ORIGINATION FORM

Proposed Revisions to a Design Standards Index

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

Contact Information:

Date: February 16, 2017
Originator: **Derwood Sheppard**
Phone: (850) 414-4334
Email: Derwood.Sheppard@dot.state.fl

Design Standards:

Index Number: **302**
Sheet Number (s): ALL
Index Title: Traffic Separators

Summary of the changes:

All Sheets Reorganized sheets; Added MEDIAN CURB AND TRAFFIC SEPARATOR JUNCTURE DETAILS from Index 301.

Commentary / Background:

Other Affected Offices / Documents: (Provide name of responsible personnel)

Yes	No	
☐	☑	Other Design Standards –
☐	☑	Plans Preparation Manual –
☐	☑	Basis of Estimates Manual –
☐	☑	Standard Specifications –
☐	☑	Approved Product List –
☐	☑	Construction –
☐	☑	Maintenance –

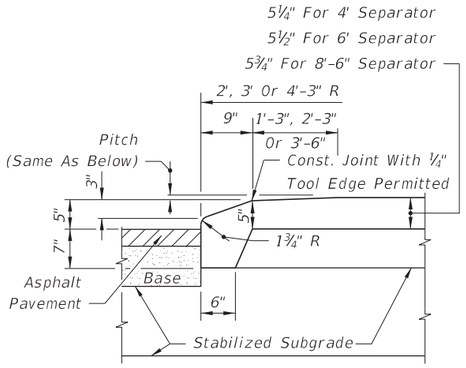
Origination Package Includes: (Email or hand deliver package to Derwood Sheppard)

Yes	N/A	
☑	☐	Redline Mark-ups
☐	☐	Proposed IDS
☐	☐	Revised IDS
☐	☐	Other Support Documents

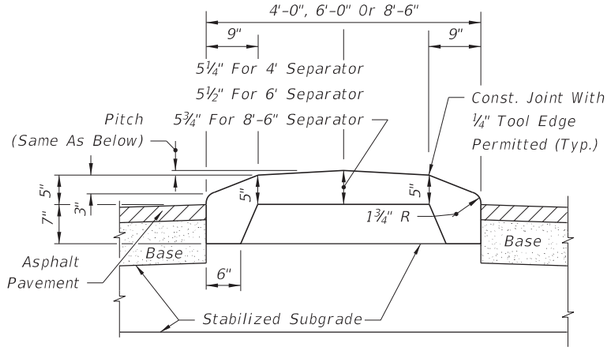
Implementation:

☐ Design Bulletin (DSR) ☐ DCE Memo ☐ Program Mgmt. Bulletin ☑ Design Standards e-Booklet (Next Release)

Contact the Roadway Design Office for assistance in completing this form

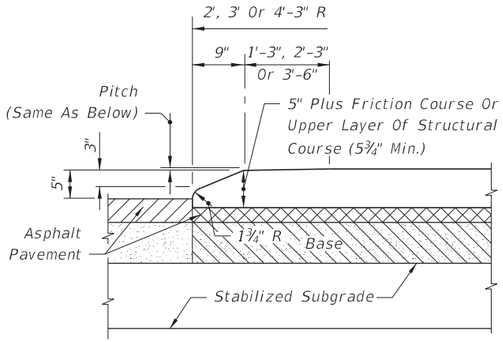


LONGITUDINAL SECTION (NOSE)



TRANSVERSE SECTION

OPTION I



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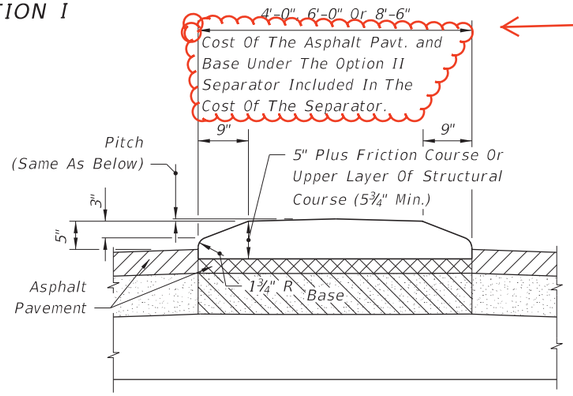

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OPTION II

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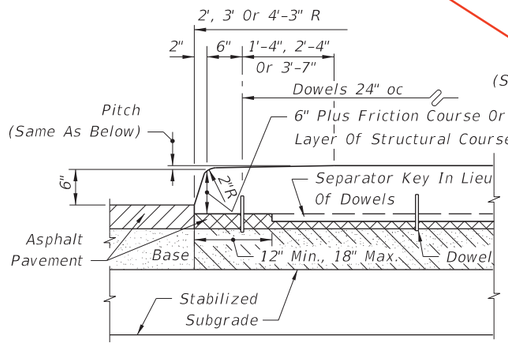

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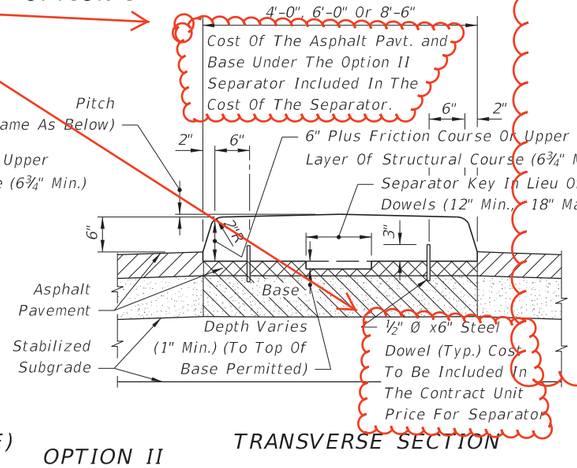
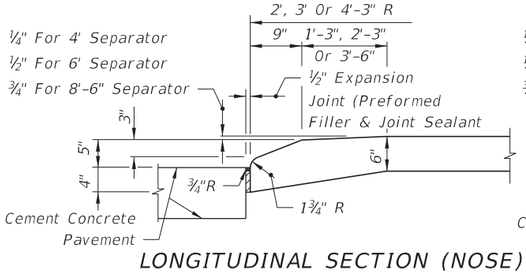
OPTION I



TRANSVERSE SECTION

OPTION II

TYPE I CONCRETE TRAFFIC SEPARATOR



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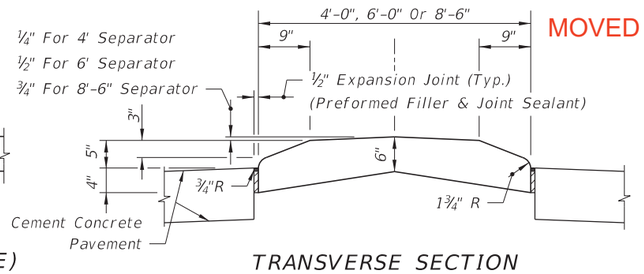
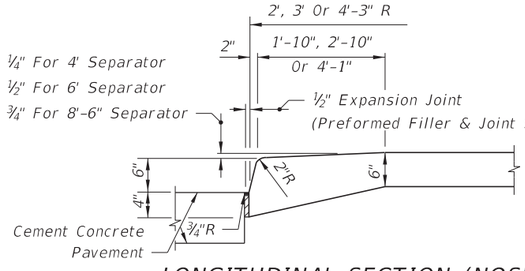


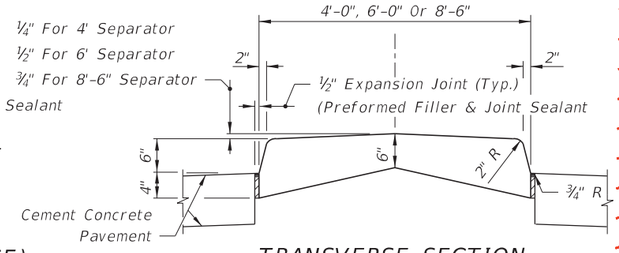
TRANSVERSE SECTION

TYPE II CONCRETE TRAFFIC SEPARATOR

MOVED TO NEW SHEET 2



LONGITUDINAL SECTION (NOSE)



TRANSVERSE SECTION

TYPE V CONCRETE TRAFFIC SEPARATOR

NOTES

1. Separators Type I and IV are to be used with flexible pavement. Separators Types II and V are to be used with rigid pavement.
2. Either Option I or Option II may be used for Types I and IV separators except when a specific option is called for in the plans.
3. For all separators provide ⅛"- ¼" contraction joints at 10' centers (max.). Contraction joints adjacent to concrete pavement on tangents and flat curves are to match the pavement joints, with intermediate joints not to
4. Separators having widths of 4', 6' or 8'-6" shall be paid for under the contract unit price for Concrete Traffic Separator (Type_) (_' Wide) LF. Separators having widths other than 4', 6' or 8'-6" shall be detailed in the plans as special separators and paid for under the contract unit price for Concrete Traffic Separator (Special) SY.

ADDED: Median Curb adn Traffic Separator Juncture Details from Index 301

Changed Notes

1 0F 5

ROADWAY INSTALLATIONS

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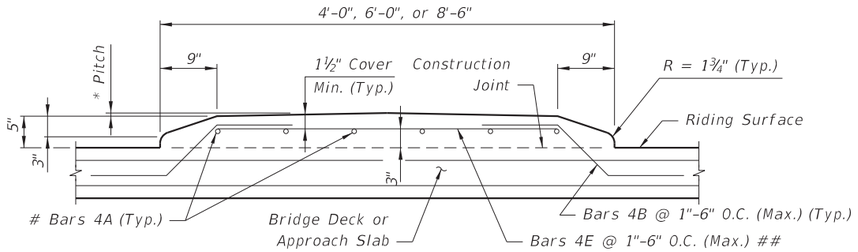
LAST REVISION	REVISION	DESCRIPTION:				
07/01/14		11/01/17	FDOT FY 2017-18 DESIGN STANDARDS	TRAFFIC SEPARATORS	INDEX NO. 302	SHEET NO. 1 of 4

All Sheets: 520-020

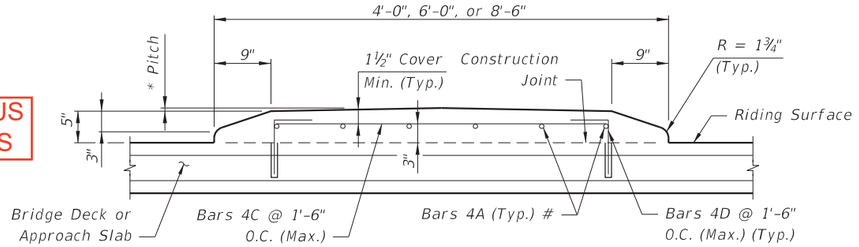
NEW SHEET

ROADWAY INSALLATIONS - RIGID PAVEMENT

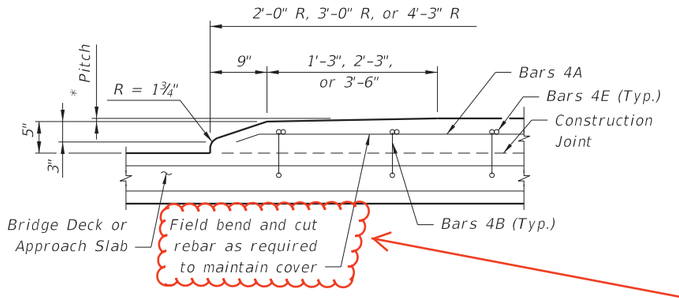


TYPICAL SECTION THRU TRAFFIC SEPARATOR
(Bridge Deck Shown, Approach Slab Similar)

REORIGINZED TO MATCH PREVIOUS SHEETS AND UPDATED THE NOTES



TYPICAL SECTION THRU TRAFFIC SEPARATOR
(Bridge Deck Shown, Approach Slab Similar)



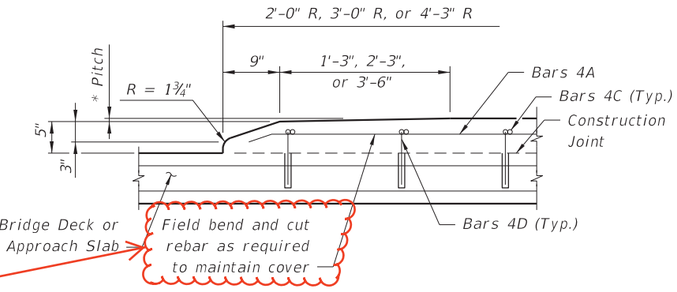
LONGITUDINAL SECTION THRU TRAFFIC SEPARATOR AT NOSE
(Bridge Deck Shown, Approach Slab Similar)

\# For 4'-0" width: Bars 4A @ 3 equal spaces (continuous).
For 6'-0" width: Bars 4A @ 5 equal spaces (continuous).
For 8'-6" width: Bars 4A @ 7 equal spaces (continuous).

At the Contractor's option a one piece bar may be substituted for Bars 4B and 4E.

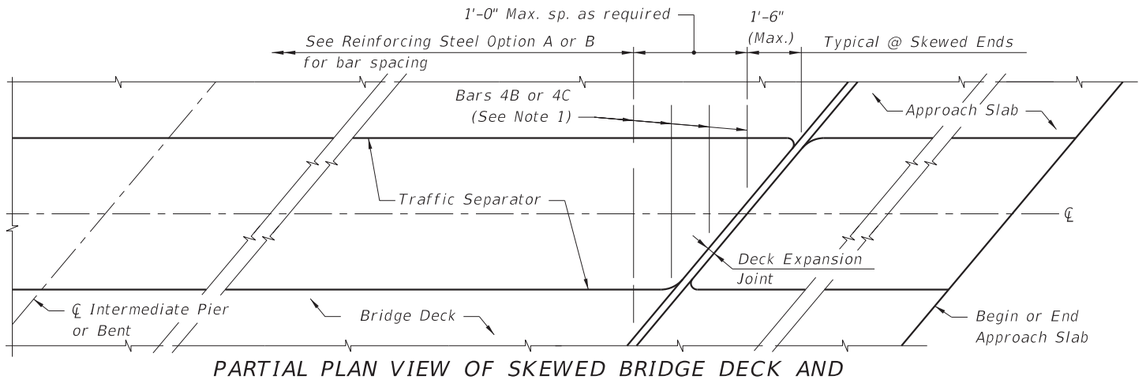
* Pitch: ¼" For 4'-0" Separator
½" For 6'-0" Separator
¾" For 8'-6" Separator

Moved to NOTES:



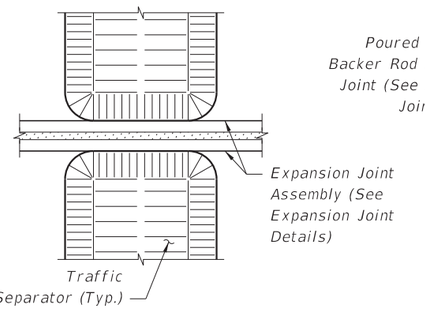
LONGITUDINAL SECTION THRU TRAFFIC SEPARATOR AT NOSE
(Bridge Deck Shown, Approach Slab Similar)

REINFORCING STEEL OPTION A

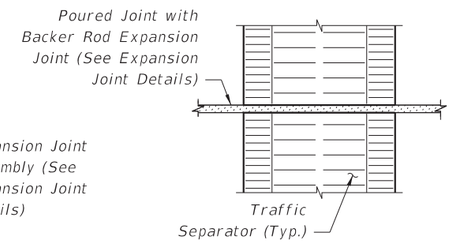


PARTIAL PLAN VIEW OF SKEWED BRIDGE DECK AND APPROACH SLAB WITH TRAFFIC SEPARATOR
(Deck Expansion Joint at Begin or End Bridge Shown, Expansion Joint at ℄ Pier or Intermediate Bents Similar)

REINFORCING STEEL OPTION B (NOT PERMITTED ON BRIDGE DECKS WITH PRESTRESSING STEEL)



DETAIL AT EXPANSION JOINTS
(Strip Seal Shown, Other Armored Joint Types Similar)



DETAIL AT POURED JOINT WITH BACKER ROD EXPANSION JOINTS

Notes:
1. Traffic Separator transverse reinforcement adjacent to deck expansion joints shall be field adjusted to maintain clearance and spacing. Bars shall be field cut as shown, bars may be rotated to maintain clearance.
2. Traffic Separator ends at deck expansion joints shall follow the deck joint limits. Drainage joints and ½" V-Grooves shall be placed perpendicular or radial to the ℄ of the Traffic Separator. See Structures Plans, Superstructure and Approach Slab Sheets for details.
3. See Structures Plans, Superstructure Sheets for actual dimensions and joint orientation.

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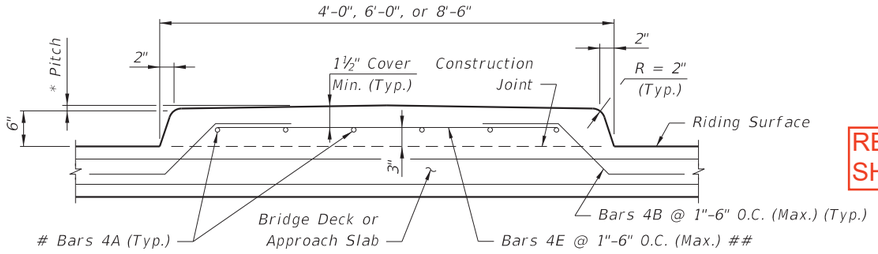
BRIDGE INSTALLATIONS - TYPE "E" CURB

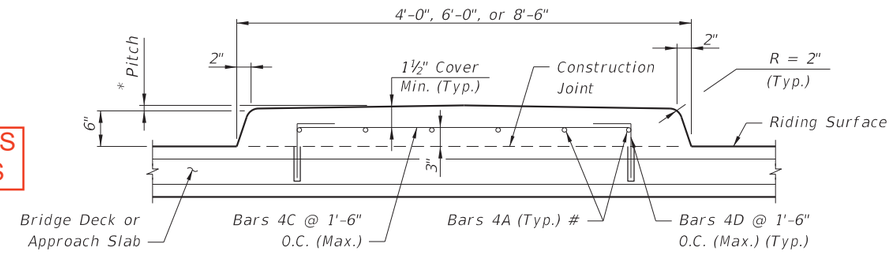
LAST REVISION	REVISION	DESCRIPTION:		INDEX NO.	SHEET NO.
01/01/11		11/01/17	FY 2017-18 DESIGN STANDARDS	302	2 of 4

TRAFFIC SEPARATORS

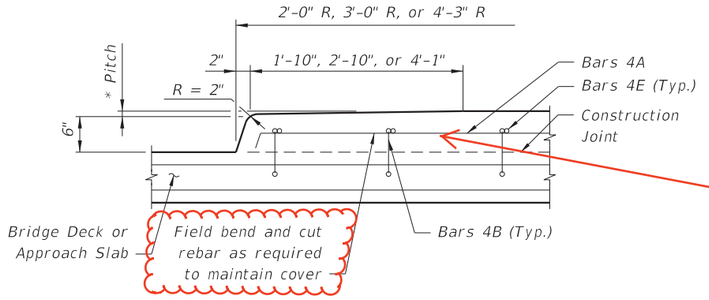


TYPICAL SECTION THRU TRAFFIC SEPARATOR
(Bridge Deck Shown, Approach Slab Similar)

REORIGINZED TO MATCH PREVIOUS SHEETS AND UPDATED THE NOTES



TYPICAL SECTION THRU TRAFFIC SEPARATOR
(Bridge Deck Shown, Approach Slab Similar)



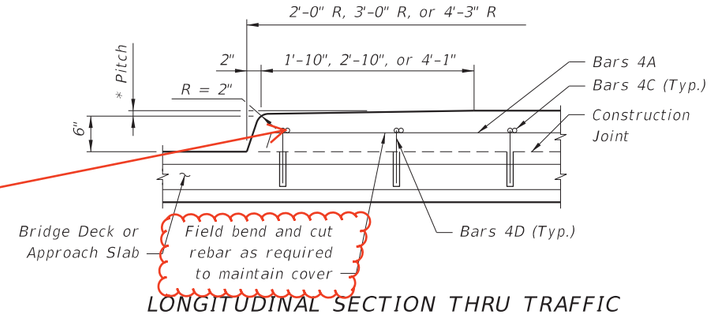
LONGITUDINAL SECTION THRU TRAFFIC SEPARATOR AT NOSE
(Bridge Deck Shown, Approach Slab Similar)

 # For 4'-0" width: Bars 4A @ 3 equal spaces (continuous)
For 6'-0" width: Bars 4A @ 5 equal spaces (continuous)
For 8'-6" width: Bars 4A @ 7 equal spaces (continuous)

At the Contractor's option a one piece bar may be substituted for Bars 4B and 4E.

** Pitch: ¼" For 4'-0" Separator*
½" For 6'-0" Separator
¾" For 8'-6" Separator

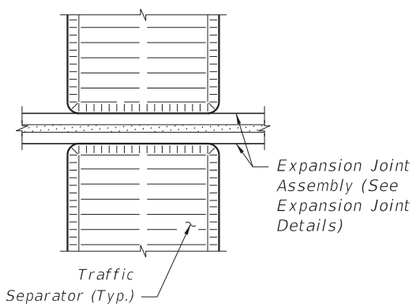
Moved to NOTES:



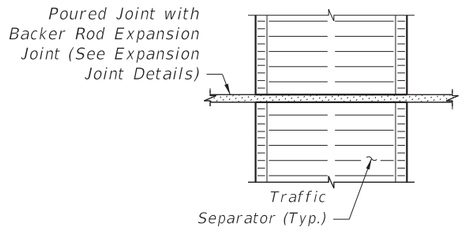
LONGITUDINAL SECTION THRU TRAFFIC SEPARATOR AT NOSE
(Bridge Deck Shown, Approach Slab Similar)

REINFORCING STEEL OPTION A

REINFORCING STEEL OPTION B (NOT PERMITTED ON BRIDGE DECKS WITH PRESTRESSING STEEL)



DETAIL AT EXPANSION JOINTS
(Strip Seal Shown,
Other Armored Joint Types Similar)



DETAIL AT POURED JOINT WITH BACKER ROD EXPANSION JOINTS

Note: Treatment of separators on straight bridges shown. For additional notes and treatment of separators on skewed bridges, see Sheet 2.

4 0F 5

BRIDGE INSTALLATIONS - TYPE "F" CURB

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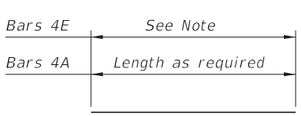
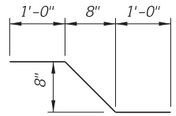
LAST REVISION	REVISION	DESCRIPTION:		INDEX NO.	SHEET NO.
~~01/01/11~~		11/01/17	FY 2017-18 DESIGN STANDARDS — TRAFFIC SEPARATORS	302	~~3 of 4~~

CONVENTIONAL REINFORCING STEEL BENDING DIAGRAMS



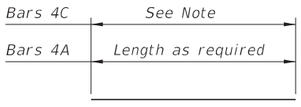
Bars 4A & 4E

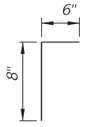


Bar 4B

Note:
Length of Bars 4E is 2'-5" for 4'-0" Separator.
Length of Bars 4E is 4'-5" for 6'-0" Separator.
Length of Bars 4E is 6'-11" for 8'-6" Separator.

REINFORCING STEEL OPTION A





Bars 4A & 4C

Bar 4D

Note:
Length of Bars 4C is 2'-4½" for 4'-0" Separator.
Length of Bars 4C is 4'-4½" for 6'-0" Separator.
Length of Bars 4C is 6'-10½" for 8'-6" Separator.

REINFORCING STEEL OPTION B

REINFORCING STEEL NOTES:

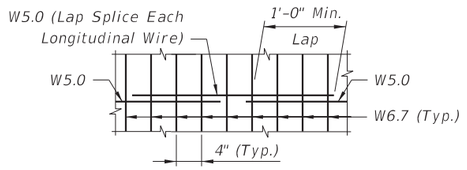
1. All dimensions are out to out.
2. The 8" vertical dimension shown for Bars 4B and 4D are based on a slab 8½" thick or greater without a wearing surface. If slab thickness is less than 8½", decrease this dimension by an amount equal to the difference in thickness. If a wearing surface is to be provided, increase this dimension by an amount equal to the wearing surface thickness.

ALTERNATE REINFORCING STEEL DETAILS (WELDED WIRE REINFORCEMENT)

OPTION A: Use Welded Wire Reinforcement 3 x 4 – W5.0 x W6.7 as required by plans in place of Bars 4A, 4B and 4E. Bend the Welded Wire Reinforcement to the dimensions of Bar 4B shown in the Bending Diagram for Reinforcing Steel Option A.

OPTION B: Use Welded Wire Reinforcement 3 x 4 – W5.0 x W6.7 as required by plans in place of Bars 4A and 4C shown in Reinforcing Steel Option B.

Note: Welded Wire Reinforcement to consist of smooth wire meeting the requirements of Specification Section 931.



SPLICE DETAIL
(Between WWR 3 x 4 - W5.0 x W6.7 Sections)

ESTIMATED TRAFFIC SEPARATOR QUANTITIES

CONCRETE:

CONSTANT WIDTH OF SEPARATOR:

	TYPE "E"		TYPE "F"
4'-0"	Width = 0.056 CY per Ft.	–	0.072 CY per Ft.
6'-0"	Width = 0.089 CY per Ft.	–	0.112 CY per Ft.
8'-6"	Width = 0.132 CY per Ft.	–	0.164 CY per Ft.

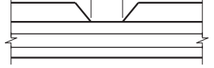
NOSE:

	TYPE "E"		TYPE "F"
4'-0"	Width = 0.080 CY	–	0.109 CY
6'-0"	Width = 0.193 CY	–	0.257 CY
8'-6"	Width = 0.403 CY	–	0.536 CY

REINFORCING STEEL:
(All quantities are based on an 8½" slab.)

OPTION A:
4'-0" Width – 6.37 Lbs. per Ft.
6'-0" Width – 8.60 Lbs. per Ft.
8'-6" Width – 11.05 Lbs. per Ft.

OPTION B:
4'-0" Width – 4.77 Lbs. per Ft.
6'-0" Width – 7.00 Lbs. per Ft.
8'-6" Width – 9.45 Lbs. per Ft.

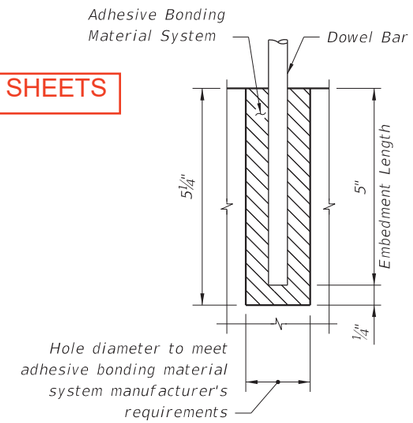


DRAINAGE JOINT DETAIL
FOR 5" OPENING OR LESS

See Structures Plans, Superstructure Sheets for location(s) of drainage joints. Locations for drainage joints shall be limited to the constant width section of separator.

REORIGINZED TO MATCH PREVIOUS SHEETS

NOTES:
CONCRETE: See General Notes in Structures Plans.
REINFORCING STEEL: Reinforcing Steel shall be ASTM A615 Grade 60.
PAYMENT: Separators having widths of 4'-0", 6'-0", and 8'-6" shall be paid under the contract unit price for Traffic Separator Concrete (Type II or V) (__' Wide), LF. Separators having widths other than 4'-0", 6'-0", or 8'-6" shall be detailed in the plans as special separators and paid under the contract unit price for Traffic Separator Concrete (Special), S.Y.
TRAFFIC SEPARATOR CONSTRUCTION: The Contractor may construct the separator by the use of stationary removable forms or by the use of slip forms without altering the separator dimensions shown.
½" V-GROOVES: For all separators provide ½" V-Grooves at 30'-0" centers (max.) equally spaced between expansion joints, and/or drainage joints.



DOWEL DETAIL

Dowel Notes:
1. Shift Dowel Holes to clear if existing reinforcement is encountered.
2. Provide and install an adhesive bonding material system in accordance with Sections 416 and 937 of the Specifications.

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BRIDGE INSTALLATIONS - TYPE "E" AND "F" CURBS

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2017-18 DESIGN STANDARDS	TRAFFIC SEPARATORS	INDEX NO.	SHEET NO.
~~07/01/07~~		11/01/17			302	~~4 of 4~~

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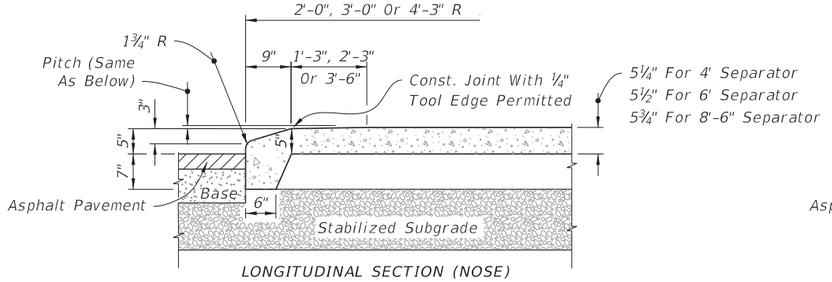
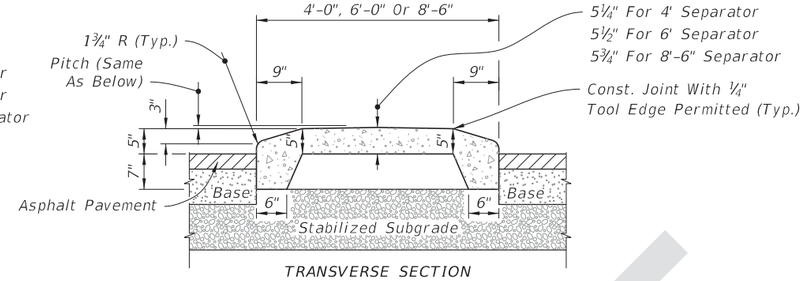
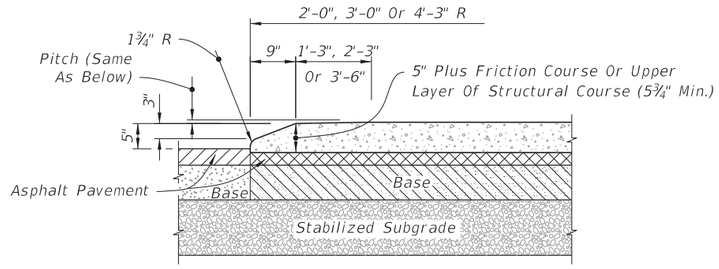


LONGITUDINAL SECTION (NOSE)

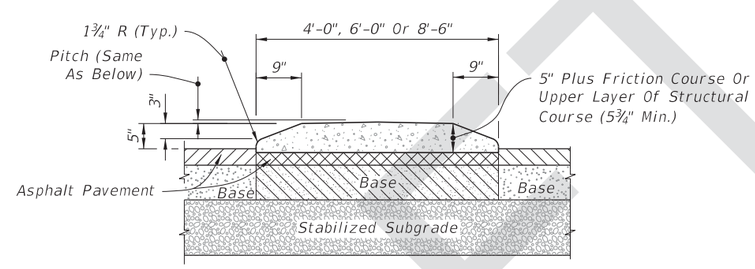


TRANSVERSE SECTION

OPTION I



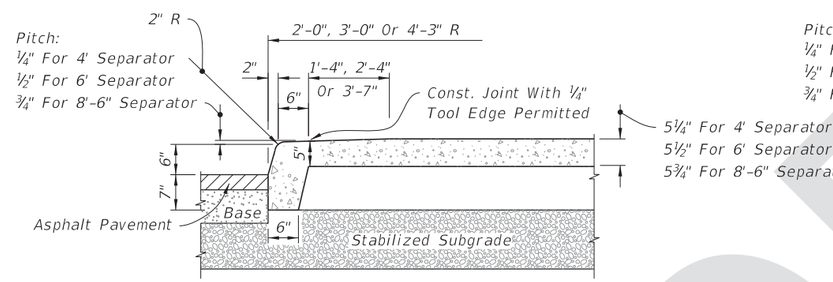
LONGITUDINAL SECTION (NOSE)



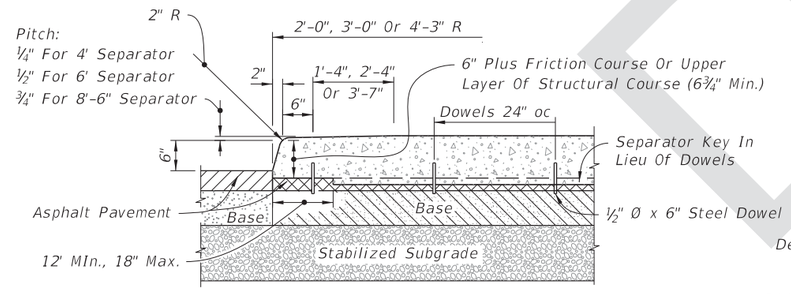
TRANSVERSE SECTION

OPTION II

TYPE I - CONCRETE TRAFFIC SEPARATOR

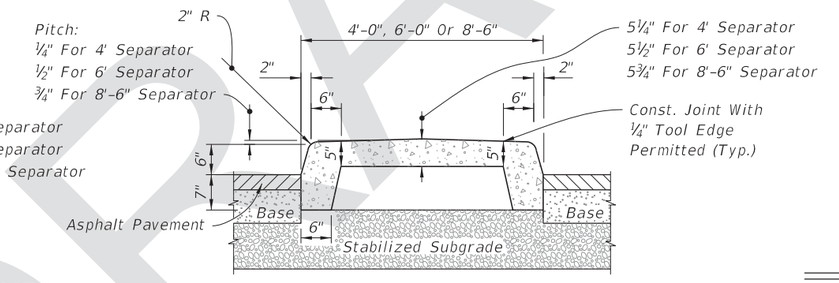


OPTION I

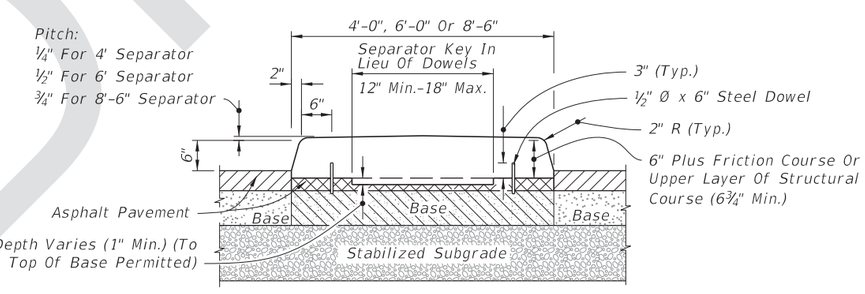


OPTION II

TYPE IV - CONCRETE TRAFFIC SEPARATOR

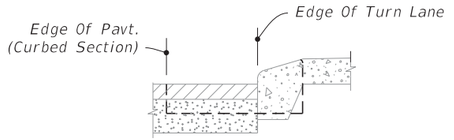


OPTION I

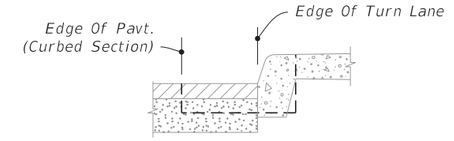


OPTION II

TYPE IV - CONCRETE TRAFFIC SEPARATOR

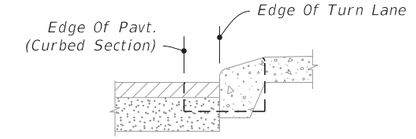


TYPE E

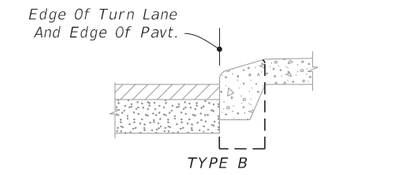


TYPE F

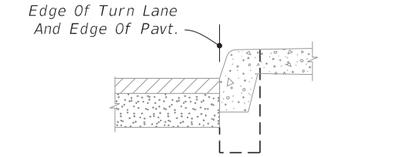
CURB AND GUTTER



TYPE A



TYPE B



TYPE D

CURB

MEDIAN CURB AND TRAFFIC SEPARATOR JUNCTURE DETAILS

(Option I Separator Shown, For Curb Details see Index 520-001)

NOTES:

1. Separators Type I and IV are to be used with flexible pavement. Separators Types II and V are to be used with rigid pavement.
2. Either Option I or Option II may be used for Types I and IV separators except when a specific option is called for in the Plans.
3. For all separators provide ⅛"- ¼" contraction joints at 10' centers (max.). Contraction joints ajacent to concrete pavement on tangents and flat curves to match the pavement joints, with intermediate joints not to exceed 10' center.

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ROADWAY INSTALLATIONS - FLEXIBLE PAVEMENT

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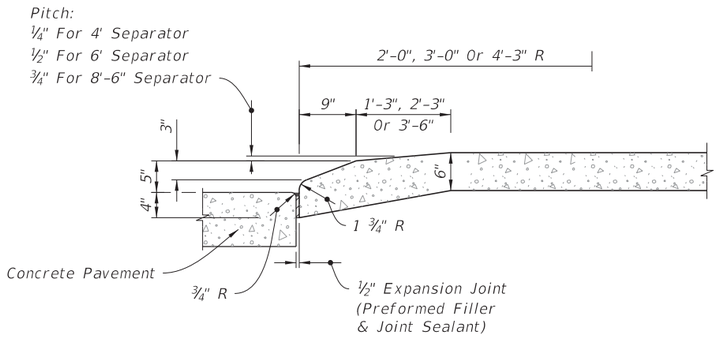
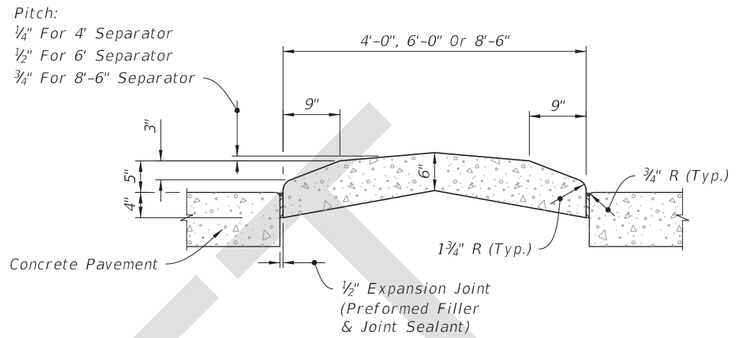
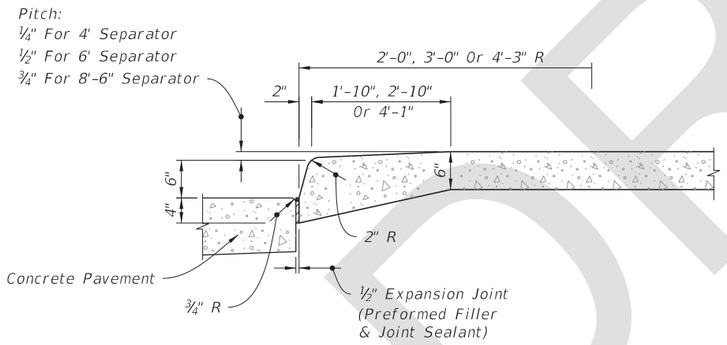


LONGITUDINAL SECTION (NOSE)

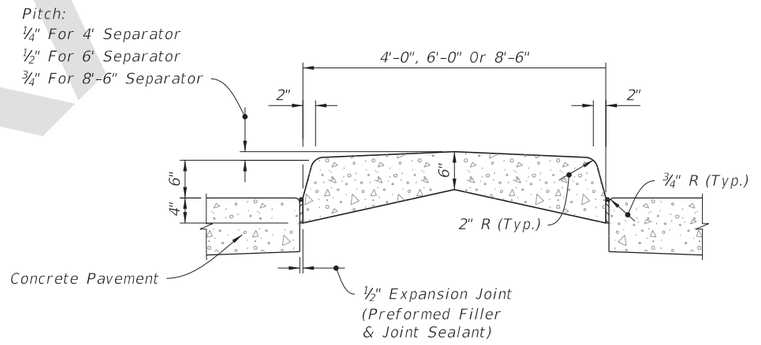


TRANSVERSE SECTION

TYPE II - CONCRETE TRAFFIC SEPARATOR



LONGITUDINAL SECTION (NOSE)



TRANSVERSE SECTION

TYPE V - CONCRETE TRAFFIC SEPARATOR

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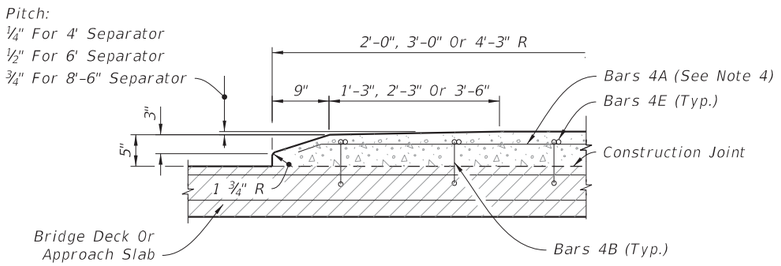

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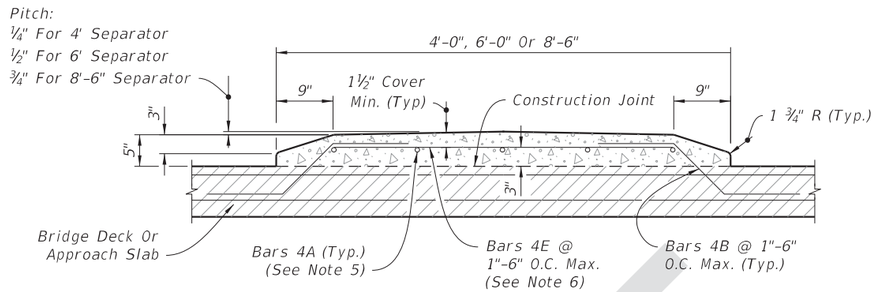
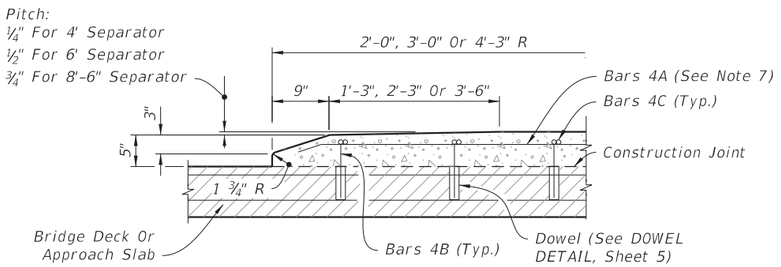
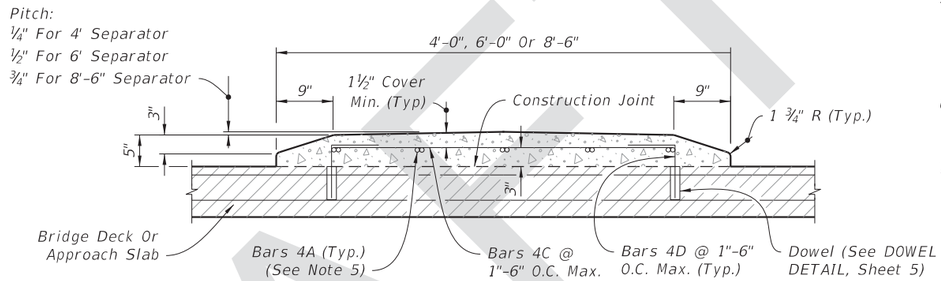


TRANSVERSE SECTION

OPTION I



LONGITUDINAL SECTION (NOSE)

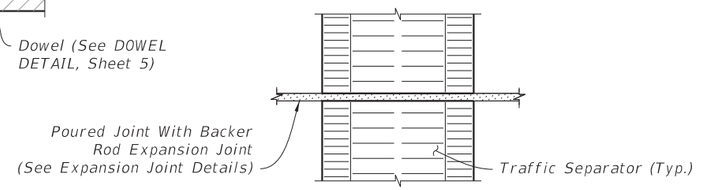


TRANSVERSE SECTION

OPTION II

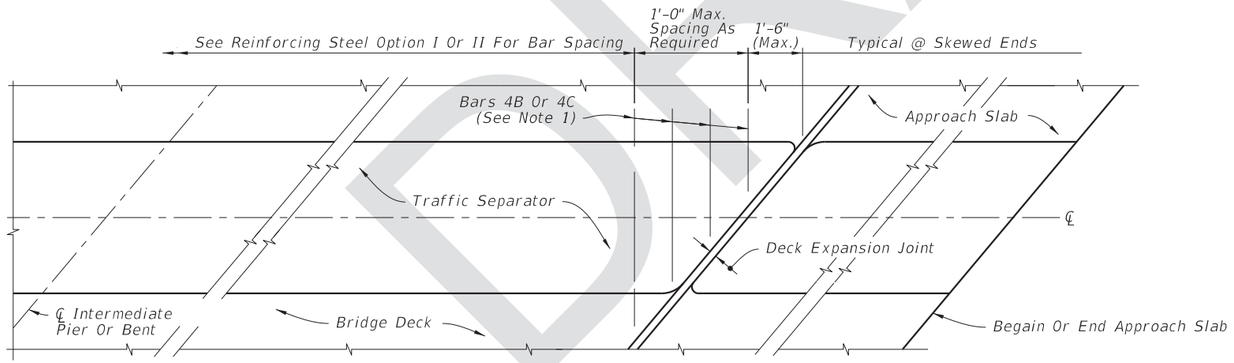
Notes:

1. Traffic Separator transverse reinforcement adjacent to deck expansion joints shall be field adjusted to maintain clearance and spacing. Bars shall be field cut as shown, bars may be rotated to maintain clearance.
2. Traffic Separator ends at deck expansion joints shall follow the deck joint limits. Drainage joints and b" V-Grooves shall be placed perpendicular or radial to the ℄ of the Traffic Separator. See Structures Plans, Superstructure and Approach Slab Sheets for details.
3. See Structures Plans, Superstructure Sheets for actual dimensions and joint orientation.
4. Option II is not permitted on bridge decks with prestressing steel.
5. Bar Spacing:
   4'-0" @ 3 equal spaces (continuous)
   6'-0" @ 5 equal spaces (continuous)
   8'-6" @ 7 equal spaces (continuous)
6. At the Contractor's option, a one piece bar my be substituted for Bars 4B and 4E.
7. Field bend and cut rebar as required to maintain cover.



REINFORCING STEEL

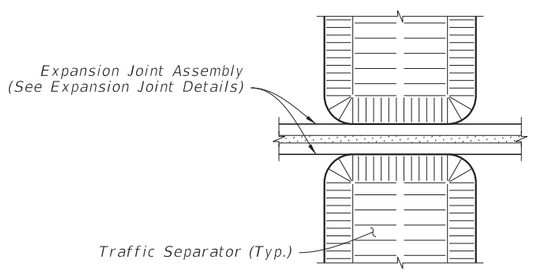
(Bridge Deck SHown, Approach Slab Similar)



SKEWED BRIDGE DECK AND APPROACH SLAB WITH TRAFFIC SEPARATOR

(Deck Expansion Joint at Begin or End Bridge Show, Expansion Joint at ℄ Pier or Intermediate Bents Similar)

DETAIL AT POURED JOINT WITH BACKER ROD EXPANSION JOINTS



DETAIL AT EXPANSION JOINTS

(Strip Seal Shown, Other Armored Joint Types Similar)

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BRIDGE INSTALLATIONS - TYPE "E" CURB

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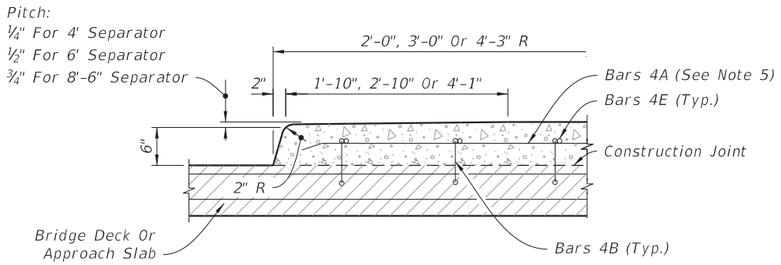
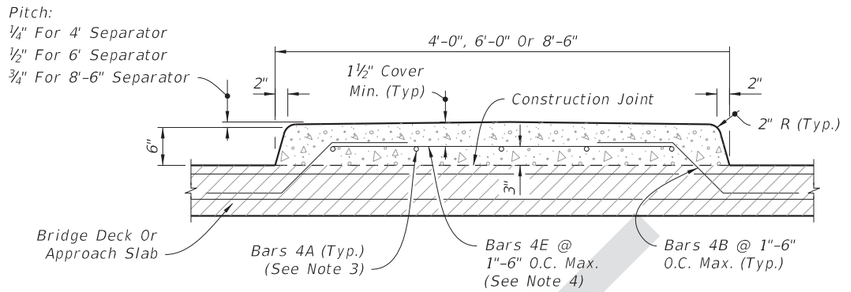
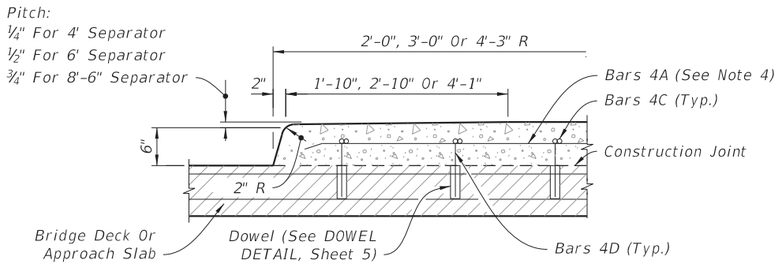


LONGITUDINAL SECTION (NOSE)

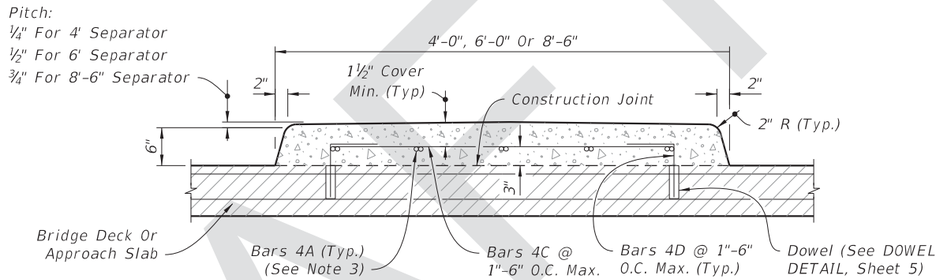


TRANSVERSE SECTION

OPTION I



LONGITUDINAL SECTION (NOSE)

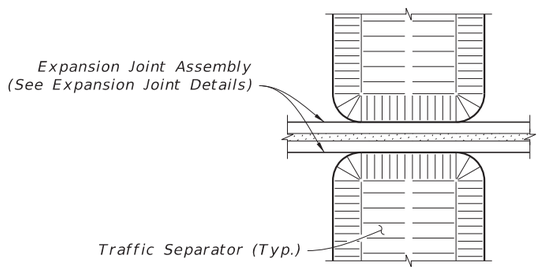


TRANSVERSE SECTION

OPTION II

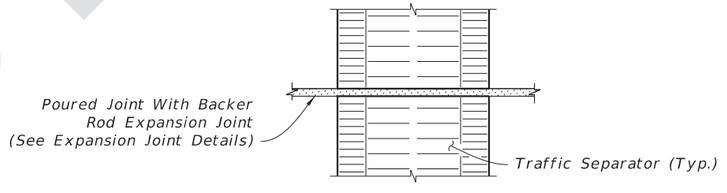
REINFORCING STEEL

(Bridge Deck Shown, Approach Slab Similar)



DETAIL AT EXPANSION JOINTS

(Strip Seal Shown, Other Armored Joint Types Similar)



DETAIL AT POURED JOINT WITH
BACKER ROD EXPANSION JOINTS

Notes:

1. Treatment of separators on straight bridges shown. For additional notes and treatment of separators on skewed bridges, see Sheet 2.
2. Option II is not permitted on bridge decks with prestressing steel.
3. Bar Spacing:
   - 4'-0" @ 3 equal spaces (continuous)
   - 6'-0" @ 5 equal spaces (continuous)
   - 8'-6" @ 7 equal spaces (continuous)
4. At the Contractor's option, a one piece bar my be substituted for Bars 4B and 4E.
5. Field bend and cut rebar as required to maintain cover.

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BRIDGE INSTALLATIONS - TYPE "F" CURB

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2018-19 STANDARD PLANS	TRAFFIC SEPARATORS	INDEX	SHEET
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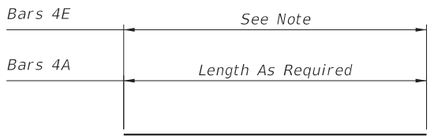
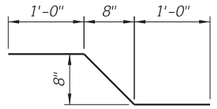


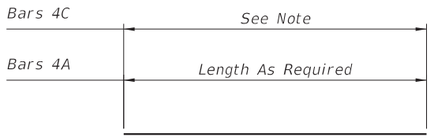
Bars 4A & 4E



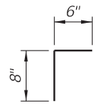
Bar 4B

NOTE:
Length of Bars 4E is 2'-5" for 4'-0" Separator.
Length of Bars 4E is 4'-5" for 6'-0" Separator.
Length of Bars 4E is 6'-11" for 8'-6" Separator.

OPTION I



Bars 4A & 4C



Bar 4D

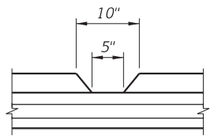
NOTE:
Length of Bars 4C is 2'-4½" for 4'-0" Separator.
Length of Bars 4C is 4'-4½" for 6'-0" Separator.
Length of Bars 4C is 6'-10½" for 8'-6" Separator.

OPTION II

REINFORCING STEEL NOTES:

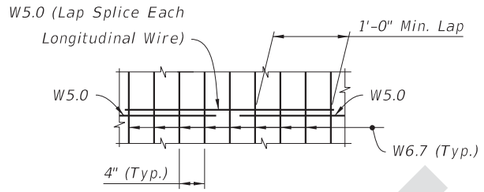
1. All dimensions are out to out.
2. The 8" vertical dimension shown for Bars 4B and 4D are based on a slab 8½" thick or greater without a wearing surface. If slab thickness is less than 8½", decrease this dimension by an amount equal to the difference in thickness. If a wearing surface is to be provided, increase this dimension by an amount equal to the wearing surface thickness.

CONVENTIONAL REINFORCING STEEL BENDNG DIAGRAMS



See Structures Plans, Superstructure Sheets for location(s) of drainage joints. Locations for drainage joints shall be limited to the constant width section of separator.

DRAINAGE JOINT DETAIL
(For 5" Opening Or Less)



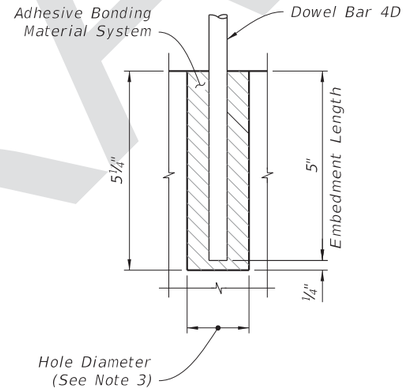
SPLICE DETAIL
(Between WWR 3 x 4 - W5.0 x W6.7 Sections)

OPTION A: Use Welded Wire Reinforcement 3 x 4 – W5.0 x W6.7 as required by plans in place of Bars 4A, 4B and 4E. Bend the Welded Wire Reinforcement to the dimensions of Bar 4B shown in the Bending Diagram for Reinforcing Steel Option I.

OPTION B: Use Welded Wire Reinforcement 3 x 4 – W5.0 x W6.7 as required by plans in place of Bars 4A and 4C shown in Reinforcing Steel Option II.

NOTE: Welded Wire Reinforcement to consist of smooth wire meeting the requirements of Specification Section 931.

ALTERNATE REINFORCING STEEL DETAILS
(Welded Wire Reinforcement)



DOWEL NOTES:
1. Shift Dowel Holes to clear if existing reinforcement is encountered.
2. Provide and install an adhesive bonding material system in accordance with Sections 416 and 937 of the Specifications.
3. The dowel hole diameter is to meet adhesive bonding material system manufacture's requirements.

DOWEL DETAIL

NOTES:

CONCRETE:
See General Notes in Structures Plans.

REINFORCING STEEL:
Reinforcing Steel shall be ASTM A615 Grade 60.

PAYMENT:
Separators having widths of 4'-0", 6'-0", and 8'-6" shall be paid under the contract unit price for Traffic Separator Concrete (Type II or V) (__' Wide), LF. Separators having widths other than 4'-0", 6'-0", or 8'-6" shall be detailed in the plans as special separators and paid under the contract unit price for Traffic Separator Concrete (Special), S.Y.

TRAFFIC SEPARATOR CONSTRUCTION:
The Contractor may construct the separator by the use of stationary removable forms or by the use of slip forms without altering the separator dimensions shown. ½" V-GROOVES: For all separators provide ½" V-Grooves at 30'-0" centers (max.) equally spaced between expansion joints, and/or drainage joints.

ESTIMATED TRAFFIC SEPARATOR QUANTITIES:

CONCRETE:
CONSTANT WIDTH OF SEPARATOR:

	TYPE "E"		TYPE "F"
4'-0"	Width = 0.056 CY per Ft.	–	0.072 CY per Ft.
6'-0"	Width = 0.089 CY per Ft.	–	0.112 CY per Ft.
8'-6"	Width = 0.132 CY per Ft.	–	0.164 CY per Ft.

NOSE:

	TYPE "E"		TYPE "F"
4'-0"	Width = 0.080 CY	–	0.109 CY
6'-0"	Width = 0.193 CY	–	0.257 CY
8'-6"	Width = 0.403 CY	–	0.536 CY

REINFORCING STEEL:
(All quantities are based on an 8½" slab.)

OPTION I:
4'-0" Width – 6.37 Lbs. per Ft.
6'-0" Width – 8.60 Lbs. per Ft.
8'-6" Width – 11.05 Lbs. per Ft.

OPTION II:
4'-0" Width – 4.77 Lbs. per Ft.
6'-0" Width – 7.00 Lbs. per Ft.
8'-6" Width – 9.45 Lbs. per Ft.

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BRIDGE INSTALLATIONS - TYPE "E" AND "F" CURB

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