F or Q, in accordance with Specification 926. If a flexible pavement is present and is to remain, completely fill the remaining holes in the flexible pavement with hot or cold patch asphalt material.
- 8. TYPE K ANCHORED TO FREE-STANDING TRANSITIONS; Use the 3-3-2-1 Anchorage Transition Detail when transitioning Free-Standing and Anchored Units or when connecting Free-Standing runs to Crash Cushions, as shown in this Index.

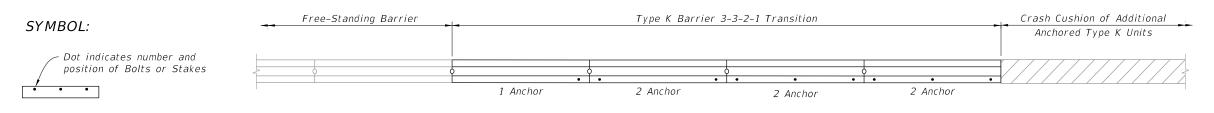
CONNECTION TO PERMANENT RIGID BARRIER NOTES:

- 1. For splice connection details between Type K Temporary Concrete Barriers and Permanent Traffic Railings, see Sheets 7 thru 10. Within this Index, the term Traffic Railing also applies to Concrete Barrier, where both terms refer to permanent installations shown in the Index 521 series.
- 2. THRIE-BEAM GUARDRAIL: Provide Thrie-Beam Guardrail for splices meeting the requirements of Specification 967 and as follows: Two panels per splice (One panel per side) of Class B (10 Gauge), or Four panels per splice (Two nested panels per side) of Class A (12 Gauge). Use a 12'-6" guardrail panel. Provide and install all other associated metallic guardrail components (Terminal Connectors, Shoulder Bolts, Hex Bolts and Nuts, Filler Plates, etc.) in accordance with Index 536-001. Install five Guardrail Anchor Bolts at each end of each splice in any of the standard seven anchor bolt holes in the Thrie-Beam Terminal Connector. If reinforcing steel is encountered when drilling holes for Guardrail Anchor Bolts in Type K Barrier Units, shift Thrie-Beam Terminal Connector so as to clear reinforcing steel within the given tolerances or select a different bolt hole to use. Do not drill or cut through reinforcing steel within Type K Barrier Units. Drilling or cutting through reinforcing steel within permanent concrete traffic railings is permitted.
- 3. GUARDRAIL OFFSET BLOCKS: Provide and install timber Offset Blocks meeting the requirements of Specification 967. Field trim Offset Blocks as required for proper fit. Utilize Offset Blocks as shown and required in order to prevent bending or kinking of Thrie-Beam Guardrail panels.
- 4. CONCRETE FOR FILLING TAPERED TRAFFIC RAILING TOES: Provide concrete for filling tapered toes of Traffic Railings as shown meeting the material requirements of Specification 346, any Class, or a commercially available pre-bagged concrete mix (3000 psi minimum compressive strength). Sampling, testing, evaluation and certification of the concrete in accordance with Specification 346 is not required. Saturate with water the surfaces upon and against which the concrete fill will be placed prior to placing concrete. Place and finish concrete fill using forms or by hand methods to the general configurations shown so as to provide a smooth shape transition between the Type K Barrier and the adjacent traffic railing. A low slump is desirable if placing and finishing concrete by hand methods. Cure the concrete fill by application of a curing compound, or by covering with a wet tarp or burlap for a minimum of 24 hours. Completely remove the concrete fill upon relocation or removal of the Type K Temporary Concrete Barrier.



DETAIL OF CONNECTION BETWEEN BARRIER UNITS ===





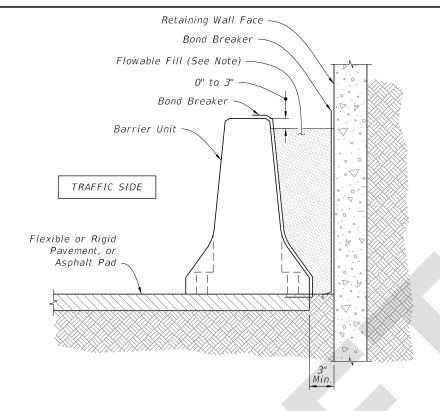
= 3-3-2-1 ANCHORAGE TRANSITION DETAIL =

REVISION 11/01/25

DESCRIPTION:



1 of 17

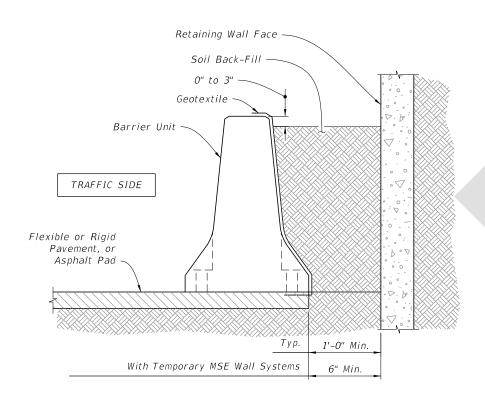


NOTE:

Provide Excavatable Flowable Fill in accordance with Specification 121.

TYPICAL SECTION ADJACENT TO RETAINING WALL WITH FLOWABLE FILL BACK-FILL

FLOWABLE FILL BACK-FILL ROADSIDE INSTALLATIONS

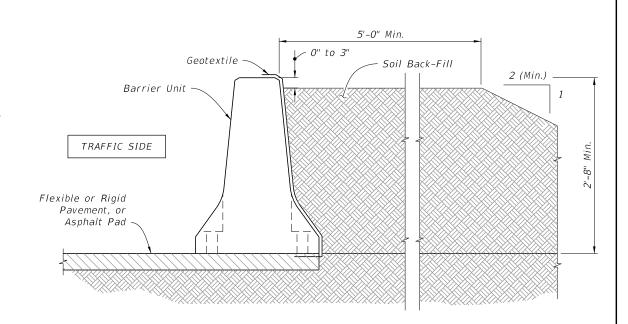


TYPICAL SECTION ADJACENT TO RETAINING WALL WITH SOIL BACK-FILL

NOTES:

SOIL BACK-FILL MATERIAL: Provide Back-Fill Material consisting of any available clean soil. Compact Back-Fill Material until the soil mass is firm and unyielding. Provide erosion control as specified in the Plans. If none is specified in the Plans, provide erosion control as required to maintain the integrity of the Back-Fill embankment.

GEOTEXTILE: Provide and install Type D-5 geotextile in accordance with Specification 514 to contain Back-Fill Material behind the Barrier Units. Geotextile may be continuous over the length and height of the installation or may be individual pieces as required to cover the Lift/DrainSlots and open vertical joints between Barrier Units.



TYPICAL SECTION WITH SOIL BACK-FILL

SOIL BACK-FILLED ROADSIDE INSTALLATIONS

REVISION 11/01/25

DESCRIPTION:

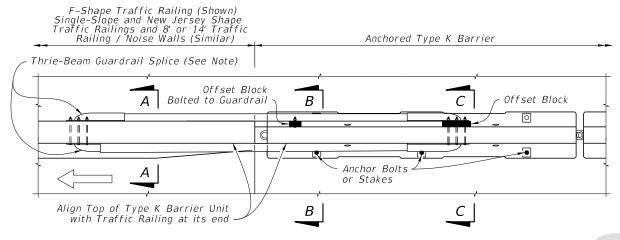
FDOT

FY 2026-27 STANDARD PLANS

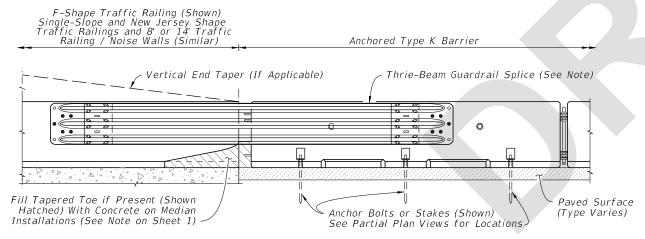
INDEX 102-110

SHEET 4 of 17

PARTIAL PLAN VIEW AT MEDIAN TRAFFIC RAILING



PARTIAL PLAN VIEW AT SHOULDER TRAFFIC RAILING



PARTIAL ELEVATION VIEW

= APPROACH TRANSITION SPLICE DETAIL = FOR SINGLE-SLOPE, F-SHAPE, AND NEW JERSEY SHAPE TRAFFIC RAILINGS AND 8' & 14' TRAFFIC RAILING / NOISE WALLS (CONCRETE BARRIER SIMILAR)

SYMBOL:

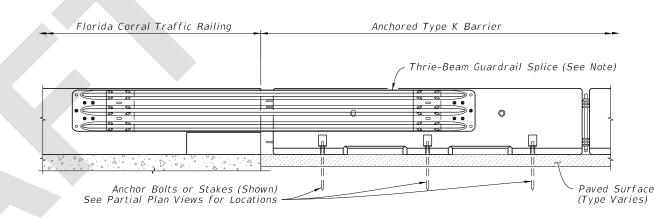
□⇒ Direction of Traffic

NOTE:

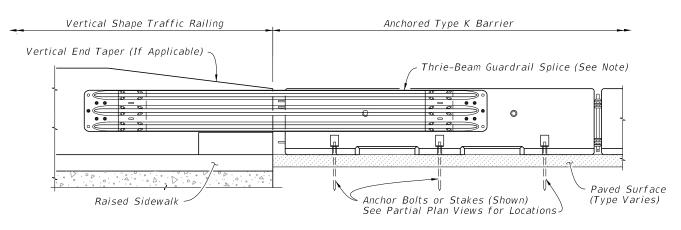
See Thrie-Beam Guardrail Positioning Detail, Sheet 10 and Notes for Thrie-Beam Guardrail Splice Installations, Sheet 1.

Florida Corral Traffic Railing (Shown) Vertical Shape Traffic Railings (Similar) Anchored Type K Barrier 1'-0"± Thrie-Beam Guardrail Splice (See Note) Offset Block В С Bolted to Guardrail Offset Block Anchor Bolts С or Stakes В Align Top of Type K Barrier Unit With Traffic Railing at its end

PARTIAL PLAN VIEW



PARTIAL ELEVATION VIEW - FLORIDA CORRAL TRAFFIC RAILING



PARTIAL ELEVATION VIEW - VERTICAL SHAPE TRAFFIC RAILINGS

APPROACH TRANSITION SPLICE DETAIL FOR FLORIDA CORRAL AND VERTICAL SHAPE TRAFFIC RAILINGS

CROSS REFERENCES:

See Sheet 10 for Section A-A, Section B-B and Section C-C.

REVISION 11/01/25

DESCRIPTION:

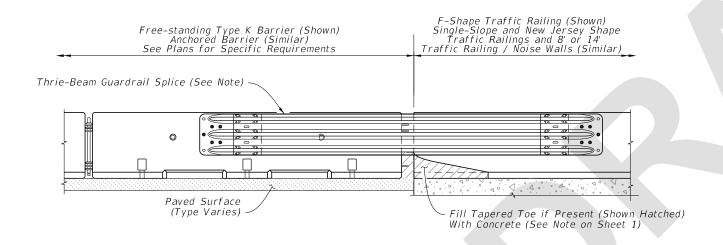
FDOT

FY 2026-27 STANDARD PLANS

TYPE K TEMPORARY CONCRETE BARRIER SYSTEM

INDEX

SHEET 7 of 17



PARTIAL ELEVATION VIEW

= $TRAILING\;$ $END\;$ $SPLICE\;$ DETAIL=FOR SINGLE-SLOPE, F-SHAPE, AND NEW JERSEY SHAPE TRAFFIC RAILINGS AND 8' & 14' TRAFFIC RAILING / NOISE WALLS (CONCRETE BARRIER SIMILAR)

SYMBOL:

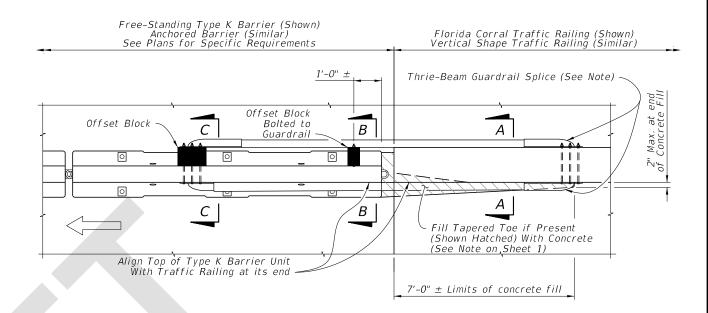
□⇒ Direction of Traffic

NOTE:

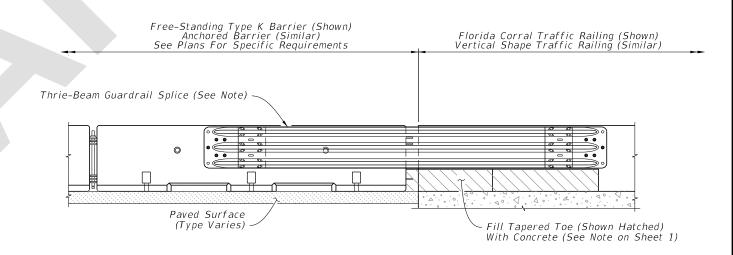
See Thrie-Beam Guardrail Positioning Detail, Sheet 10 and Notes for Thrie-Beam Guardrail Splice Installations, Sheet 1.

CROSS REFERENCES:

See Sheet 10 for Section A-A, Section B-B and Section C-C.



PARTIAL PLAN VIEW



PARTIAL ELEVATION VIEW

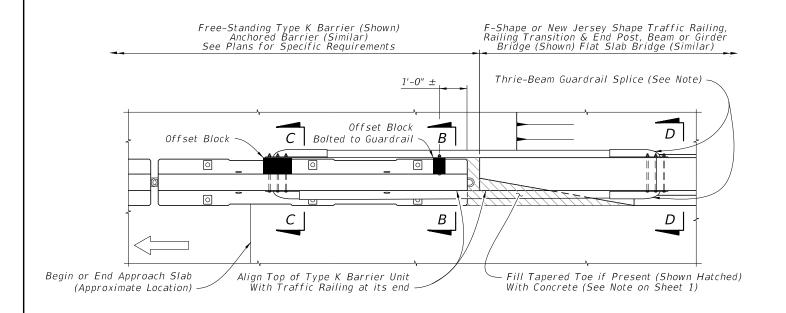
TRAILING END SPLICE DETAIL FOR FLORIDA CORRAL AND VERTICAL SHAPE TRAFFIC RAILINGS

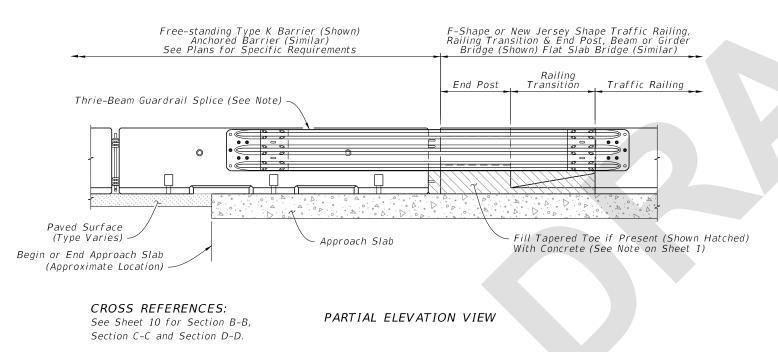
REVISION 11/01/25

DESCRIPTION:

FDOT

FY 2026-27 STANDARD PLANS

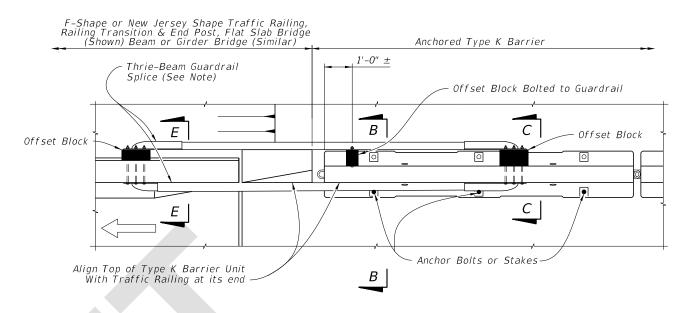




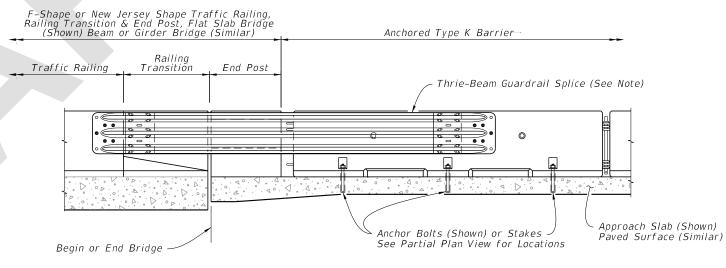
= TRAILING END SPLICE DETAIL =FOR F-SHAPE AND NEW JERSEY SHAPE TRAFFIC RAILINGS WITH RAILING TRANSITION AND END POST

SYMBOL:

□⇒ Direction of Traffic



PARTIAL PLAN VIEW



PARTIAL ELEVATION VIEW

CROSS REFERENCES: See Sheet 10 for Section B-B, Section C-C and Section E-E.

= APPROACH TRANSITION SPLICE DETAIL = FOR F-SHAPE AND NEW JERSEY SHAPE TRAFFIC RAILINGS WITH RAILING TRANSITION AND END POST

NOTE:

See Thrie-Beam Guardrail Positioning Detail, Sheet 10 and Notes for Thrie-Beam Guardrail Splice Installations, Sheet 1.

REVISION 11/01/25

DESCRIPTION:



FY 2026-27 STANDARD PLANS

INDEX

SHEET 9 of 17

