NOTES:
1. For joint seal dimensions see Sheet 2.
2. For slabs poured simultaneously, tie bars may be inserted in the plastic concrete by means approved by the Engineer.
3. For Longitudinal Joints:
   A. Tie bars are deformed #4 or #5 reinforcing steel bars meeting the requirements of Specification 931.
   B. Provide a standard load transfer tied joint with #4 bars 29" in length at 24" spacing or #3 bars 30" in length at 30" spacing.
4. Transverse joints are to be spaced at a maximum of 15'. Dowels are required at all transverse joints unless otherwise noted in the plans.
5. Expansion joints to be placed at street intersections and other locations as indicated in the Plans. For bridge expansion joints, see Index 370-001.
6. Punch clean holes in preformed joint filler greater than bar diameter.
7. Coat and lubricate plain steel dowel bars in accordance with Specification 350.

1. For joint seal dimensions see Sheet 2.
2. For slabs poured simultaneously, tie bars may be inserted in the plastic concrete by means approved by the Engineer.
3. For Longitudinal Joints:
   A. Tie bars are deformed #4 or #5 reinforcing steel bars meeting the requirements of Specification 931.
   B. Provide a standard load transfer tied joint with #4 bars 29" in length at 24" spacing or #3 bars 30" in length at 30" spacing.
4. Transverse joints are to be spaced at a maximum of 15'. Dowels are required at all transverse joints unless otherwise noted in the plans.
5. Expansion joints to be placed at street intersections and other locations as indicated in the Plans. For bridge expansion joints, see Index 370-001.
6. Punch clean holes in preformed joint filler greater than bar diameter.
7. Coat and lubricate plain steel dowel bars in accordance with Specification 350.
Saw Cut Or Formed Joint

Joint Sealant Material To Be
As Specified In The Plans
Tape Bond Breaker
(w + t)

Existing Joint Or Crack

w to w

$w = w \pm \frac{t}{3}$ (w = Conc. Pavt. Thick.)

Note: Dimension w will be shown in the plans or established by the Engineer based on field conditions. Dimension d will be constructed so that the shape factor w/t has a maximum value of 2.0 and a minimum value of 1.0.

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FOR NEW PROJECTS
PREFORMED ELASTOMERIC COMPRESSION SEAL

FOR NEW AND REHABILITATION PROJECTS
BACKER ROD BOND BREAKER

CONCRETE-CONCRETE JOINTS

$w = w \pm \frac{t}{3}$ Unless Specified Otherwise In The Plans

Concrete Pavement

Asphalt Shoulder Pavement

Saw Cut Joint

Joint Sealant Material To Be
As Specified In The Plans

Backer Rod Bond Breaker

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CONCRETE-ASPHALT SHOULDER JOINTS

JOINT SEAL DIMENSIONS

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BACKER ROD BOND BREAKER

(CONCRETE-CONCRETE JOINTS)

<table>
<thead>
<tr>
<th>JOINT DIMENSIONS (INCHES)</th>
<th>JOINT WIDTH</th>
<th>SEALANT BEAD THICKNESS</th>
<th>BACKER ROD DIA.</th>
<th>MINIMUM JOINT DEPTH</th>
<th>BACKER ROD PLACEMENT DEPTH</th>
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Unless otherwise indicated on the plans the joint width for new construction will be $w/2$ for construction joints, $w/4$ for all other joints.

Note:
- For rehabilitation projects the joint width will be shown on the plans or established by the Engineer based on field conditions.
- Either Tape or Backer Rod Bond Breaker Required; Shoulder Must Be Removed if Proper Joint Shape Cannot Be Attained.
**ALTERNATE KEYWAY AND HOOK BOLT**

**STEEL HOOK BOLT ASSEMBLY**

**CONTRACTION ASSEMBLY**

**EXPANSION ASSEMBLY**

**NOTES**

1. Longitudinal joints will not be required for single lane pavement 14' or less in width. For entrance and exit ramp joint details, see Sheet 4.

2. Arrangement of longitudinal joints are to be as directed by the Engineer.

3. All manholes, meter boxes and other projections into the pavement shall be boxed-in with 1/2" preformed expansion joint material.

Note: After the concrete has set to the extent that the Keyway will retain its shape, the hex bolt and plastic insert shall be removed. The remaining portion of the hook bolt assembly shall be installed immediately prior to placing of concrete in the adjacent lane.

Anchor bolts shall be Grade C in accordance with ASTM A 307. Threaded sleeves shall develop the full strength of the bolt and meet the material and thread requirements of ASTM A 563.

Note: Proprietary contraction and expansion assembles may be used. Products shall be introduced to the State Construction Office in accordance with section (C) of the Product Evaluation Procedure.
CONCRETE PAVEMENT JOINTS

2-THRU LINES WITH SINGLE LANE ENTRANCE RAMP

2-THRU LINES WITH SINGLE LANE EXIT RAMP

3-THRU LINES WITH AUXILIARY LANE AND 2-LANE EXIT RAMP

JOINT LAYOUT AT ENTRANCE AND EXIT RAMP TERMINALS

Note: Transverse joint spacing should not exceed 15-ft or twenty-four times the slab thickness, whichever is less. If a lane exceeds 15-ft width, such as single lane ramps and weigh stations, longitudinal joint to be constructed in centerline of lane.

Note: On single lane ramps, longitudinal joint to be constructed along centerline of ramp.

ENTRANCE TAPER WITH AUXILIARY LANE

EXIT TAPER WITH AUXILIARY LANE

Transition From 13' to 12' Wide Over 3 Slabs

Transition From 13' to 12' Wide Over 3 Slabs

Transition From 13' to 13'

ENTRANCE RAMP WITH ADDLED LANE

Transition From 13' to 12' Wide Over 3 Slabs

Note: Transverse joint spacing should not exceed 15-ft or twenty-four times the slab thickness, whichever is less. If a lane exceeds 15-ft width, such as single lane ramps and weigh stations, longitudinal joint to be constructed in centerline of lane.

Note: On single lane ramps, longitudinal joint to be constructed along centerline of ramp.