



# Concrete Specifications Update

2018 AGC Co-op Meeting

December 5, 2018

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MoDOT

# Rebound Hammer for FDR Acceptance



# Rebound Hammer in Sec 613

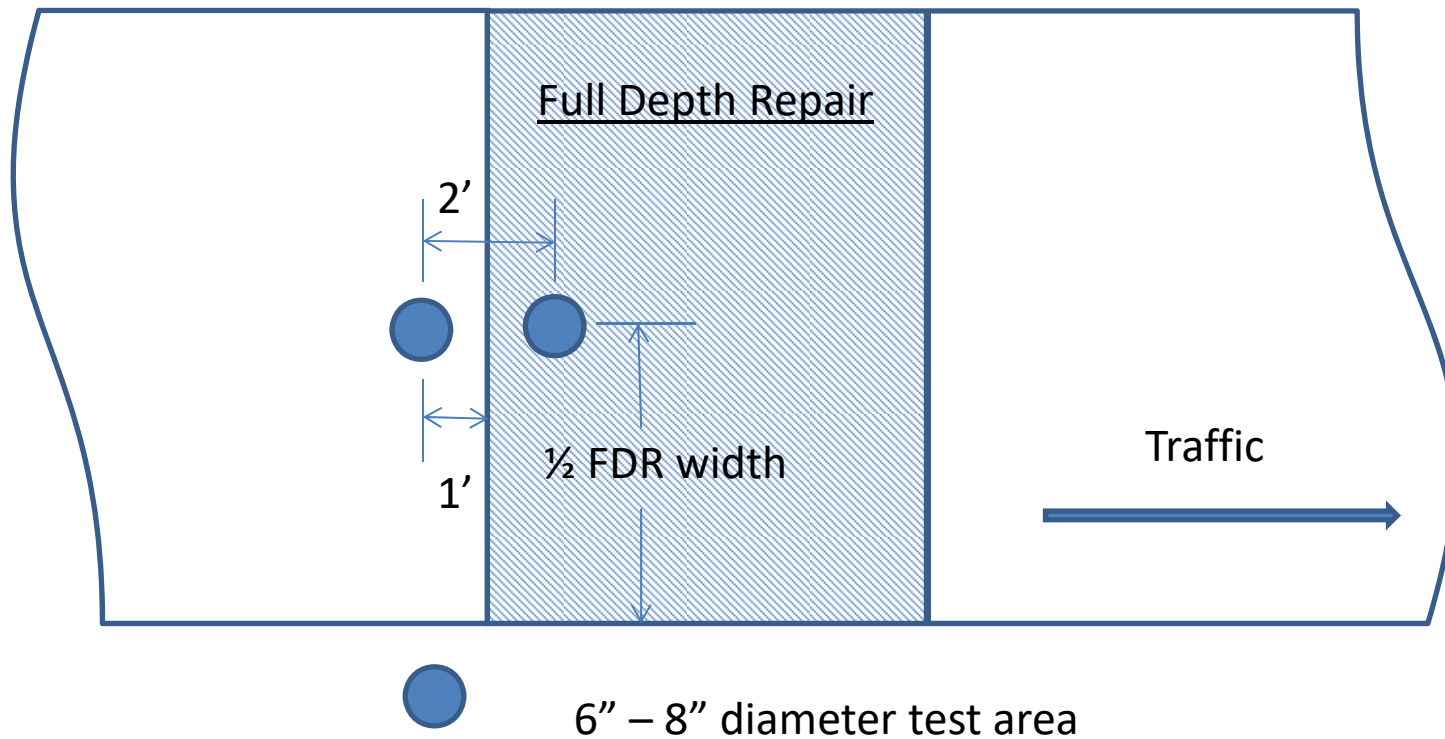
**613.10.2.2.2** The concrete opening strength to all traffic shall be 2000 psi. The opening strength shall be verified by either compressive strength testing of cylinders in accordance with [Sec 613.10.2.4.1](#) or the maturity method in accordance with Sec 507 or in accordance with MoDOT TM-7 using a rebound hammer. If MoDOT TM-7 is used, the minimum rebound ratio number (RNN) for opening strength shall be 60.

# MoDOT TM-7 for Rebound Hammer

- Annual service and verification
- Ambient temperature of 40°F or higher.
- Test on smooth surface. Grind texture, if necessary.
- Position rebound hammer perpendicular to concrete surface.

# MoDOT TM-7 for Rebound Hammer

- Test on FDR and existing concrete at equidistance from joint



# MoDOT TM-7 for Rebound Hammer

Ten rebound readings, no less than one inch apart from each other, on each side of the joint.



**Rebound Ratio Number (RNN)**

$$\text{RNN} = \frac{\text{Full depth repair rebound number average}}{\text{Adjacent concrete slab rebound number average}} (100)$$

# Pavement Repair Air Content

- *Sec 613.10.2.4.2* Deleted “a minimum air content of 4 percent” and replaced with “an air content in accordance with Sec 501.10.2”.
- *Sec 613.20.2.1* Deleted “a minimum air content of 4 percent” and replaced with “an air content in accordance with Sec 501.10.2”.

(Sec 501.10.2 – Concrete designed from 4.5% - 7.5%. Nothing under 4.5% or over 9.0% accepted. May be redosed with air entrainment one time.)

Thank You!

Questions?

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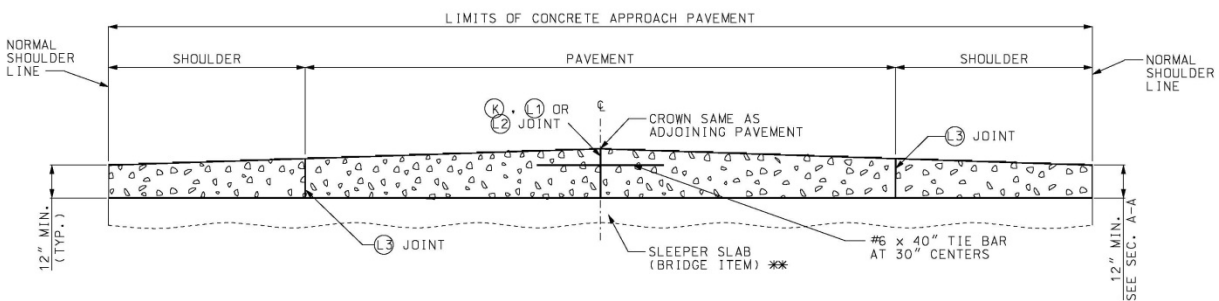
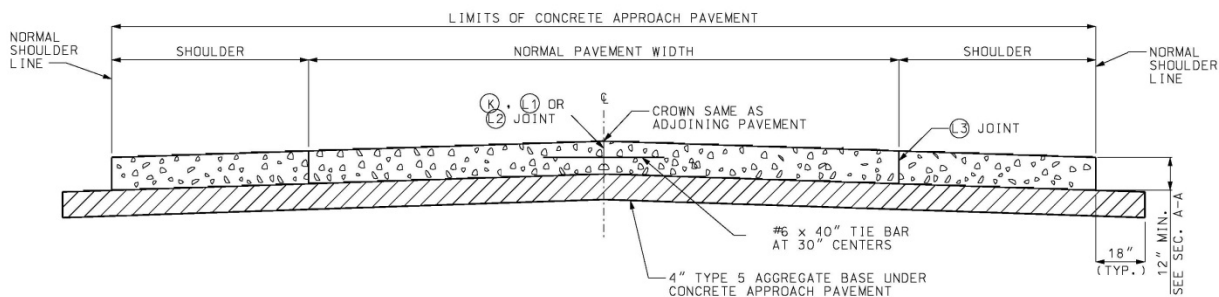
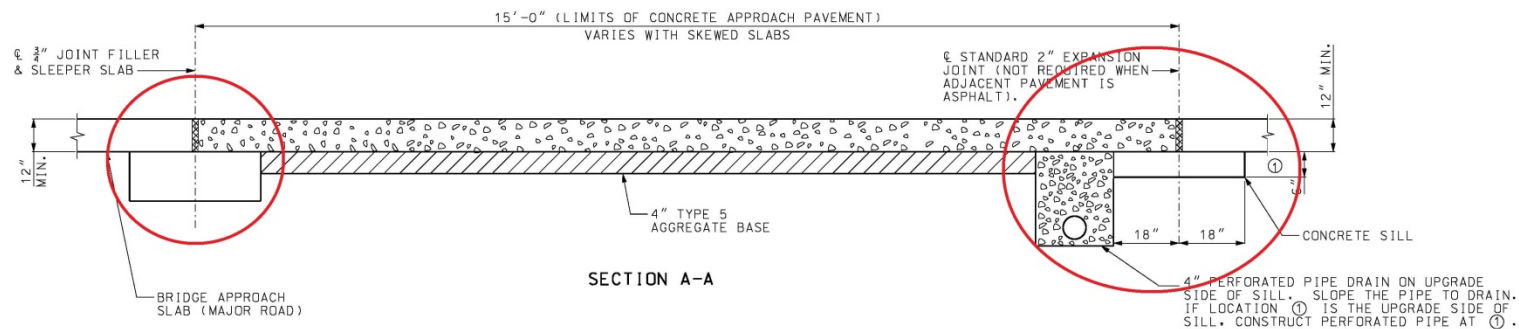
(573)526-4334



# Approach Slab and Approach Pavement Designs for Minor Roads

	Minor Roads $\leq$ 1000 AADT	Minor Roads $>$ 1000 AADT
<b>Roadways</b>		
$\leq$ 0.5 mile	7" HMA / 7" JPCP	Pavement design determined by Const & Mtrls Division
$>$ 0.5 mile	Pavement design determined by Const. & Mtrls. Division	Pavement design determined by Const & Mtrls Division
<b>Bridge Approaches</b>		
From fill face to 20'	Bridge Approach Slab (Minor) 12" Min. HMA or Reinf. PCC	Bridge Approach Slab (Minor) 12" Min. HMA or Reinf. PCC
From 20' to 500'	10" HMA / 8" JPCP	10" HMA / 8" PCCP or pavement design, whichever is greater
Beyond 500'	Use roadway design above	Use roadway design above

# Expansion Joint Locations



\*\* TOP OF SLEEPER SLAB MAY BE FLAT OR CROWNED. SEE BRIDGE PLANS.

FOR LOCATIONS OF SECTIONS A-A, B-B AND C-C, SEE SHEETS 1 AND 2.

## GENERAL NOTES:

SEE STANDARD DRAWING 605.10 FOR PIPE OUTLET DETAIL FROM SHOULDER POINT TO INSLOPE.



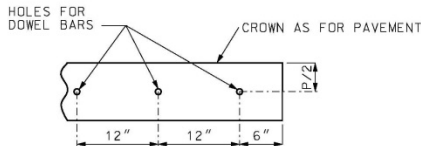
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)



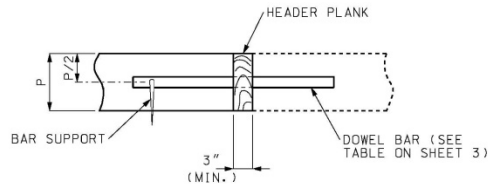
CONCRETE APPROACH PAVEMENT  
(MAJOR ROAD)

DATE EFFECTIVE: 07/01/2015  
DATE PREPARED: 5/29/2015  
504.00J  
SHEET NO. 3 OF 3

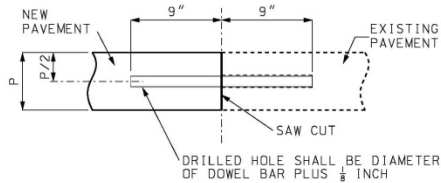
# Expansion Joint Alternates



PART ELEVATION OF  
HEADER PLANK



HEADER SECTION



SAWED SECTION

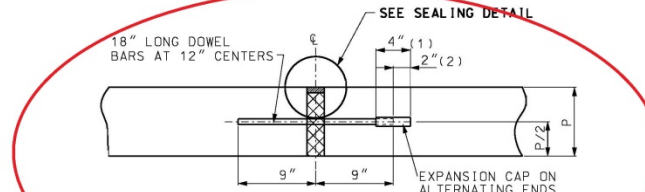
THE HEADER BOARD SHALL BE SUFFICIENTLY RIGID TO PREVENT DISTORTION FROM THE TYPICAL SECTION AND MAINTAIN A STRAIGHT LINE FROM PAVEMENT EDGE TO PAVEMENT EDGE.

THE CONSTRUCTION JOINT MAY BE SAWED FULL DEPTH. HOLES FOR DOWEL BARS SHALL BE DRILLED AFTER THE CONCRETE HAS SUFFICIENT SET TO PREVENT DAMAGE. DOWEL BARS SHALL BE BONDED INTO THE HOLES.

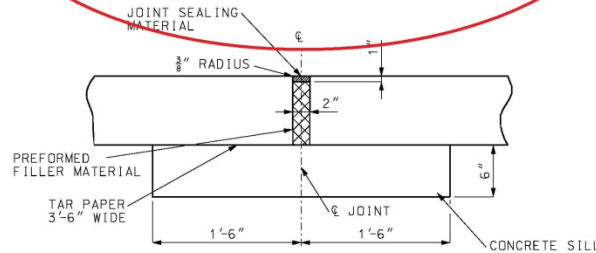
BONDING FOR DOWEL BARS SHALL BE EPOXY OR POLYESTER BONDING AGENTS AS SPECIFIED IN SECTION 1039.

THE PORTION OF THE DOWEL OUTSIDE THE HOLE SHALL BE COATED WITH AN APPROVED LUBRICANT.

CONSTRUCTION JOINT (C)



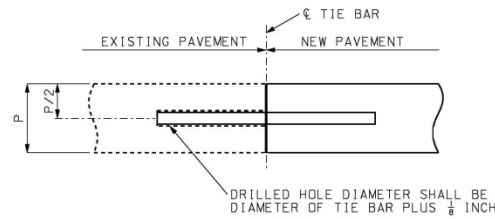
EXPANSION JOINTS (E)



SILL SHALL EXTEND 18" BEYOND EACH EDGE OF THE PAVEMENT AND SHALL BE CONSTRUCTED OF CONCRETE REGARDLESS OF ADJACENT BASE MATERIAL.

ALTERNATE EXPANSION JOINTS (E)

(CONTRACTOR MAY SELECT EITHER EXPANSION JOINT (E))



TIE BARS SHALL BE EPOXY COATED, DEFORMED REINFORCING BARS MEETING THE REQUIREMENTS OF SECTIONS 710 AND 1057.

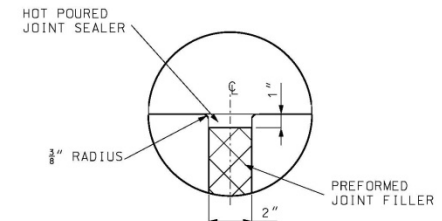
BONDING FOR TIE BARS SHALL BE EPOXY OR POLYESTER BONDING AGENTS AS SPECIFIED IN SECTION 1039.

TIE BAR SIZE AND LENGTH SHALL BE BASED ON THE THICKNESS OF THE THINNER PAVEMENT OR SHOULDER TO BE TIED TOGETHER.

LONGITUDINAL CONSTRUCTION JOINT  
(EXISTING PAVEMENT) (L)



- (1) LENGTH OF CAP
- (2) GAP BETWEEN END OF CAP AND DOWEL.

\* FOR EXPANSION JOINTS FORMED USING A CONSTRUCTION HEADER, THE EXPANSION CAPS SHALL BE INSTALLED ON THE EXPOSED END OF EACH BAR ONCE THE HEADER HAS BEEN REMOVED AND THE JOINT FILLER MATERIAL HAS BEEN INSTALLED.



SEALING DETAIL

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

 <b>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</b> 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	<b>CONCRETE PAVEMENT AND BASE APPURTENANCES FOR 15' JOINT SPACING</b>
DATE EFFECTIVE: 07/01/2015 DATE PREPARED: 5/29/2015	<b>502.05N</b> SHEET NO. 4 OF 4





I-44 UBOL





I-44 UBOL





Rte 87 RCC





Rte 87 RCC



# Rte 87 RCC

