
ORIGINATION FORM

Proposed Revisions to a Standard Plans Index (Please provide all information — Incomplete forms will be returned)

Contact Information:

Date: July 13, 2021
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Standard Plans:

Index Number: 370-001
Sheet Number (s): 1 of 1
Index Title:
Bridge Approach Expansion Joint Concrete
Pavement with Special Select Soil Base

**Summary of the changes:**

- Changed "Class I" to "Class II" in SECTION A-A.
- Revised Note 1 to read " For asphalt base, use four expansion joints, spaced at 15-ft, per Index 350-001."

General Note 1 provides direction to use 4 expansion joints per Index 350-001, which provides the required joint dimensions. However, it is not clear what the required spacing of these 4 expansion joints should be. Spacing between these joints (for asphalt base concrete pavements) should be 15'. Clarification of General Note 1 to indicate the required spacing of the 4 expansion joints needed for asphalt base concrete pavements.

**Commentary / Background:**

Changed to Class II to reflect SMO Specification change that removes the designation for Class I Concrete. Please see the attached Standard Specification Section 346 DRAFT for the Class I revisions proposed by the State Materials Office.

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 checked="" type="checkbox"/> | <input type="checkbox"/> | Standard Specifications – Daniel Strickland |
| <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:

(Email or hand deliver package to Rick Jenkins)

- | Yes | N/A | |
|--------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Redline Mark-ups |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Proposed Standard Plan Instruction (SPI) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Revised SPI |
| <input type="checkbox"/> | <input checked="" 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 and Darren Martin darren.martin@dot.state.fl.us

STRUCTURAL PORTLAND CEMENT CONCRETE.**(REV 7-14-21)**

SUB ARTICLE 346-2.3 is deleted and the following substituted:

346-2.3 Supplementary Cementitious Materials: Supplementary cementitious materials are required to produce binary or ternary concrete mixes in all classes of concrete specified in Table 346-3, except for the following when used in slightly aggressive environments: **Class I**, Class I (Pavement), and Class II.

The quantity of portland cement replaced with supplementary cementitious materials must be on an equal weight replacement basis of the total cementitious materials in accordance with Table 346-2.

346-2.3.1 Highly Reactive Pozzolans: Materials that have a very high degree of pozzolanic reactivity due to their very fine particle sizes, including silica fume, metakaolin and ultrafine fly ash.

346-2.3.2 Binary Concrete Mixes: Concrete mixes containing portland cement and one supplementary cementitious material.

346-2.3.3 Ternary Concrete Mixes: Concrete mixes containing portland cement and any two of supplementary cementitious materials, either fly ash, slag, or highly reactive pozzolans.

ARTICLE 346-3.1 is deleted and the following substituted:

346-3.1 General: The classifications of concrete are designated as **Class I**, Class I (Pavement), Class II, Class II (Bridge Deck), Class III, Class III (Seal), Class IV, Class IV (Drilled Shaft), Class V, Class V (Special), Class VI, and Class VII. The 28-day specified minimum compressive strength, maximum water to cementitious materials ratio and target slump of each class are detailed in Table 346-3. The required air content for all classes of concrete is less than or equal to 6.0%.

For purposes of this Specification the concrete is further classified as follows:

1. Conventional Concrete: The target slump is described in Table 346-3 with a tolerance of ± 1.5 inches.
2. Increased Slump Concrete: The maximum target slump is 7 inches with a tolerance of ± 1.5 inches when a Type F, G, I or II admixture is used.
3. Slip-form Concrete: The target slump is 1.5 inches with a tolerance of ± 1.5 inches.
4. Flowing Concrete: Use flowing concrete only in the manufacturing of precast and prestressed products. Request Engineer's authorization to use flowing concrete for cast-in-place applications. The target slump is 9 inches with a tolerance of ± 1.5 inches. Meet the requirements of Section 8.6 Volume II of the Materials Manual.

5. Self-Consolidating Concrete (SCC): Use SCC only in the manufacturing of precast and prestressed products. The minimum target slump flow is 22.5 inches with a tolerance of ± 2.5 inches. Meet the requirements of Section 8.4 Volume II of the Materials Manual.

ARTICLE 346-3.3 is deleted and the following substituted:

346-3.3 Master Proportion Table: Proportion the materials to produce the classes of concrete in accordance with Table 346-3.

The calculation of the water to cementitious materials ratio (w/cm) is based on the total cementitious materials including portland cement and any supplementary cementitious materials used in the mix.

Class of Concrete	28-day Specified Minimum Compressive Strength (f'c) (psi)	Maximum Water to Cementitious Materials Ratio (pounds per pounds)	Target Slump Value (inches)
I (1)	3,000	0.53	3 (2)
I (Pavement)	3,000	0.50	1.5 or 3 (3)
II (1)	3,400	0.53	3 (2)
II (Bridge Deck)	4,500	0.44	3 (2)
III (4)	5,000	0.44	3 (2)
III (Seal)	3,000	0.53	8
IV	5,500	0.41(4)	3 (2)
IV (Drilled Shaft)	4,000	0.41	8.5
V (Special)	6,000	0.37(4)	3 (2)
V	6,500	0.37(4)	3 (2)
VI	8,500	0.37(4)	3 (2)
VII	10,000	0.37(4)	3 (2)

Notes:

(1) For precast three-sided culverts, box culverts, endwalls, inlets, manholes and junction boxes, the target slump value and air content will not apply. The maximum allowable slump is 6 inches, except as noted in (2). The Contractor is permitted to use concrete meeting the requirements of ASTM C478 (4,000 psi) in lieu of the specified ~~Class I or~~ Class II concrete for precast endwalls, inlets, manholes and junction boxes.

(2) Increased slump and slip form concrete as defined in 346-3.1

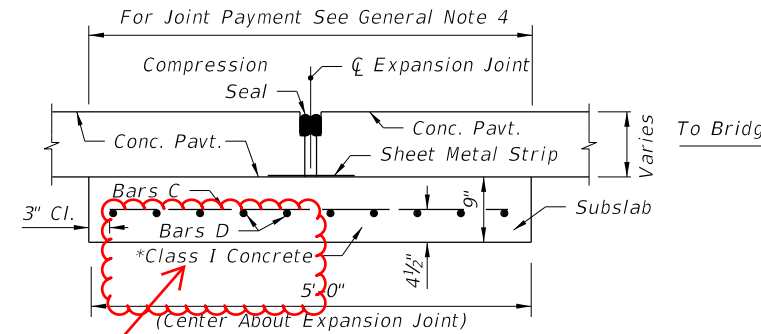
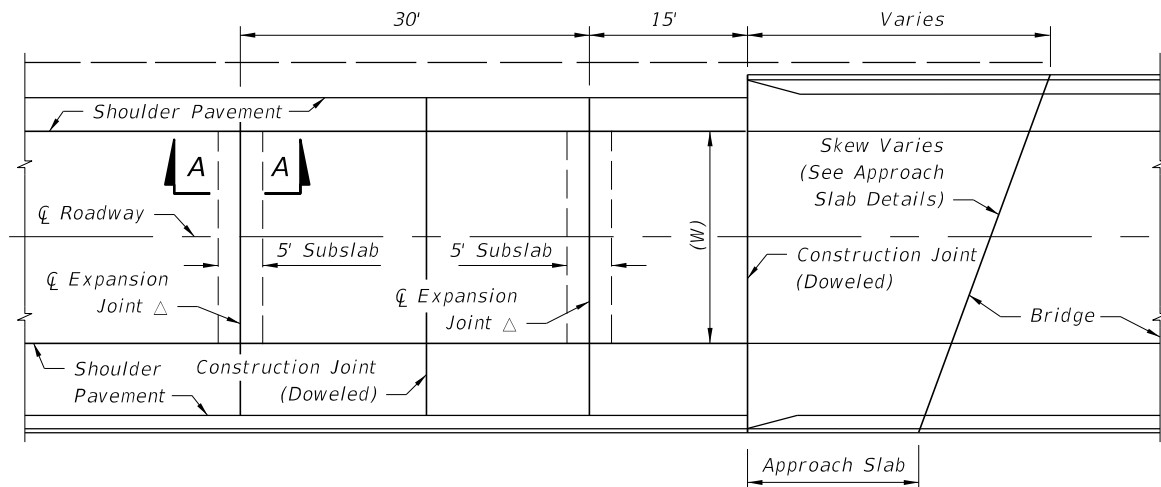
(3) Meet the requirements of Section 350.

(4) When silica fume or metakaolin is required, the maximum water to cementitious material ratio will be 0.35. When ultrafine fly ash is used, the maximum water to cementitious material ratio will be 0.30.

Change note to add: ", spaced at 15 feet,"

GENERAL NOTES:

1. For asphalt base, use four expansion joints per Index 350-001.
2. The centerline of roadway and the centerline of bridge do not necessarily coincide. Determine the centerline of the roadway pavement prior to the placement of the expansion joint.
3. For information on other types of concrete pavement joints see Index 350-001.
4. Pay quantity for expansion joint is the length of joint to be constructed across the roadway and shoulder pavements, measured at right angles to the centerline of the roadway. Payment for expansion joint is full compensation for joint construction, including reinforced concrete subslab, sheet metal strip and compression seal, but, not including roadway pavement reconstruction associated with joint replacement or reconstruction. Expansion joint to be paid for under the contract unit price for Bridge Approach Expansion Joint, LF.



REINFORCING STEEL				
Mark	Size	Spac.	No. Reqd.	Length
C	5	6"	Varies	4'-6"
D	5	6"	10	W Minus 6"

* Finish surface smooth. Cure with heavy coating of wax base white pigmented curing compound. Apply second application immediately prior to placing pavement.

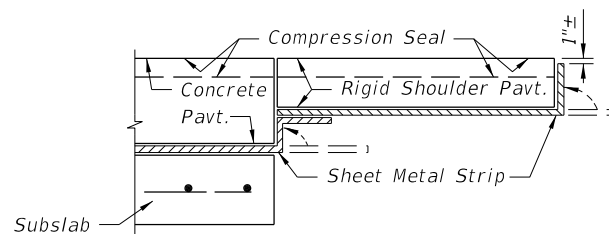
△ Construct Expansion Joints Parallel To The Existing Transverse Pavement Joints On Rehabilitation Projects, And Parallel To The Standard Transverse Pavement Joints Shown In The Plans For New Construction.

CHANGED TO: Class II

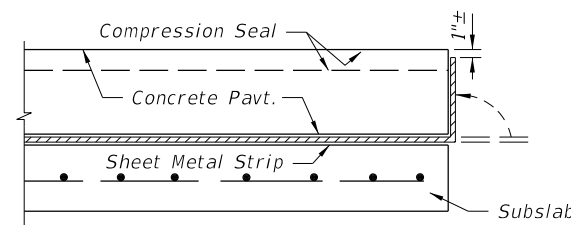
PLAN

SECTION A-A

EXPANSION JOINT



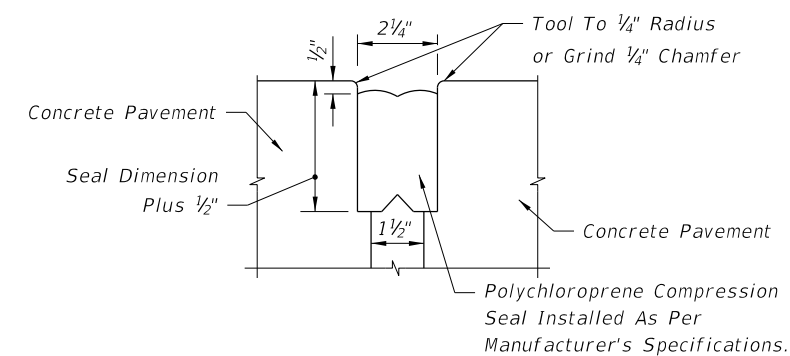
RIGID SHOULDER PAVEMENT



SODDED SHOULDER OR FLEXIBLE SHOULDER PAVEMENT

NOTES:

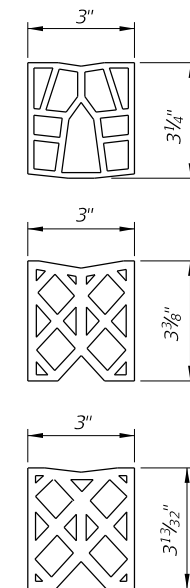
1. Immediately prior to placing the seal, thoroughly clean the joint of all foreign material. Immediately after the seal is placed, bend up the sheet metal strip against the pavement edge.
2. Use a minimum 16 gage steel, 12" wide sheet metal strip, Galvanized in accordance with ASTM A-526, Coating Designation G90.



NOTE:

Thoroughly coat all contacting surfaces between the compression seal and concrete with a lubricant-adhesive.

JOINT DIMENSIONS



OPTIONAL SEALS

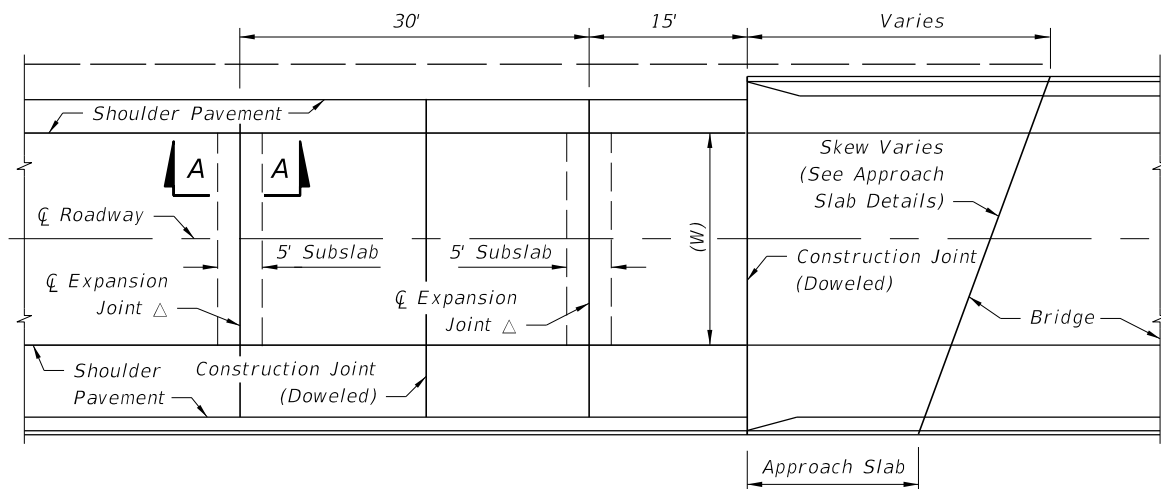
SHEET METAL STRIP DETAILS

COMPRESSION SEAL DETAIL

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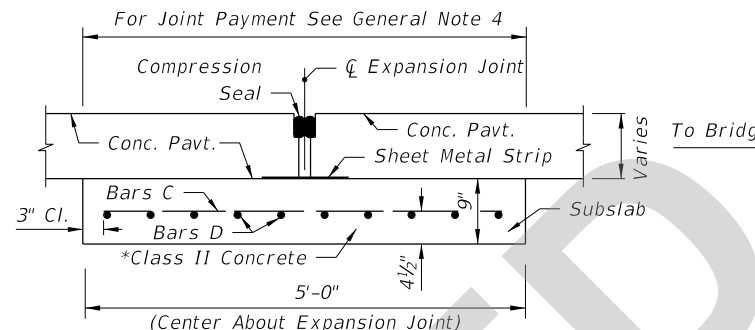
11/01/21

LAST REVISION 11/01/19	DESCRIPTION:		FY 2021-22 STANDARD PLANS	BRIDGE APPROACH EXPANSION JOINT CONCRETE PAVEMENT WITH SPECIAL SELECT SOIL BASE	INDEX 370-001	SHEET 1 of 1
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△ Construct Expansion Joints Parallel To The Existing Transverse Pavement Joints On Rehabilitation Projects, And Parallel To The Standard Transverse Pavement Joints Shown In The Plans For New Construction.

PLAN

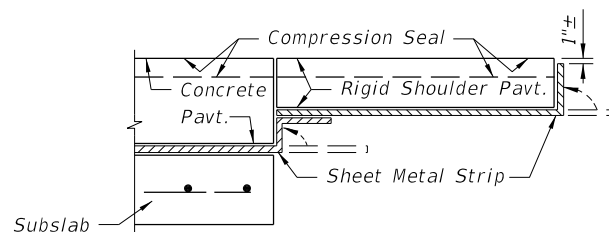


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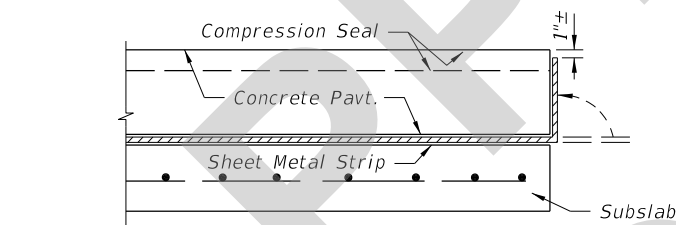
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SECTION A-A

EXPANSION JOINT



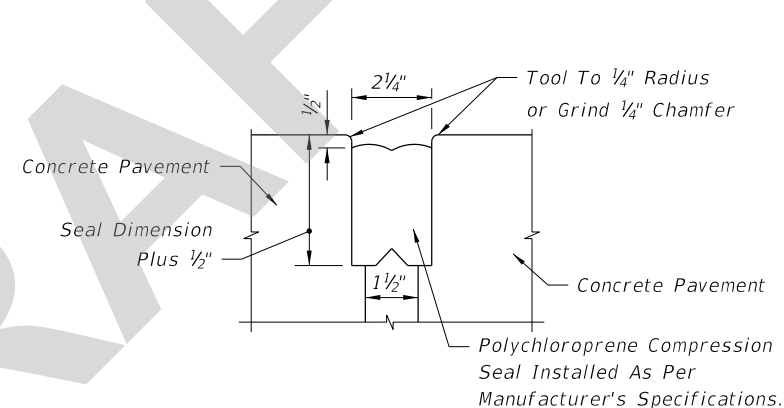
RIGID SHOULDER PAVEMENT



SODDED SHOULDER OR FLEXIBLE SHOULDER PAVEMENT

NOTES:

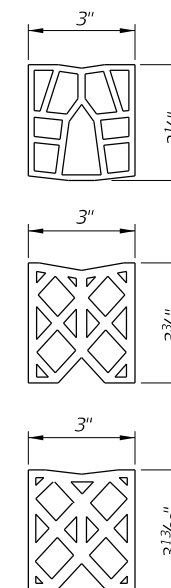
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JOINT DIMENSIONS



OPTIONAL SEALS

SHEET METAL STRIP DETAILS

COMPRESSION SEAL DETAIL

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