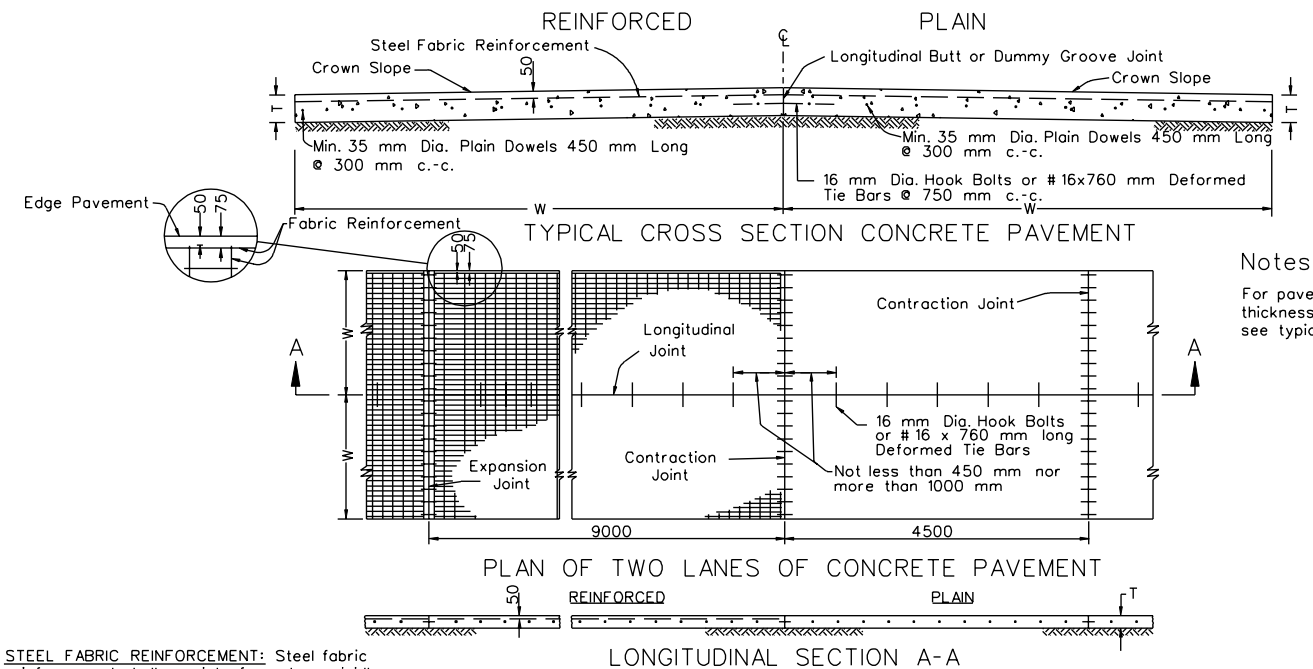
REVISED ON 7/02

PR-2



Notes:

For pavement crown slope, thickness - "T", lane width - "W", see typical sections in plans.

STEEL FABRIC REINFORCEMENT: Steel fabric reinforcement shall consist of members rigidly attached at all joints or points of intersection except as noted below:(*). Longitudinal members shall be of MW35 wire spaced at 150 mm on centers. Traverse members shall be MW26 wire, spaced at 300 mm on centers. (Wire Reinforcement Steel Institute Designation 152 x 304 - MW35 x MW26).

The widths of steel fabric sheets shall be 100 mm less than the width of the slab. The number of sheets allowable between contraction joints, or between contraction and expansion joints, shall not exceed 3.

All members, longitudinal or transverse, shall be so cut that the projecting ends will extend not less than 25 mm nor more than 275 mm from the joints or points of intersection of the fabric members.

When it is necessary to lap steel fabric reinforcement, the minimum amount of lap shall be equivalent to the spacing of the wires parallel to the lap.

Other types of mesh reinforcement may be used on written permission of the Engineer. The width of sheets and other general requirements, which apply, shall be the same as for steel fabric reinforcement.

Dowels at contraction joints may be placed in the full thickness of pavement by mechanical device in lieu of dowel baskets.

* Hinged steel reinforcement may be used in lieu of rigid sheets.

EXPANSION AND CONTRACTION JOINTS: Construction joints in both plain and reinforced pavement shall have the same load transfer devices as noted for contraction joints in reinforced pavement.

Contraction joints of the type specified on Sheet 2 shall be spaced at 9.00 meters intervals for reinforced concrete pavement and at 4.50 meters intervals for plain concrete pavement unless otherwise noted on joint layouts in plans.

Adjacent to rigid structures; concrete street intersections, or R.R. grade x-ings, bridge approach expansion joints and/or transverse expansion joints are to be placed as shown on sheet 2 of 3. Other expansion joints are to be used as specified on plans.

If asphalt concrete is to be applied, all transverse joints are to be sawed, but not widened, except at the end of a days run and when interruptions occur in the concrete operations of more than 30 minutes duration. In these cases, butt construction joints are to be used used.

PAVED SHOULDERS: When asphalt concrete paved shoulders are to be used adjacent to either plain or reinforced cement concrete pavement, the edge of the concrete slab is to be painted, to its full depth, with asphaltic material either CRS-2 or RC-250 as directed by the Engineer.

LONGITUDINAL JOINTS: The contractor will be permitted to construct the concrete pavement in dual lanes, simultaneously, where the sum of the lane widths does not exceed 7.60 meters, provided a satisfactory and true longitudinal dummy groove joint is obtained. This is to be done by the use of an approved forming strip or by sawing, at the contractor's option. Where lanes are poured separately, the hook bolts or tie bolts shall be in accordance with the details shown of Sheet 2. Where both lanes are poured simultaneously, tie bars shall be as detailed on Sheet 2. The maximum width of pavement that may be constructed without a longitudinal joint is 4.25 meters. For widths greater than 4.25 meters the longitudinal joint shall be in the center. No other deviations are to be allowed unless shown on joint layout in plans, or directed by the Engineer.

METHOD OF FINISHING AT EXPANSION JOINTS: A protective cap or installation shield of 2 mm steel shall be placed over the top of the expansion joint filler. The finishing machine shall then be allowed to pass over the joint, leaving it as shown in Figure 1, Sheet 2. Prior to the initial set the shield shall be removed and a rectangular bar 6.5 mm less in width than the preformed filler placed on top of the filler, the concrete squeege finished adjacent to it as shown in Figure 2, and the edges rounded with hand tools, using the bar as a guide. The bar shall then be withdrawn, leaving a joint gap of the same width as the filler.

SPECIFICATION REFERENCE
316

PLAIN AND REINFORCED CONCRETE PAVEMENT SHOWING REINFORCEMENT, LONGITUDINAL AND TRANSVERSE JOINTS

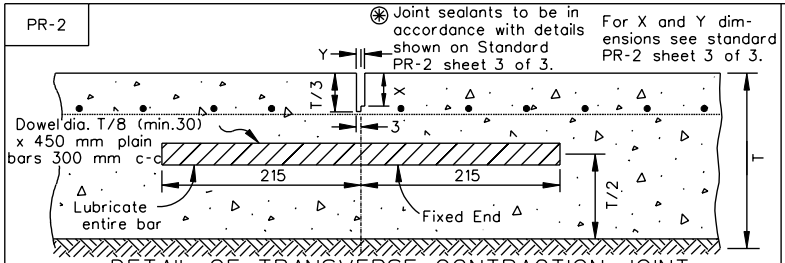
Sheet 1 of 3

VIRGINIA DEPARTMENT OF TRANSPORTATION

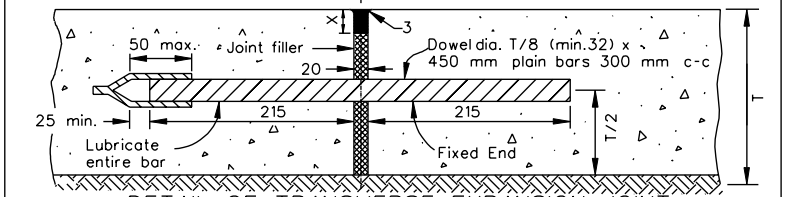
UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

301.01

PR-2

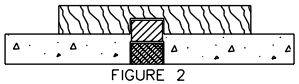


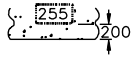
DETAIL OF TRANSVERSE CONTRACTION JOINT



DETAIL OF TRANSVERSE EXPANSION JOINT

For X and Y dimensions see Standard PR-2 sheet 3 of 3.

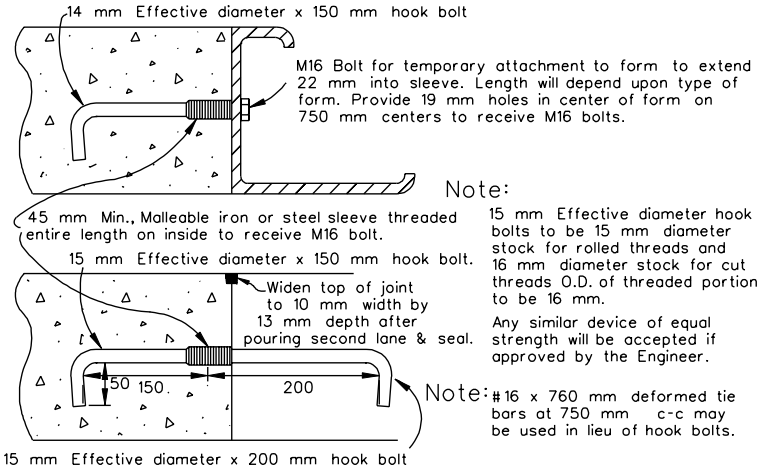




Smooth surface to be steel troweled 200 mm in from the edge of pavement every 500 m, and station number stamped into it. The date is to be shown in a similar manner at the beginning of each days pour.

Both outside edges of divided highway to be stamped. One edge of undivided highways where feasible.

METHOD OF FINISHING AT EXPANSION JOINTS

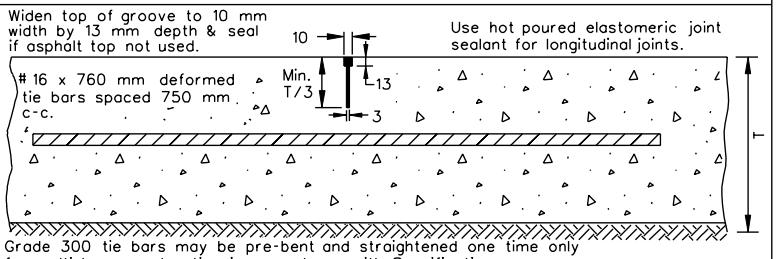


15 mm Effective diameter hook bolts to be 15 mm diameter stock for rolled threads and 16 mm diameter stock for cut threads O.D. of threaded portion to be 16 mm.

Any similar device of equal strength will be accepted if approved by the Engineer.

DETAIL OF LONGITUDINAL JOINT HOOK BOLTS

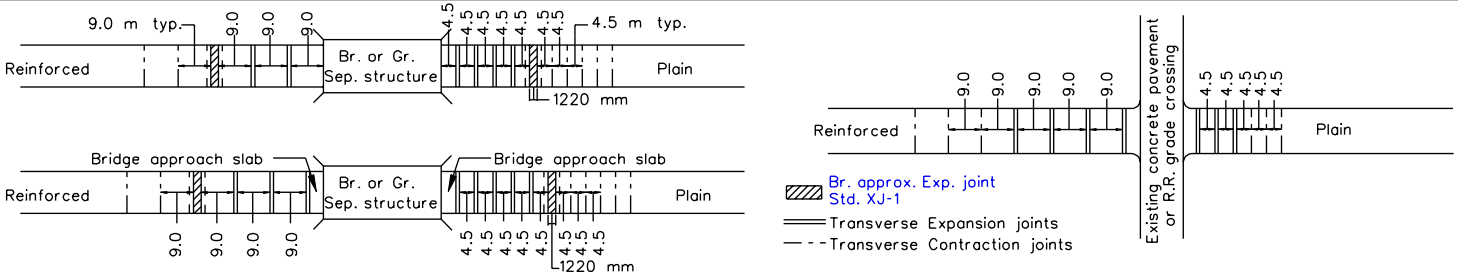
SHOWING PAVEMENT POURED IN SINGLE LANES



Grade 300 tie bars may be pre-bent and straightened one time only for multi-lane construction in accordance with Specifications.

DETAIL OF LONGITUDINAL JOINT TIE BARS

SHOWING ADJACENT LANES POURED SIMULTANEOUSLY



DETAILS OF JOINTS LAYOUTS

(FOR USE WHEN COVERED ON JOINT LAYOUTS IN PLANS)

Sheet 2 of 3

PLAIN AND REINFORCED CONCRETE PAVEMENT SHOWING REINFORCEMENT, LONGITUDINAL AND TRANSVERSE JOINTS

SPECIFICATION REFERENCE

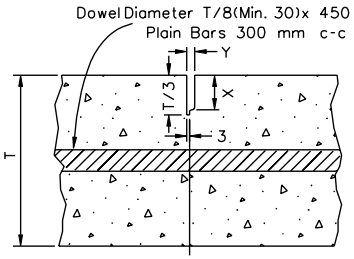
316

301.02

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

VIRGINIA DEPARTMENT OF TRANSPORTATION

REVISED ON 8/97



DETAIL OF TRANSVERSE CONTRACTION JOINT (BEFORE INSTALLATION OF SEAL)

General Notes

Alternate preformed sealants having a cross-sectional area comparable to type A (Contraction Joints) and type D (Expansion Joints) and meeting the approval of the Engineer may be substituted.

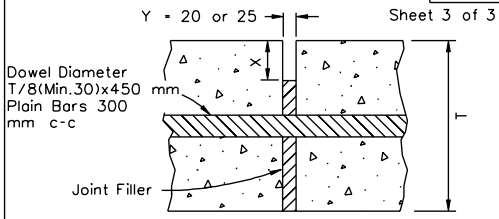
Other types of joint material are to be in accordance with the Specifications.

All details not shown hereon to be in accordance with Standards PR-2, Sheet 2 of 3.

All Contraction Joints to be sawed in conformance with detail to the left, except that where gravel aggregate is used in the concrete, the joint may be prepared by forming 6 mm or less of the width, for the depth shown with non-metallic or removable material, followed by sawing to complete the joint to the required width and depth.

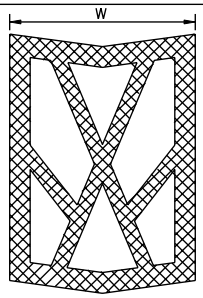
For details of Transverse Construction Joint, see below.

PR-2



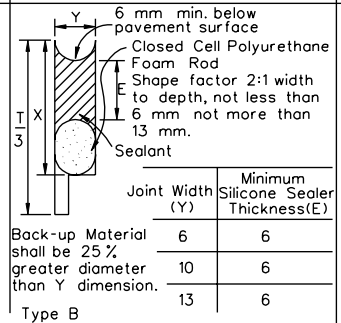
DETAIL OF TRANSVERSE EXPANSION JOINT (BEFORE INSTALLATION OF SEAL)

PREFORMED CHLOROPRENE ELASTOMERIC JOINT SEALANT



Type A

SILICONE JOINT SEALANT

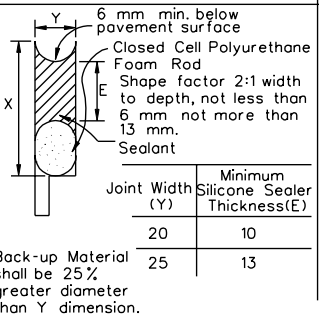


Joint Width (Y)	Minimum Silicone Sealer Thickness(E)
6	6
10	6
13	6

Back-up Material shall be 25% greater diameter than Y dimension.

Type B

SILICONE JOINT SEALANT

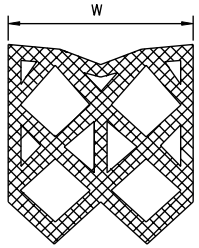


Joint Width (Y)	Minimum Silicone Sealer Thickness(E)
20	10
25	13

Back-up Material shall be 25% greater diameter than Y dimension.

Type C

PREFORMED CHLOROPRENE ELASTOMERIC JOINT SEALANT



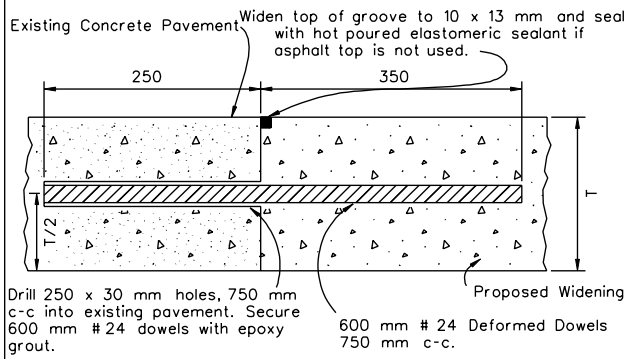
When Y = 20
W = 30
X = 50

When Y = 25
W = 40
X = 50

Type D

SEALANTS FOR TRANSVERSE CONTRACTION JOINTS

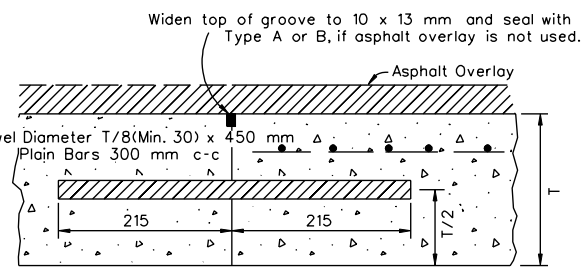
SEALANTS FOR TRANSVERSE EXPANSION JOINTS



METHODS OF WIDENING CONCRETE PAVEMENT
(PLAIN AND REINFORCED)

FOR 450 mm SLAB LENGTHS (PLAIN)				
Dimension	Sealant Type			
	A	B	C	D
X	45	30	45-50	50
Y	6	6	20	20
W	16±2	-	-	-

FOR 910 mm SLAB LENGTHS (REINFORCED)				
Dimension	Sealant Type			
	A	B	C	D
X	45	30	45-50	50
Y	10	10	20	20
W	30±2	-	-	-



■ If joint coincides with specified joint, construct in accordance with detail on sheet 2 (Contraction or Expansion Joint).

DETAIL OF TRANSVERSE CONSTRUCTION (BUTT) JOINT
(FOR USE WITH PLAIN, REINFORCED, AND PLAIN BASE WITH ASPHALT TOP)

SPECIFICATION REFERENCE

316

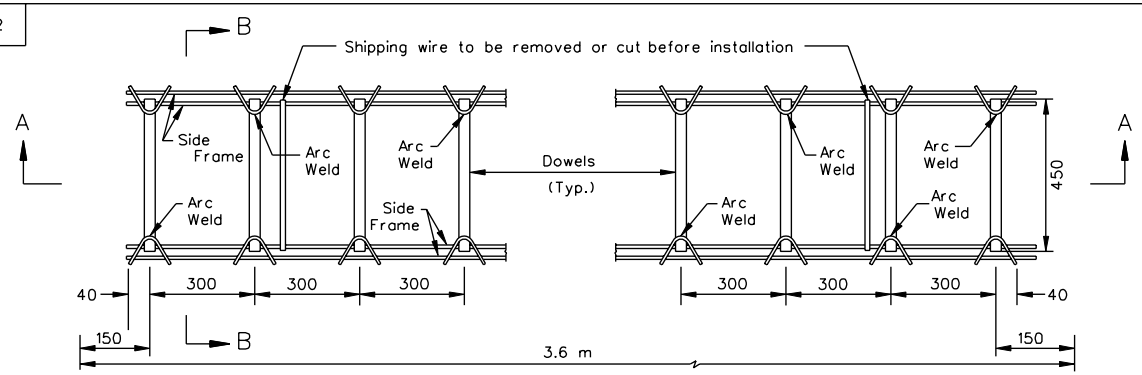
PLAIN AND REINFORCED CONCRETE PAVEMENT SHOWING REINFORCEMENT, LONGITUDINAL AND TRANSVERSE JOINTS

VIRGINIA DEPARTMENT OF TRANSPORTATION

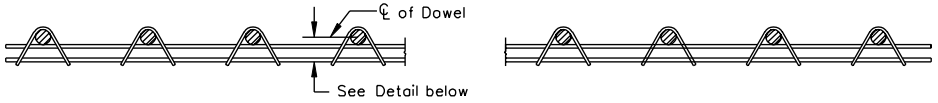
UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

301.03

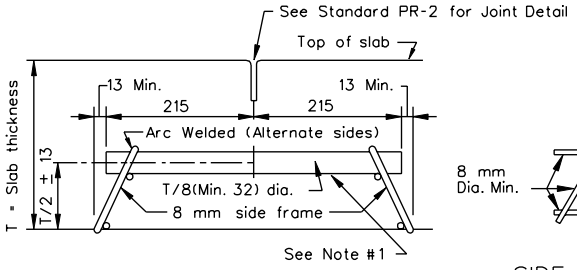
PR-2



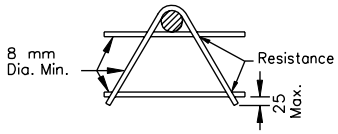
PLAN OF DOWEL UNIT FOR CONTRACTION JOINT



SIDE ELEVATION A - A CONTRACTION JOINT



SECTION B - B THRU CONTRACTION JOINT



SIDE FRAME DETAIL

EXPANSION AND CONTRACTION JOINTS: The device for supporting dowels at expansion and contraction joints shall be so constructed that it will hold the dowels firmly in position, parallel to the surface and centerline of the slab.

No members shall be placed so that they will interfere with the free flow of concrete between the dowels.

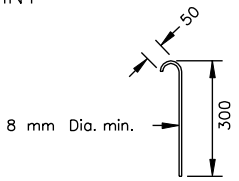
Assembly and welding of all members shall be such as to insure a good workmanlike job, with all joints true and square.

Assemblies which have become warped or damaged in transit or storage so they will not conform to the subgrade shall not be used.

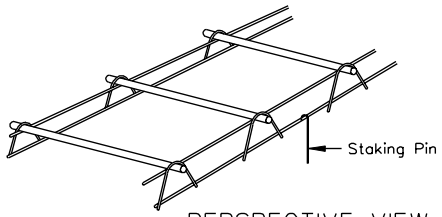
A sample of the supporting device shall be submitted for approval prior to the filling of job orders.

Notes:

1. Entire bar to be lubricated.
2. Staking pins, a minimum six per assembly, three to each side.



STAKING PIN



PERSPECTIVE VIEW

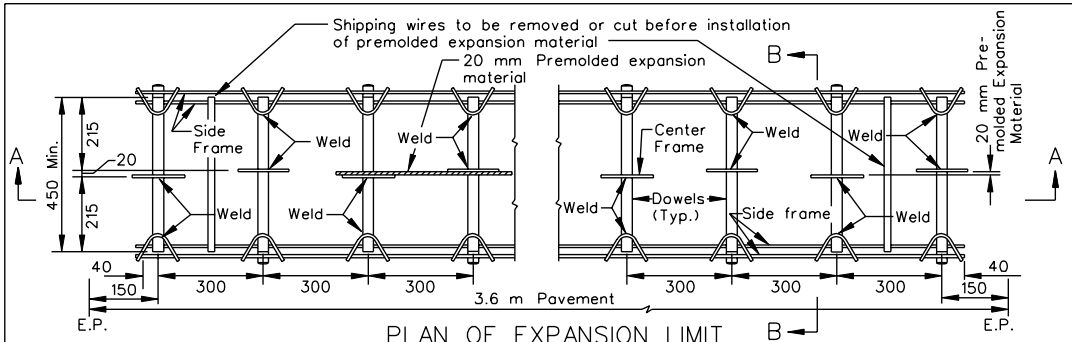
STANDARD LOAD TRANSFER ASSEMBLY CONTRACTION JOINT

VIRGINIA DEPARTMENT OF TRANSPORTATION

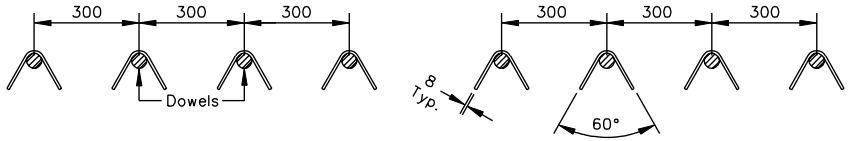
SPECIFICATION REFERENCE

301.03A

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS



PLAN OF EXPANSION LIMIT



SECTION A - A CENTER FRAME

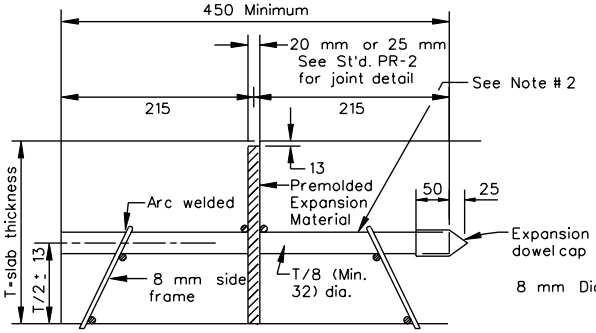
EXPANSION AND CONTRACTION JOINTS: The device for supporting dowels at expansion and contraction joints shall be so constructed that it will hold the dowels firmly in position, parallel to the surface and centerline of the slab.

No members shall be placed so that they will interfere with the free flow of concrete between the dowels.

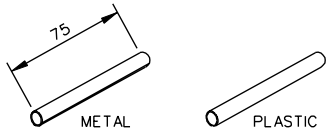
Assembly and welding of all members shall be such as to insure a good workmanlike job, with all joints true and square.

Assemblies which have become warped or damaged in transit or storage so they will not conform to the subgrade shall not be used.

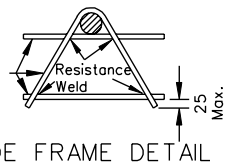
A sample of the supporting device shall be submitted for approval prior to the filling of job orders.



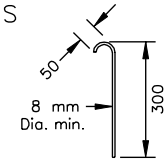
SECTION B - B THRU EXPANSION JOINT



EXPANSION DOWEL CAPS



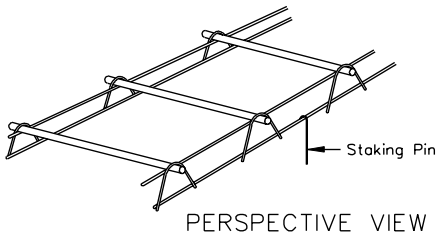
SIDE FRAME DETAIL



STAKING PIN

Notes:

1. Dowelbar to be min. length of 450 mm. If bar is not centered the long side shall be the free end. See Standard PR-2.
2. Entire bar to be lubricated.
3. Staking pins, a minimum six per assembly, three to each side.

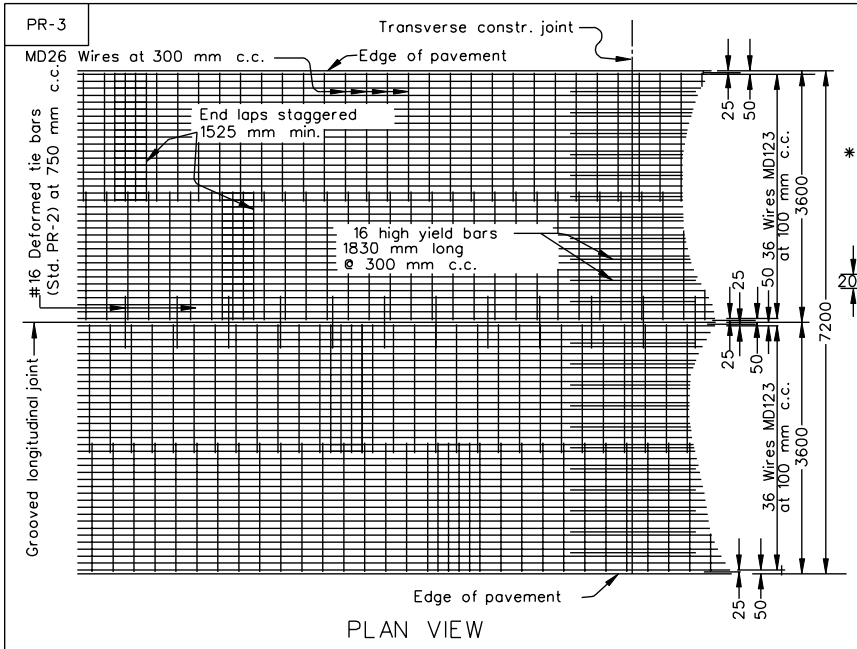


PERSPECTIVE VIEW

SPECIFICATION REFERENCE	STANDARD LOAD TRANSFER ASSEMBLY EXPANSION JOINT	
	VIRGINIA DEPARTMENT OF TRANSPORTATION	UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS — 301.03B

REVISED ON 8/97

PR-3



PLAN VIEW

Notes:

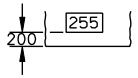
For 10.8 meter pavement, use single 3.6 meter lanes with 2 construction joints, or 3.6 meter and 7.2 meter lanes with one groove and one construction joint.

Transverse wires do not extend through longitudinal joints.

Tie bars and dowel bars are to be as near midpoint of pavement depth as feasible.

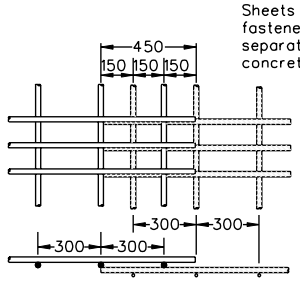
* The double lap requirement (900 mm) and or extra bar method applies only to laps falling within an area 3100 mm beyond the construction joint.

•16 x 760 mm deformed tie bars at 750 mm o.c. may be used in lieu of hook bolts where shown hereon.

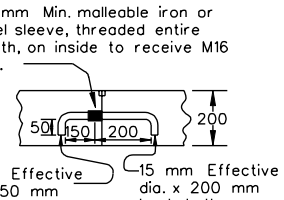


Smooth surface to be steel troweled 200 mm in from the edge of pavement every 500 meters, and station number stamped into it. The date is to be shown in a similar manner at the beginning of each days pour.

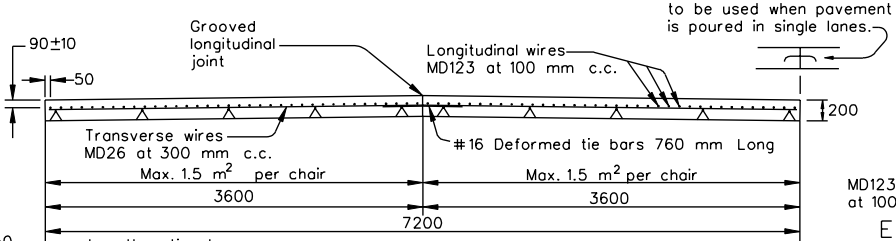
Both outside edges of divided highway to be stamped. One edge of undivided highways where feasible. (Travel Lane)



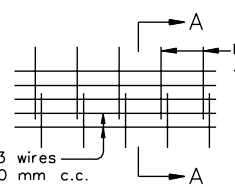
END LAP DETAIL



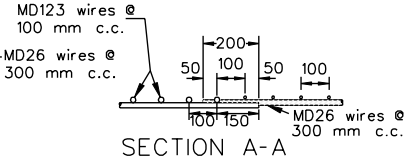
HOOK BOLT DETAIL



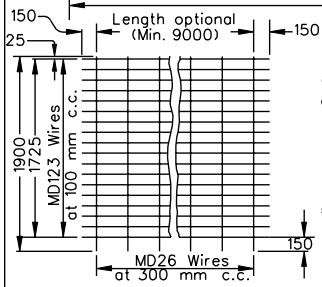
TRANSVERSE SECTION



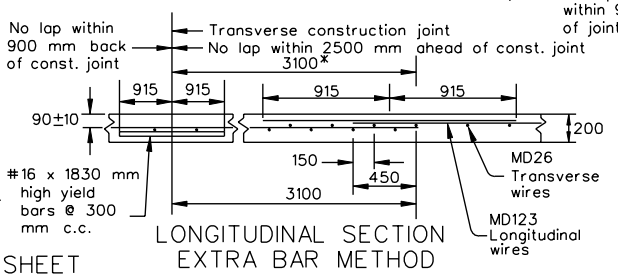
EDGE LAP DETAIL



SECTION A-A

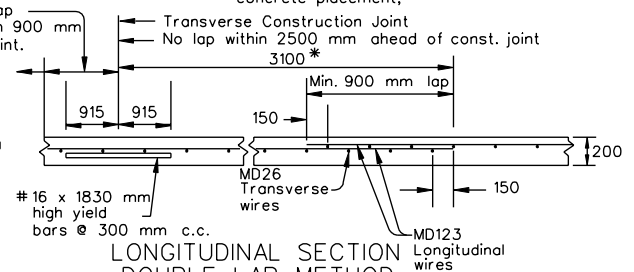


TYPICAL WIRE FABRIC SHEET



LONGITUDINAL SECTION EXTRA BAR METHOD

Sheets to be securely fastened to prevent separation during concrete placement,



LONGITUDINAL SECTION DOUBLE LAP METHOD

Sheet 1 of 4

200 mm THICK CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (WIRE MESH REINFORCEMENT)

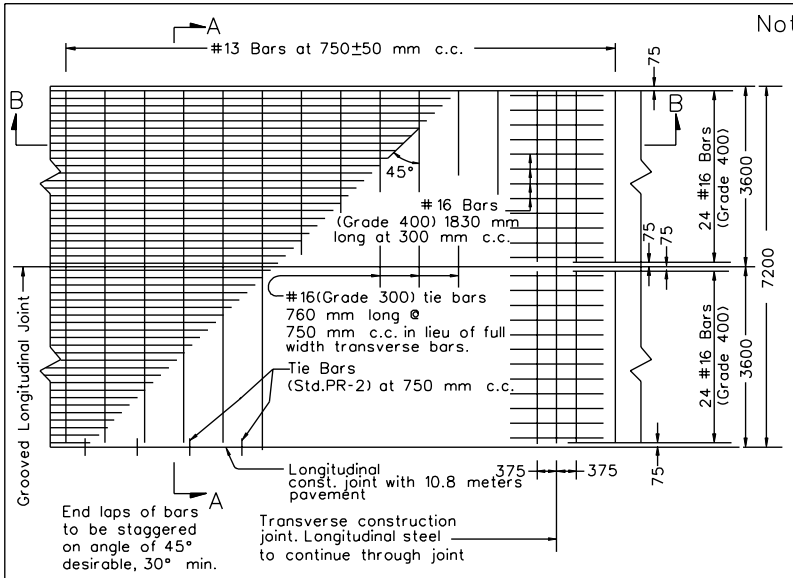
SPECIFICATION REFERENCE

316

301.04

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

VIRGINIA DEPARTMENT OF TRANSPORTATION



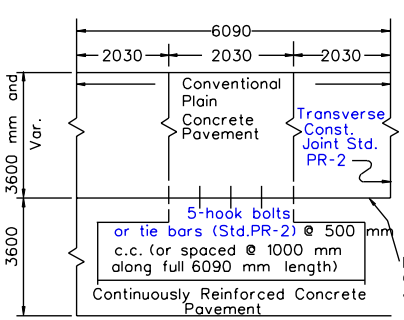
Notes:

Hook bolts or tie bars are to be placed in the same horizontal plane as #13 Transverse bars. Where necessary adjust the location of hook bolts or tie bars to a 70 mm minimum clearance between hook bolts or tie bars and transverse bars.

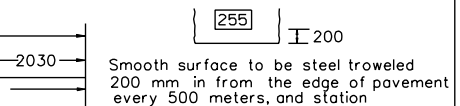
Transverse construction joint bars are to be placed in the same horizontal as #16 longitudinal bars.

#16 longitudinal bars are to be lapped and tied in the same horizontal plane.

For 10.8 meter width pavement use single 3.6 meter lanes with 2 longitudinal construction joints or 3.6 meter and 7.2 meter lanes with one longitudinal construction joint and one groved longitudinal joint. Transverse bars shall not extend through longitudinal construction joints, but shall extend full length (7.12 meter) for grooved longitudinal joints.



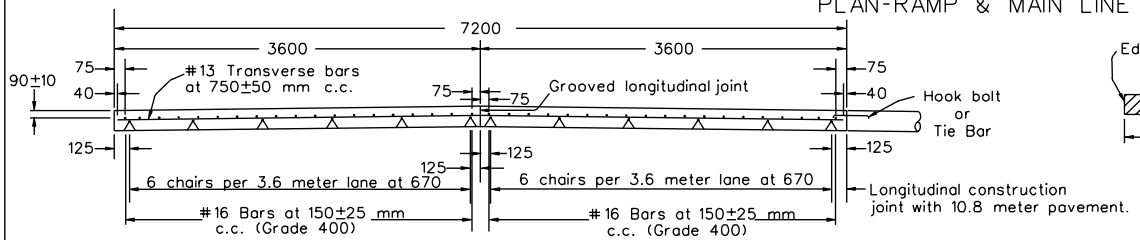
PLAN-RAMP & MAIN LINE CONNECTION



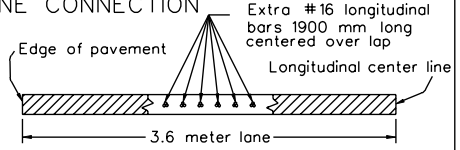
Smooth surface to be steel troweled 200 mm in from the edge of pavement every 500 meters, and station number stamped into it.

The date is to be shown in a similiar manner at the beginning of each days pour.

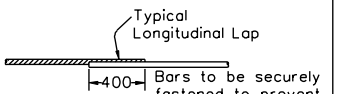
Both outside edges of divided highway to be stamped. One edge of undivided highways where feasible.(Travel Lane)

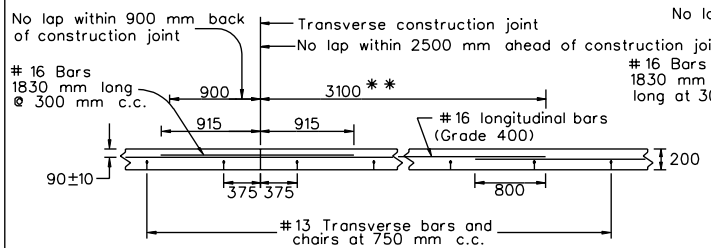


SECTION A-A

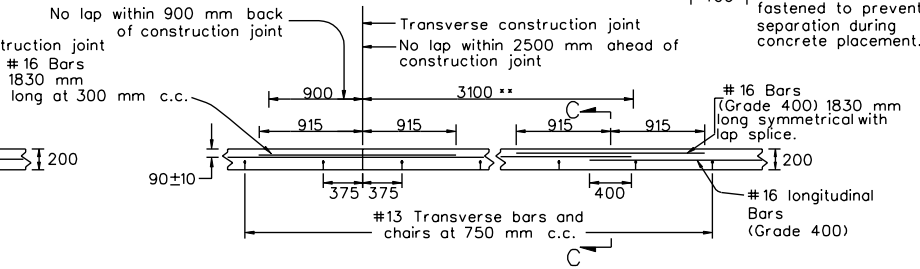


SECTION C-C





SECTION B-B
DOUBLE LAP METHOD



SECTION B-B
EXTRA BAR METHOD

** Double lap requirement (800 mm) and the extra bar method apply only to laps falling within an area of 3.10 meters beyond the construction joint.

SPECIFICATION REFERENCE
316

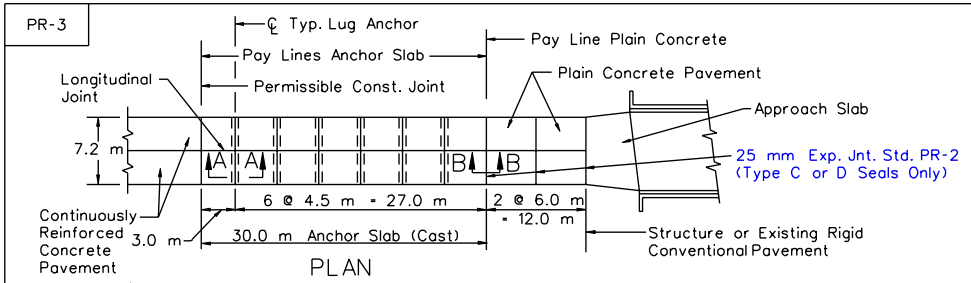
200 mm THICK CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (STEEL BAR REINFORCEMENT)

VIRGINIA DEPARTMENT OF TRANSPORTATION

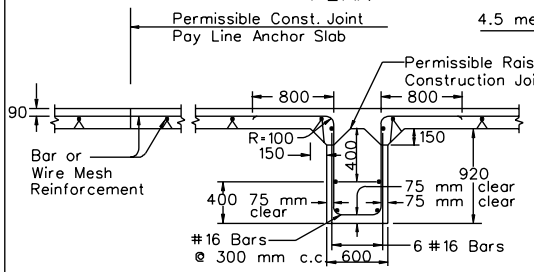
UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

301.05

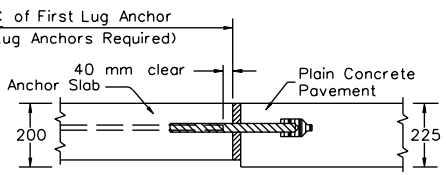
PR-3



PLAN



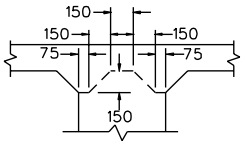
SECTION A-A



Notes: For Dowel & Joint Details See Detail of Transverse Expansion Joint PR-2

SECTION B-B

ANCHOR SLAB TYPE I
(For Use Adjacent to Plain Concrete Pavement)



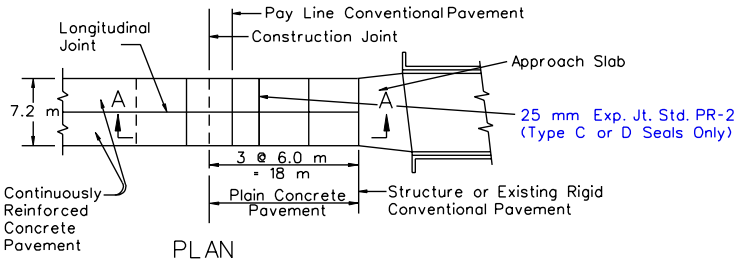
DETAIL-RAISED KEY CONSTRUCTION JOINT

Notes:

Concrete for lug anchors shall be poured against compacted subgrade. Concrete for lugs and anchor slab may be poured monolithically or poured using raised key construction joint method.

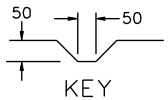
Adequate consolidation of concrete in lugs will be obtained without displacing longitudinal continuous steel, by the use of internal vibration.

When less than full width lug and pavement slab is placed, the #16 transverse steel in the lugs shall be extended, lapped and spliced at least 25 diameters.



PLAN

WF Beam (Weight and Dimensions)					
CRCP Thickness	Embedment in "Sub Slab"	WF Beam Size	Flange		Web Thickness
			Width	Thickness	
200	150	360 X 91	254	16.4	9.52



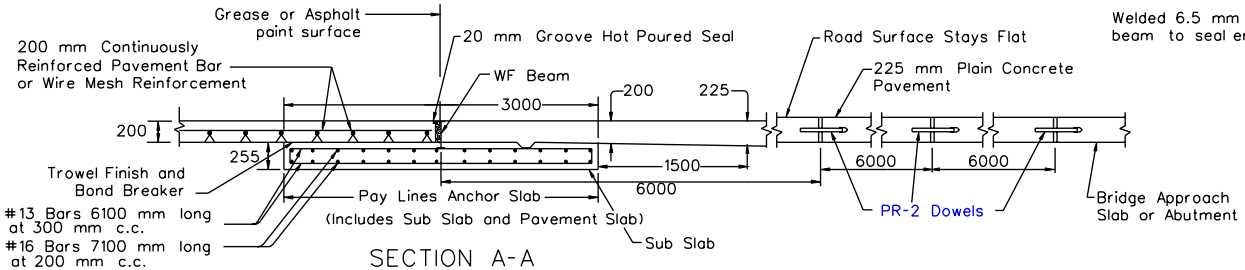
KEY

Notes:

Concrete should be adequately vibrated under beam flange to eliminate honeycomb.

50 mm min. concrete cover for steel in sub-slab.

Welded 6.5 mm steel plate at both ends of WF beam to seal ends.



SECTION A-A

ANCHOR SLAB TYPE II
(For Use Adjacent to Plain Concrete Pavement)

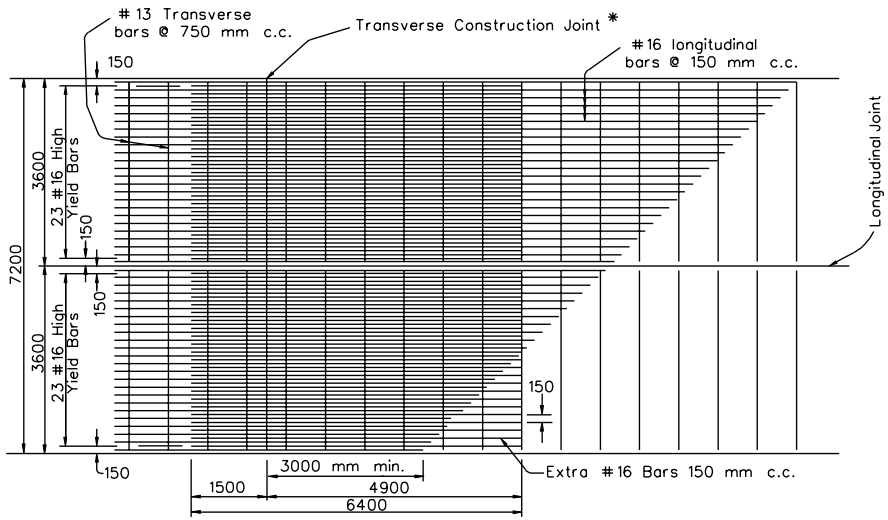
200 mm THICK CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (FOR USE WITH BAR OR WIRE MESH REINFORCEMENT)

SPECIFICATION REFERENCE
316

301.06

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

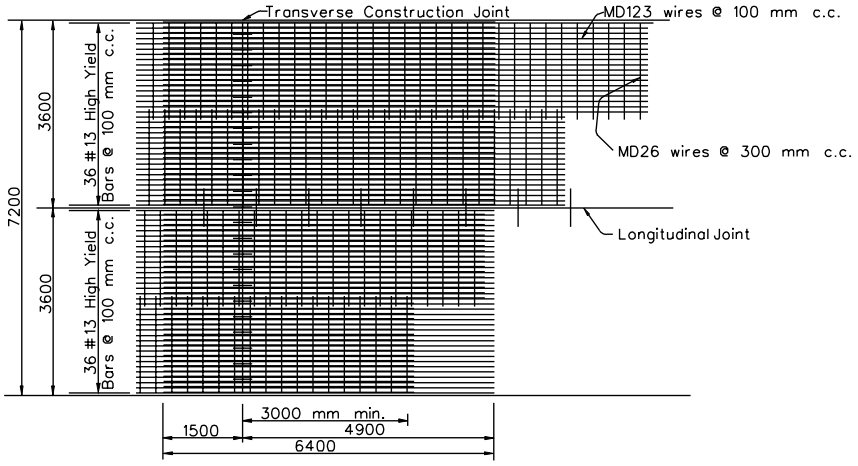
VIRGINIA DEPARTMENT OF TRANSPORTAION



LEAVE OUT JOINT
FOR USE WITH STEEL BAR REINFORCEMENT

* Longitudinal steel to continue through joint.

Extra #16 (Grade 400) Bars (6.5 meters long) shall be spaced at 150 mm c.c.

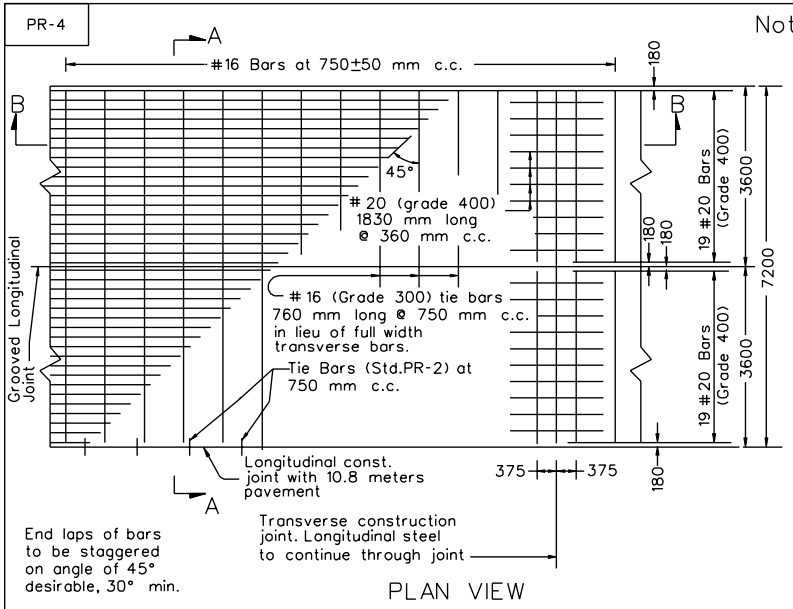


LEAVE OUT JOINT
FOR USE WITH WIRE MESH REINFORCEMENT

SPECIFICATION REFERENCE	200 mm THICK CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (LEAVE OUT JOINT DETAIL)	
316	VIRGINIA DEPARTMENT OF TRANSPORTATION	UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS — 301.07

REVISED ON 9/97

PR-4



PLAN VIEW

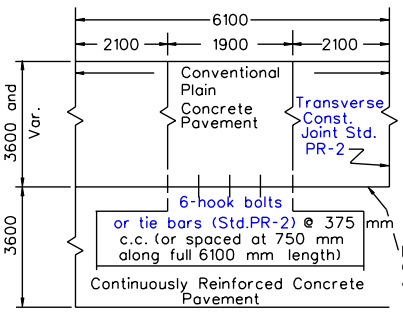
Notes:

Hook bolts or tie bars are to be placed in the same horizontal plane as #16 Transverse bars. Where necessary adjust the location of hook bolts or tie bars to a 70 mm minimum clearance between hook bolts or tie bars and transverse bars.

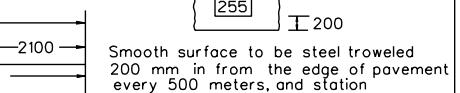
Transverse construction joint bars are to be placed in the same horizontal plane as #20 longitudinal bars.

20 longitudinal bars are to be lapped and tied in the same horizontal plane.

For 10.8 meter width pavement use single 3.6 meter lanes with 2 longitudinal construction joints or 3.6 meter and 7.2 meter lanes with one longitudinal construction joint and one grooved longitudinal joint. Transverse bars shall not extend through longitudinal construction joints, but shall extend full length (7.12 meter) for grooved longitudinal joints.



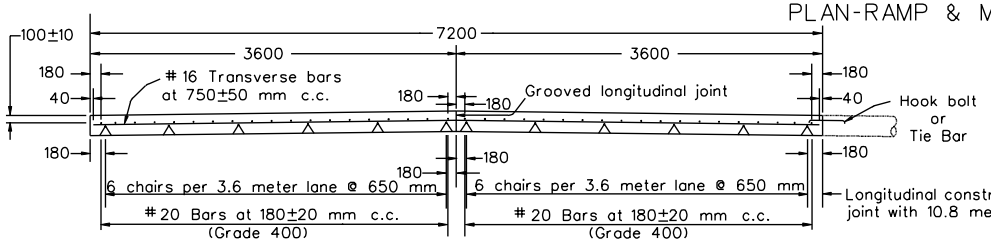
PLAN-RAMP & MAIN LINE CONNECTION



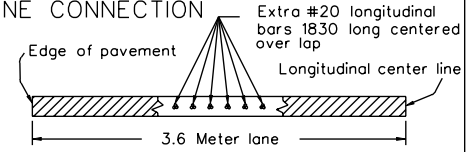
Smooth surface to be steel troweled 200 mm in from the edge of pavement every 500 meters, and station number stamped into it.

The date is to be shown in a similiar manner at the beginning of each days pour.

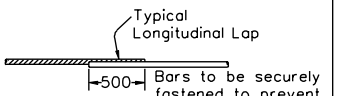
Both outside edges of divided highway to be stamped. One edge of undivided highways where feasible.(Travel Lane)

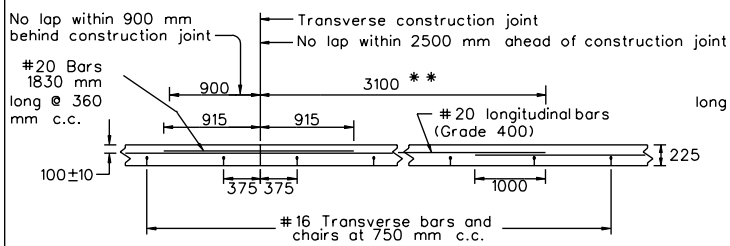


SECTION A-A

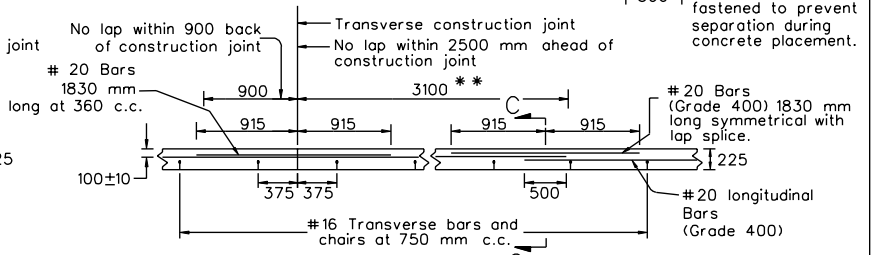


SECTION C-C





SECTION B-B
DOUBLE LAP METHOD



SECTION B-B C
EXTRA BAR METHOD

** Double lap requirement (1000 mm) and the extra bar method apply only to laps falling within an area of 3.10 meters beyond the construction joint.

Sheet 1 of 3

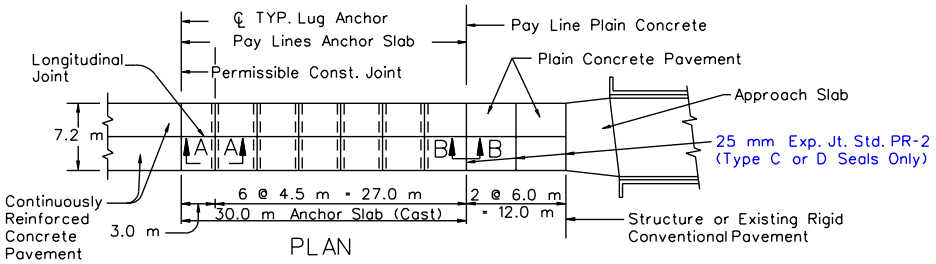
225 mm THICK CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (STEEL BAR REINFORCEMENT)

SPECIFICATION REFERENCE
316

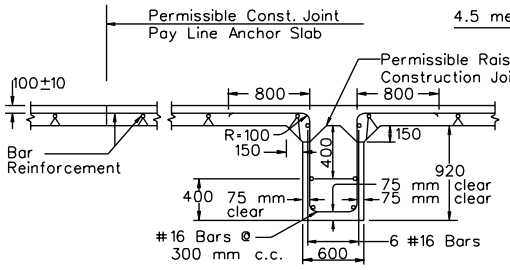
301.08

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

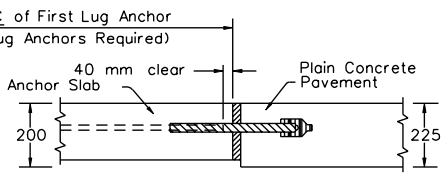
VIRGINIA DEPARTMENT OF TRANSPORTATION



PLAN

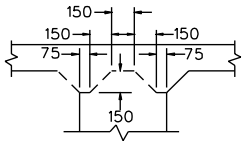


SECTION A-A



Note: For Dowel & Joint Details See Detail of Transverse Expansion Joint PR-2

SECTION B-B
ANCHOR SLAB TYPE I
(For Use Adjacent to Plain Concrete Pavement)



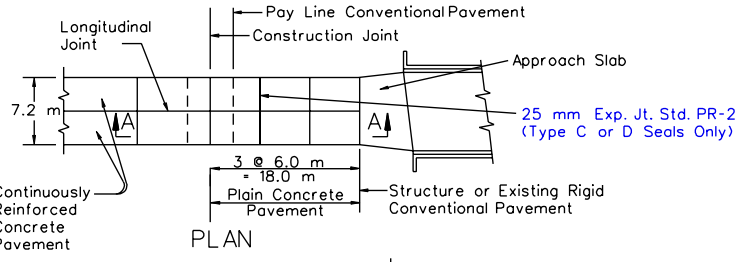
DETAIL-RAISED KEY
CONSTRUCTION JOINT

Notes:

Concrete for lug anchors shall be poured against compacted subgrade. Concrete for lugs and anchor slab may be poured monolithically or poured using raised key construction joint method.

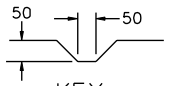
Adequate consolidation of concrete in lugs will be obtained without displacing longitudinal continuous steel, by the use of internal vibration.

When less than full width lug and pavement slab is placed, the #16 transverse steel in the lugs shall be extended, lapped and spliced at least 25 diameters.



PLAN

WF Beam (Weight and Dimensions)					
CRCP Thickness	Embedment in "Sub Slab"	WF Beam Size	Flange		Web Thickness
			Width	Thickness	
225	150	360 X 91	254	16.4	9.52



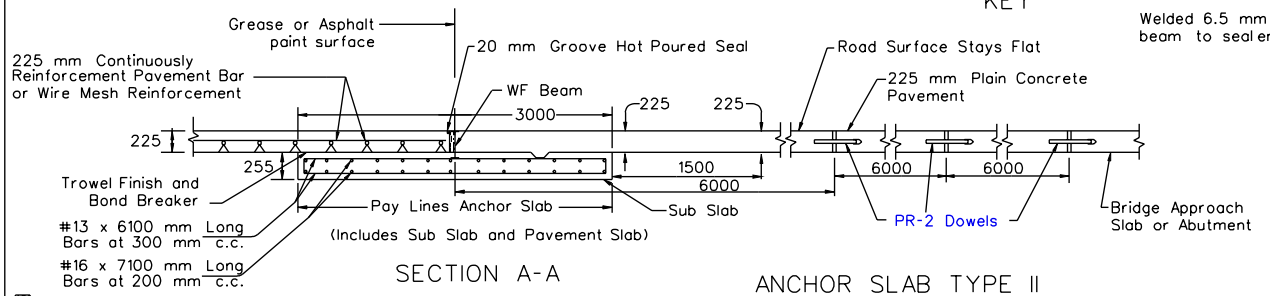
KEY

Note:

Concrete should be adequately vibrated under beam flange to eliminate honeycomb.

50 mm min. concrete cover for steel in sub-slab.

Welded 6.5 mm steel plate at both ends of WF beam to seal ends.



SECTION A-A

ANCHOR SLAB TYPE II
(For Use Adjacent to Plain Concrete Pavement)

SPECIFICATION REFERENCE
316

225 mm CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (FOR USE WITH BAR OR WIRE MESH REINFORCEMENT)

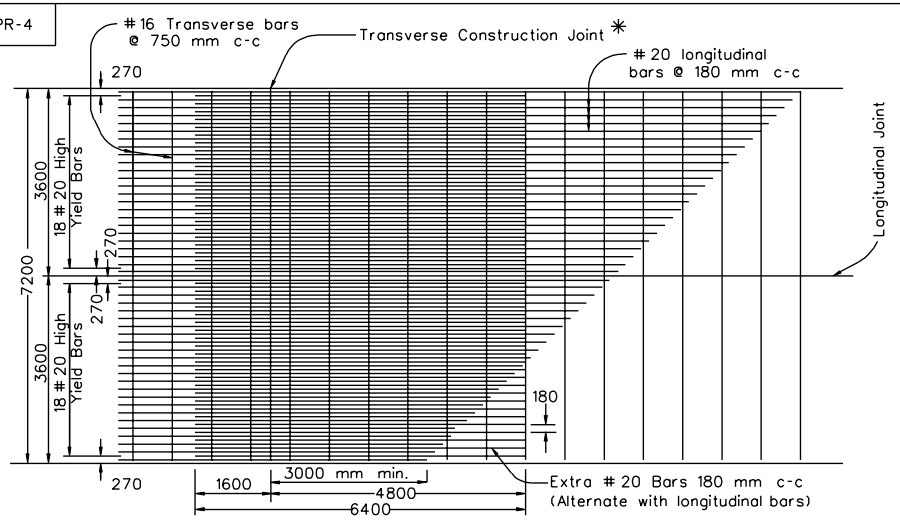
VIRGINIA DEPARTMENT OF TRANSPORTAION

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

301.09

REVISED ON 9/97

PR-4



LEAVE OUT JOINT
STEEL BAR REINFORCEMENT ONLY

* Longitudinal steel to continue through joint.

Extra #20 (Grade 400) bars (6.4 meters long) shall be spaced at 180 mm c-c

Sheet 3 of 3

225 mm THICK CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (LEAVE OUT JOINT DETAIL)

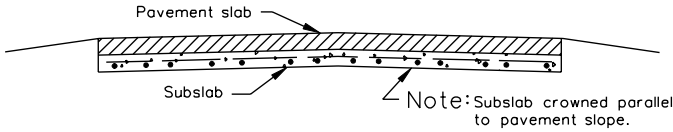
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
316

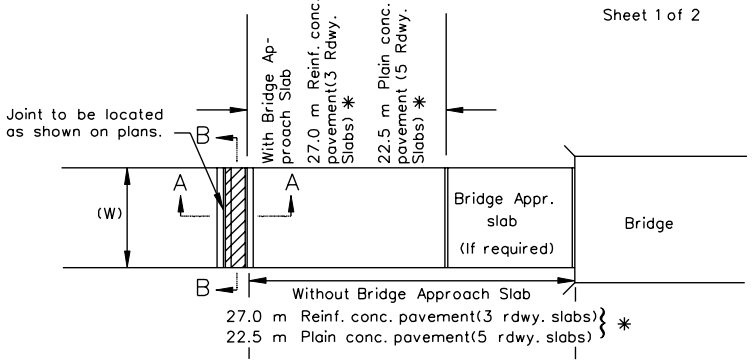
301.10

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

XJ-1

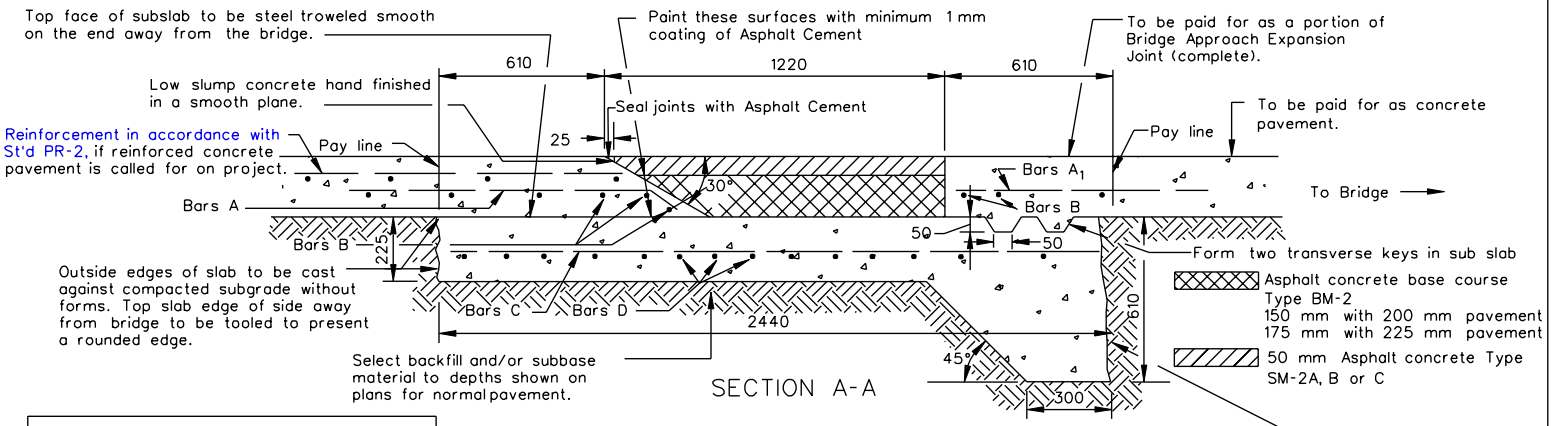


SECTION B-B



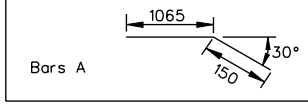
PLAN

* Denotes desirable values, pavement type (plain or reinforced) to be determined by the Materials Division.



SECTION A-A

SCHEDULE OF REINFORCING STEEL					
Mark	Size	Spacing C-C	Length	No. Req'd.	Weight/m Transverse Measure kg.
A	#16	300	1220	(W)	6.2
A_1	#16	300	910	(W)	4.7
B	#16	150	W-100	5	7.8
C	#13	150	2335	(W)(2)	15.3
D	#13	150	W-100	16	15.9



APPROXIMATE QUANTITIES PER METER OF TRANSVERSE MEASURE		
	MAIN LINE PAVEMENT DEPTH	
	200	225
Cubic Meters Class 20 concrete	0.75	0.75
Reinforcing Steel kg.	50	50
Asph. Concrete BM-2 Metric Tons	0.53	0.60
Metric Tons Asph. Con. Connector SM-2A, B or C	0.20	0.20
Sq. Meters Conc. Pave. * *	1.40	1.43

Notes:

Concrete in subslab to be Class 20.

Bars A, A_1, & B to be placed as shown whether plain or reinforced concrete pavement is used.

Portions of Bars A and A_1, which are outside of the indicated pay lines are to be included in price bid for complete joint.

* * Beveled portion of pavement slab has been converted to equivalent design depth of main line pavement.

BRIDGE APPROACH EXPANSION JOINT (FOR WIDENING OR MAINTENANCE OF EXISTING XJ-1 ONLY)

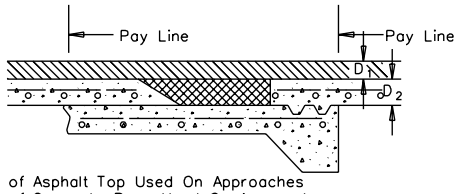
SPECIFICATION REFERENCE

316

302.01

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

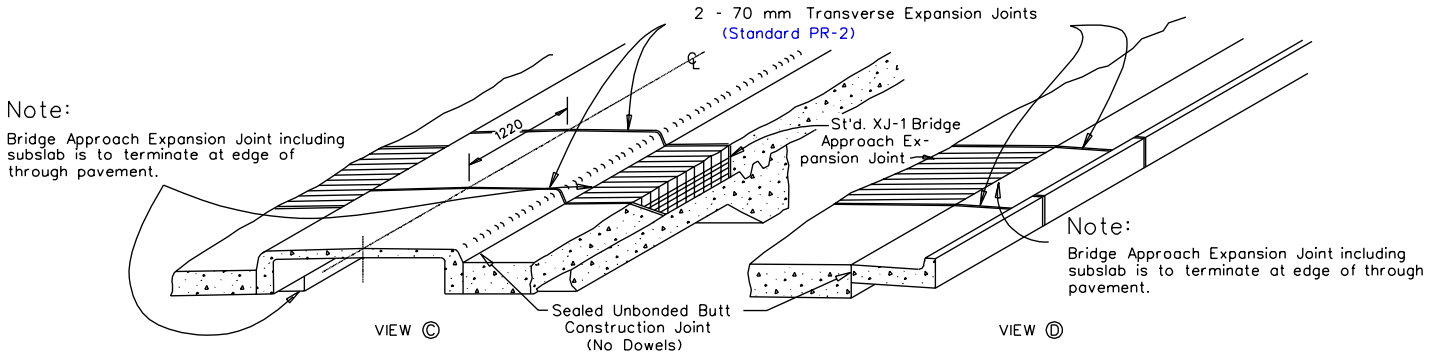
VIRGINIA DEPARTMENT OF TRANSPORTATION



D_1 = Depth of Asphalt Top Used On Approaches
D_2 = Depth of Concrete Base Used On Approaches

VIEW Ⓐ

USED WITH CONCRETE BASE WITH ASPHALT CONCRETE SURFACE



Note:
Bridge Approach Expansion Joint including subslab is to terminate at edge of through pavement.

USED ADJACENT TO RAISED MEDIAN

Note:
Bridge Approach Expansion Joint including subslab is to terminate at edge of through pavement.

USED ADJACENT TO CURB OR COMBINATION CURB AND GUTTER

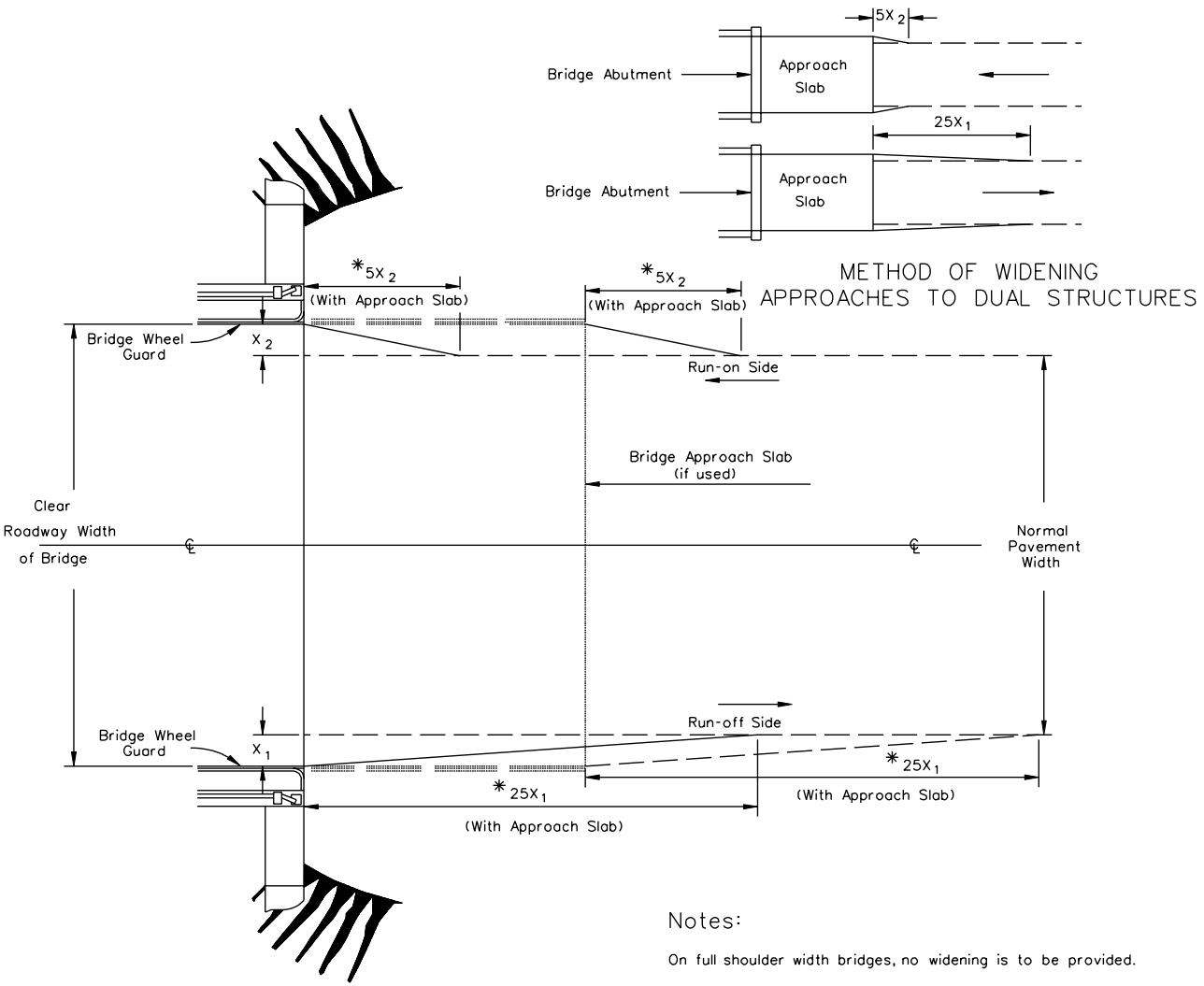
Notes:

All construction features to be in accordance with sheet 1 of 2.
If Concrete pavement is used adjacent to concrete pavement with asphalt concrete surface, the joint is to continue across entire width in accordance with sheet 1 of 2 and view A.
If Concrete pavement is used adjacent to flexible pavement the joint is to extend through rigid pavement only.

SPECIFICATION REFERENCE	BRIDGE APPROACH EXPANSION JOINT (INSTALLATION CRITERIA)	
316	VIRGINIA DEPARTMENT OF TRANSPORTATION	UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS — 302.02

REVISED ON 9/97

WP-1



METHOD OF WIDENING APPROACHES TO DUAL STRUCTURES

Notes:

On full shoulder width bridges, no widening is to be provided.

X_1 and X_2- Amount of bridge widening per side (3 meters Maximum).

* If Bridge Drainage Aprons are required the pavement widening is to be applied at the end of the drainage apron farthest from the abutment backwall.

METHOD OF WIDENING BRIDGE APPROACH PAVEMENT

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

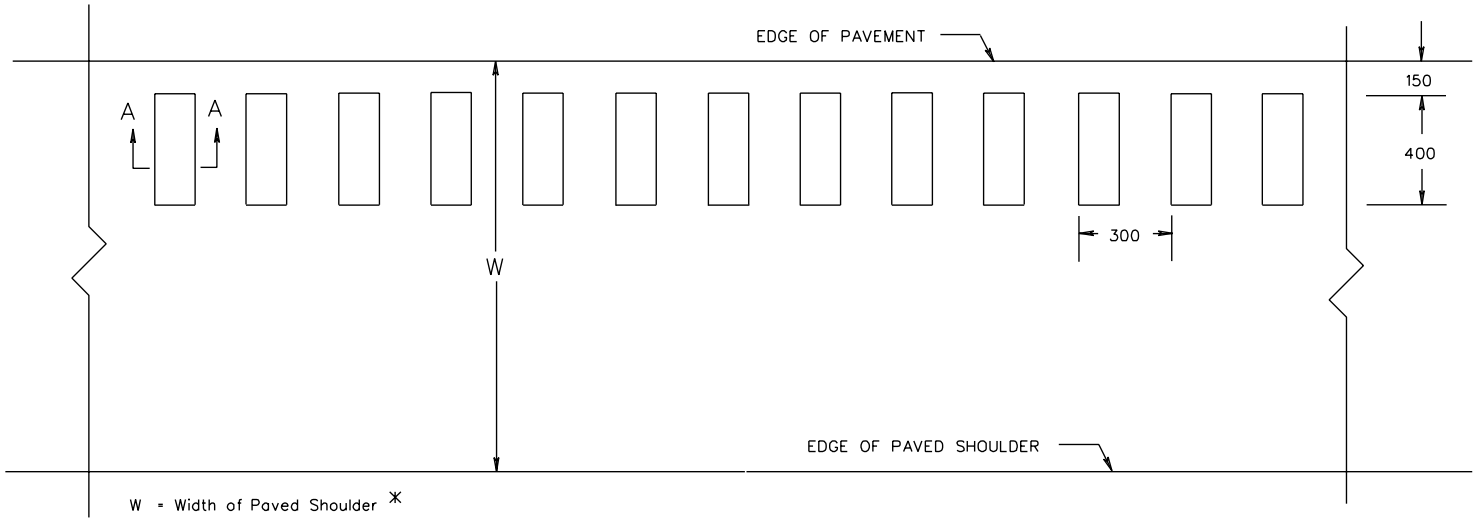
NONE

303.01

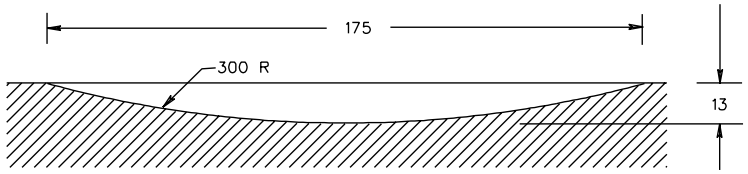
UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

REVISED ON 9/97 REVISED ON 12/99 REVISED ON 11/02

RS-1



PLAN VIEW



SECTION A-A

NOTES

Rumble Strips shall be placed continuously as directed by the Engineer.

Rumble Strips shall not be placed within limits of Bridge Drainage Aprons or Special Design Shoulder Slot Inlets.

Rumble Strips shall be placed on mainline shoulders only.

* Where bicycles are not prohibited, the minimum width of the outside paved shoulder shall be 2.4 m.

Depressed areas of milled rumble strips (including sides) shall be fully coated with Asphalt Material CRS-1, 2, 1h, or CSS-1h, using a brush or pressure distributor. Application shall be limited to the depressed area and shall not result in pooling of asphalt material in the depression.

SPECIFICATION REFERENCE
315

RUMBLE STRIPS (ASPHALT SHOULDER)

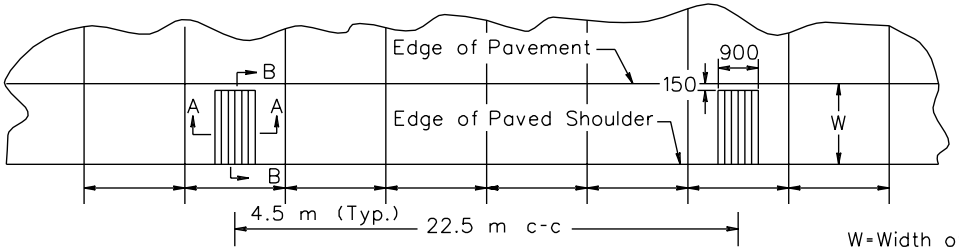
VIRGINIA DEPARTMENT OF TRANSPORTATION

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS

304.01

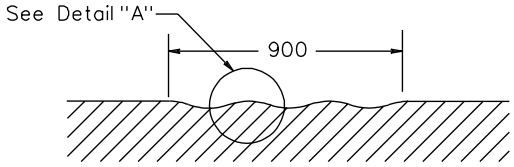
VOID 11/02

RS-2

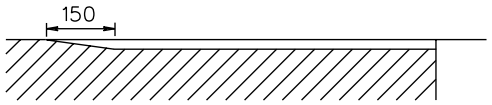


W=Width of Paved Shoulder

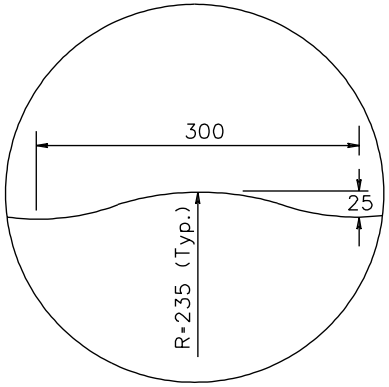
PLAN VIEW



SECTION A-A



SECTION B-B



DETAIL "A"

NOTES:

No dowels shall be used for shoulder contraction joints adjacent to section including rumble strips.

Rumble Strips shall not be placed within the limits of Bridge Drainage Aprons or Special Design Shoulder Slot Inlets.

Rumble Strips shall be used on mainline shoulders only.

VOID 11/02

RUMBLE STRIPS (CONCRETE SHOULDER)

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

316

304.02

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS