UNREINFORCED CONCRETE PAVEMENT (URC)

JOINTED REINFORCED CONCRETE PAVEMENT (JRC)

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (CRCP)

CONTINUOUSLY REINFORCED CONCRETE BASE (CRCB)

Types of Concrete Pavements

Longitudinal Sections
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. The dowel bars shall be placed at 300 centres. This spacing shall be varied where necessary so that no dowel bar is within 150 of a slab edge or a joint parallel to the bars.
3. When concrete pavement is overlaid with 40mm to 180mm thick bituminous surfacing, the overlay shall be saw-cut and sealed at the concrete pavement joint in accordance with Clause 713, except that the groove shall be 25mm for the full depth of the bituminous overlay.
4. Dowel bars shall conform to Clause 1011.

SAWN GROOVE FILLER DETAIL

DOWEL BAR

<table>
<thead>
<tr>
<th>Slab thickness (Dimension 'D')</th>
<th>Dimension 'D'</th>
<th>Dimension 'C'</th>
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</thead>
<tbody>
<tr>
<td>150 to 239</td>
<td>25</td>
<td>600</td>
</tr>
<tr>
<td>240 and over</td>
<td>32</td>
<td>600</td>
</tr>
</tbody>
</table>
CONTRACTION JOINT — WITH SAWN GROOVE

Dowel bar centre ±25 about \( \frac{1}{2} \) of joint

Dowel bar covered by polymeric corrosion resistant coating

See note 3

Deep groove (minimum 3 wide)

Separation membrane

\[ \frac{D}{2} \pm 20 \]

Compressible caulking material (with applied sealants only.)

Bituminous overlay where specified in Appendix 7/1

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.

2. The dowel bars shall be placed at 300 centres. This spacing shall be varied where necessary so that no dowel bar is within 150 of a joint parallel to the bars.

3. When concrete pavement is overlaid with 40mm to 180mm thick bituminous surfacing, the overlay shall be saw-cut and sealed at the concrete pavement joint in accordance Clause 713.

4. Dowel bars shall conform to Clause 1011.

DOWEL BAR — MIN DIMS.

<table>
<thead>
<tr>
<th>Slab thickness Dimension D</th>
<th>Dimension B</th>
<th>Dimension C</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 to 239</td>
<td>20</td>
<td>400</td>
</tr>
<tr>
<td>240 and over</td>
<td>25</td>
<td>600</td>
</tr>
</tbody>
</table>

HIGHWAY CONSTRUCTION DETAILS

CONCRETE CARRIAGeway

D CONTRACTION JOINTS

D MAY 06

C MAY 01

B MAR 98

A DEC 91

Issue Date

Drawing No. C3
WARPING JOINT – WITH SAWN GROOVE

Tie bar dimensions

<table>
<thead>
<tr>
<th>Grade</th>
<th>BS500B or BS500C</th>
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</thead>
<tbody>
<tr>
<td>Tie bar diameter</td>
<td>12</td>
</tr>
<tr>
<td>Tie bar length L</td>
<td>750</td>
</tr>
</tbody>
</table>

Cover to tie bars

<table>
<thead>
<tr>
<th>Slab thickness D</th>
<th>&gt;200</th>
<th>&lt;200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover x</td>
<td>30</td>
<td>20</td>
</tr>
</tbody>
</table>

NOTES
1. ALL DIMENSIONS ARE IN MILLimetres.
2. Warping joints shall be constructed and sealed in accordance with the Specification. The tie bar spacing shall be varied where necessary so that no tie bar is within 150 of a slab edge or a joint parallel to the bars.
3. Reinforcement shall conform to Clause 1008.
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. If concrete pavement is overlaid, this shall be 80mm to 180mm thick bituminous surfacing, the overlay shall be saw-cut and sealed at the concrete pavement joint in accordance Clause 713.
3. Tie bars shall conform to Clause 1012.

---

Reinforcement

Seal

Compressible caulking material (with applied sealants only)

Bituminous overlay where specified in Appendix 7/1

D

Separation membrane

0.5 ± 20

1.3 minimum

75 75

500 500

Polymeric corrosion resistant coating

#12 tie bars at 600 centres
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
NOTES
1. All dimensions are in millimetres unless otherwise stated.
2. At underbridges the base adjacent to the structure shall be a minimum of 5m of flexible base.
3. At buried structures the base and sub-base shall be continued over the structure. The sub-base shall be isolated from the structure by not less than 150mm of granular fill.
4. The depth of transition slab shall not be less than 200, if necessary, the thickness of the last bay of rigid pavement shall be tapered to match, so that the sub-base surface level is continuous without steps.
5. Bituminous construction to be saw-cut and sealed in accordance with Clause 713.
6. If concrete pavement is overlaid, this shall be 80mm to 180mm thick bituminous surfacing, the overlay shall be saw-cut and sealed at the concrete pavement joint in accordance with Clause 713, except that the groove shall be 25mm wide for the full depth of the bituminous overlay.
7. Bituminous overlay to be saw-cut and sealed in accordance with Clause 713, where existing surfacing is cracked.
8. Tie bars shall conform to Clause 1012.
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

2. At underbridges where the level of the bridge deck is approximately in line with the road surface, the base adjacent to the structure shall be a minimum of 5 m of flexible base. Where the underbridges are buried underbridges such as box culverts, the CRCB can be laid continuously over the top.

3. The depth D of transition length shall not be less than 200. If necessary the thickness of the flexible construction base shall be tapered to match, so that the sub-base surface level is continuous without steps.

4. See Drawing No. C7/3 for details where porous asphalt is used for the surfacing.

5. Bituminous overlay to be saw-cut and sealed in accordance with Clause 713.

6. The overlay shall be saw-cut and sealed at the concrete pavement joint in accordance with Clause 713, except that the groove shall be 25 mm wide for the full depth of the bituminous overlay.

21.0 m Anchorage
as detailed on NCD Drawing Number C18
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. All underbridges where the level of the bridge deck is approximately in line with the road surface, the base adjacent to the structure shall be a minimum of 5m of flexible base. Where the underbridges are buried underbridges such as box culverts, the CRCB can be laid continuously over the top.
3. The depth of transition length shall not be less than 200. If necessary the thickness of the end section of the CRCB shall be tapered to match, so that the sub-base surface level is continuous without steps.
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. Tie bars shall conform to Clause 1012.

**TYPE 1**
Longitudinal construction joint between two separately constructed unreinforced or jointed reinforced slabs

**TYPE 2**
Wet formed longitudinal joint for slabs more than one lane width constructed in one operation

<table>
<thead>
<tr>
<th>TIE BARS</th>
<th>Dia</th>
<th>Length</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>750</td>
<td>B500B or B500C</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>600</td>
<td>B500B or B500C</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>500</td>
<td>B500B or B500C</td>
</tr>
</tbody>
</table>
TYPE 5
Sawn longitudinal joint for unreinforced or jointed slabs
(More than one lane width constructed in one operation)
LONGITUDINAL JOINT TYPE 3 (Alternative to TYPE 2)
Formed longitudinal joint for slabs constructed in more than one lane width in one operation.

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. W equals slab width laid in one operation between 4m and 6m.
3. The special transverse reinforcement shall be lapped with or be continuous with the normal specified transverse reinforcement.
4. Reinforcement shall conform to Clause 100B.

LONGITUDINAL JOINTS JOINTED REINFORCED CONCRETE SLABS

Drawing No. C9
FORMED LONGITUDINAL JOINT FOR CRCP OR CRCB

(constructed in more than one lane width in one operation)

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. Tie bars shall be placed equally about the joint ± .50 at the same spacing as and adjacent to the transverse reinforcement.
   Protective coating to be applied to the centre 150 (min) of tie bars.
3. Reinforcement shall conform to Clause 100B.

TIE BARS

<table>
<thead>
<tr>
<th>Dia</th>
<th>Length</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>750</td>
<td>B500B</td>
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<tr>
<td>16</td>
<td>600</td>
<td>B500B</td>
</tr>
<tr>
<td>20</td>
<td>500</td>
<td>B500B</td>
</tr>
</tbody>
</table>

CRCP or CRCB BUTT TYPE CONSTRUCTION JOINT
(between separately constructed slabs)
SAWN LONGITUDINAL JOINT FOR CRCP OR CRCB
(constructed in more than one lane width in one operation)

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. Tie bars shall be placed equally about the joint ± 50 at the same spacing as and adjacent to the transverse reinforcement.
   Protective coating to be applied to the centre 150 (min) of tie bars.
3. Reinforcement shall conform to Clause 1008.

TIE BARS

<table>
<thead>
<tr>
<th>Dia</th>
<th>Length</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>750</td>
<td>B500B or B500C</td>
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<tr>
<td>16</td>
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<td>B500B or B500C</td>
</tr>
<tr>
<td>20</td>
<td>500</td>
<td>B500B or B500C</td>
</tr>
</tbody>
</table>
PERMITTED ALTERNATIVE LONGITUDINAL JOINT POSITIONS

Longitudinal joint positions.

Joints shall be positioned beside or close to edge or lane markings, road studs or their recesses, or in mid-lane so that the maximum slab width is not exceeded (see note 3). Permitted alternative joint positions are shown by arrows above. Joints in CRC pavement shall only be construction joints at positions agreed by the Engineer, to suit the method of construction, avoiding positions under the wheeltacks.

Lane markings and reflecting road studs

Lane and edge markings shall be placed as shown on the Drawings. Reflecting road studs shall be placed centrally in lane markings or adjacent to edge markings unless otherwise shown on the Drawings.

Minor adjustments to the lane line position of up to 100mm may be made where the joint and lane line would conflict or otherwise fall outside the permitted tolerances, provided that there are no offset discontinuities in the markings and the adjustments are approved by the Engineer.
NOTES
1. ALL DIMENSIONS ARE IN METRES.
2. **J** indicates longitudinal joint position.
3. Direction of crossfall is dependent on curvature.
4. Crowns shall be along construction joints.
END OF CLIMBING LANE
Reduction to 7.3 width

NOTES
1. ALL DIMENSIONS ARE IN METRES.
2. --- indicates longitudinal joint position.
3. Direction of crossfall is dependent on curvature.
4. Crowns shall be along construction joints.

CROSS SECTION – SINGLE CARRIAGEWAY
NOTES
1. ALL DIMENSIONS ARE IN METRES.
2. indicates longitudinal joint position.
3. Crossfalls will depend on curvature.
4. Crowns shall be along construction joints.

PREFERRED JOINT POSITIONS
Diagrammatic only. Not to scale.
NOTES
1. ALL DIMENSIONS ARE IN METRES.
2. — — — — — — — — — — — — — —
   indicates longitudinal joint position.
3. Crossfalls will depend on curvature.
4. Crowns shall be along construction joints.

TYPICAL JOINT POSITIONS
Diagrammatic only, not to scale
NOTES
1. All DIMENSIONS ARE IN METRES.
2. — — J — denotes longitudinal joint position.
3. Crossfalls will depend on curvature.
4. Crowns shall be along construction joints.

SECTION A–A
Standard 10m carriageway

SECTION B–B
Start of climbing lane

PLAN OF JOINT LAYOUT
For the start of climbing lane.
NOTES
1. ALL DIMENSIONS ARE IN METRES.
2. J denotes longitudinal joint position.
3. Crossfalls will depend on curvature.
4. Crews shall be along construction joints.

JUNCTION LAYOUTS WITH JOINT SPACING FOR CLIMBING LANE
Diagrammatic only. Not to scale.
LONGITUDINAL SECTION OF ANCHORAGE
(Ground beams are to be constructed across the full width of the pavement)

PLAN OF ANCHORAGE AND ADJACENT SLABS

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. Anchorage are required at
   (a) each end of a CRCP carriageway,
   (b) close to both sides of underbridges where the level of the bridge deck is approximately in line with the road surface. Anchorage are not required adjacent to buried underbridges such as box culverts, where the CRCP can be laid over the top.
3. Where underbridges are provided close to underbridges, the base adjacent to the structure shall be a minimum of 5m of flexible base.
4. For details of ground beams see Drawing No. C19.
5. Where a kerb is required along the anchorage the additional width may be unreinforced if tied to the CRC slab.
6. When concrete pavement is overlaid with 40mm to 180mm thick bituminous surfacing, the overlay shall be saw-cut and sealed at the concrete pavement joint in accordance with Clause 713 and HCD Drawing Number C2 at expansion joints and HCD Drawing Number C3 at contraction joints.

HIGHWAY CONSTRUCTION DETAILS
CONCRETE CARRIAGEWAY
CONTINUOUSLY REINFORCED CONCRETE PAVEMENT GROUND BEAM ANCHORAGE

<table>
<thead>
<tr>
<th>E</th>
<th>MAY 02</th>
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<tbody>
<tr>
<td>O</td>
<td>MAY 01</td>
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<tr>
<td>C</td>
<td>MAR 98</td>
</tr>
<tr>
<td>B</td>
<td>AUG 94</td>
</tr>
<tr>
<td>A</td>
<td>DEC 93</td>
</tr>
</tbody>
</table>

Issue Date

Drawing No. C18
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. Concrete in ground beams to be strength class C25/30 cast in trench below formation level or sub-base surface.
3. Reinforcement shall conform to Clause 1008.
4. Beam reinforcement cover to be 60 ± 10.

GROUND BEAM
(4 No. in anchorage)

BAR SCHEDULE FOR REINFORCEMENT

<table>
<thead>
<tr>
<th>MEMBER</th>
<th>BAR Mk</th>
<th>TYPE &amp; SIZE</th>
<th>No. OF Mtrs</th>
<th>No.IN EACH</th>
<th>TOTAL No.</th>
<th>LENGTH OF EACH</th>
<th>SHAPE CODE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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</thead>
<tbody>
<tr>
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<td>H16</td>
<td>4</td>
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<td>3900</td>
<td>44 400</td>
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<td>480</td>
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<tr>
<td>BEAMS</td>
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<td>**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

** Varies with width of anchorage
* Specified to nearest 5mm
# Specified to nearest 25mm
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. This type of anchorage is an alternative to the ground beam anchorage (see C18 and C19) for CRCP surface slabs only.
3. Minimum cover to sleeper beam reinforcement to be 50.
4. Anchorages are required at (a) each end of a CRCP carriageway, also (b) close to both sides of underbridges where the level of the bridge deck is approximately in line with the road surface. Anchorages are not required adjacent to buried underbridges such as box culverts, where the CRCP can be laid over the top.
5. Where anchorages are provided close to underbridges, the base adjacent to the structure shall be a minimum of 5m of flexible base.
6. Reinforcement shall conform to Clause 1008.

<table>
<thead>
<tr>
<th>CRCP Slab Depth D</th>
<th>Min Sleeper Beam Depth d</th>
<th>BS4 Universal Beam Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
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<td>305 x 127 x 48</td>
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<tr>
<td>250</td>
<td>210</td>
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CONTINUOUSLY REINFORCED CONCRETE PAVEMENT SURFACE SLABS
UNIVERSAL STEEL BEAM ANCHORAGE

HIGHWAY CONSTRUCTION DETAILS
CONCRETE CARRIAGEWAY

E MAY 06
D MAY 01
C MAR 98
B AUG 94
A DEC 91
Issue Date

Drawing No. C20
GULLIES WITHIN THE PAVEMENT

#12 bars bent with legs 1m to 2m long to suit size of gully recess

FIG. 1 JOINT WITHIN GULLY DIMENSION
(Preferred position)

#12 stirrup
(note 5)

section A-A

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
2. The overall dimensions of the recess may vary in accordance with the type of grating used.
3. Concrete surround to be strength class C32/40.
4. All reinforcement to conform to Clause 100B.
5. Cover to bars to be 60±10 vertically and horizontally.
6. The #12 stirrup shall be cut and bent to such dimensions as allow it to be placed centrally within the surround. An overlap of 450 shall be provided in closing the stirrup.
7. Normal joint positions may be adjusted by up to 1m so that the gully is astride or adjacent to the joint. If this is impossible an extra joint shall be formed in the lane at the gully position and shall be a tied warping joint.
8. The gully slab shall be isolated from the pavement at all joints by joint filler board for the full depth of the slab and joints shall be sealed.
9. For details of drainage see HCD, Series F drawings.

FIG. 2 JOINT ADJACENT TO GULLY

FIG. 3 EXTRA JOINT AT GULLY POSITION

HIGHWAY CONSTRUCTION DETAILS

CONCRETE CARRIAGEWAY

CONCRETE SURROUND TO GULLIES IN JOINTED CONCRETE PAVEMENT

Drawing No. C21
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS StATED OTHERWISE.

2. The overall dimensions of the recess may vary in accordance with the type of manhole and cover used.

3. Concrete surround to be strength class C32/40.

4. Reinforcement shall conform to Clause 100B. Cover to bars to be 60 ± 10 vertically and 80 ± 10 horizontally.

5. Normal joint spacings may be adjusted by up to 1m so that the manhole is astride or adjacent to the joint as shown in figs 1 & 2. If this is not possible an extra joint shall be formed in that lane at the manhole position as in fig 3, and that joint shall be a warping joint.

6. The manhole slab shall be isolated from the pavement by joint filler board at all joints, without dowels or tie bars, and the joint shall be sealed.

7. For manhole details see HCD, Series F drawings.
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. The overall dimensions of the opening may vary in accordance with the type of gully grating used.
3. Concrete surround to be strength class C32/40.
4. Normal transverse reinforcement near opening to be strengthened by additional #8 bars placed centrally between the transverse bars.
5. Reinforcement shall conform to Clause 1008.
6. The #12 stirrup shall be cut and bent to such dimensions as allow it to be located centrally within the surround. 450 overlap shall be provided in closing the stirrup.
7. For gully details see HCD, Series F drawings.

LONGITUDINAL REINFORCEMENT ADJACENT TO OPENING

DETAILS OF GULLY RECESS & CRCP REINFORCEMENT

CRCP/CRCB reinforcement

Preformed joint filler 20 thick

CRCP/CRCB slab

Transverse bars

Additional longitudinal bars #16 2600 long

#8 stirrup bar at 500 crs

LONGITUDINAL JOINT

Edge of slab at gully recess

Edge of 'boxed out' section

1 No. #16 Lacing bar 2150 long

2 No. #16 bars 2600 long placed directly below normal longitudinal bars 50mm above the bottom of the slab (see detail left)

14 No. #8 bars 2000 long placed centrally between transverse bars

NORMAL CRCP reinforcement

HARDSHOULDER 3300

1 No. #16 Lacing bar 2150 long

Verge

SECTION A-A

GULLIES IN CONTINUOUSLY REINFORCED CONCRETE PAVEMENT OR REINFORCED CONCRETE BASE

Drawing No. C23
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. The dimensions of the sealing groove and the method of sealing shall comply with the Specification.
3. The overall dimensions of the opening may vary in accordance with the type of manhole and cover used.
4. Concrete to be of pavement quality concrete strength class C32/40.
5. Normal transverse reinforcement near opening to be strengthened by additional No. 8 bars placed centrally between the transverse bars.
6. Reinforcement shall conform to Clause 100B.
7. For manhole details see HCD, Series F drawings.

DETAILS OF MANHOLE RECESS & CRCP/CRCB REINFORCEMENT

LONGITUDINAL REINFORCEMENT ADJACENT TO OPENING (Details 1 & 2)

Transverse bars

Additional longitudinal bars #16 3000 long

#6 Stirrup bar at 500 crs

Normal longitudinal bars #16

Longitudinal joint

Hardshoulder 3300

CRCP/CRCB reinforcement

Edge of slab

Edge of boxed out section

2 No. #20 lacing bars
1300 long &
2 No. #20 lacing bars
2000 long arranged as shown above CRCP/CRCB reinforcement

5 No. #8 bars at 200 crs (see note 6) length varies

4 No. #16 bars laid below normal longitudinal bars

18 No. #8 bars placed between main transverse reinforcement

SECTION A-A

CRCP/CRCB Reinforcement

Joint seal

Sub-base

Capping

Preformed joint filler 20mm thick

In situ concrete surround

1000

1070 (see note 5)

Joint seal

CAPPING

Preformed joint filler 20mm thick

In situ concrete surround

1000

1070 (see note 3)

Joint seal

CAPPING

Preformed joint filler 20mm thick

In situ concrete surround

1000

1070 (see note 3)
LINK ROAD

SLIP ROAD

TYPICAL JOINT LAYOUT – TAPER CONSTRUCTED SEPARATELY
Hardshoulder or hardstrip omitted between A and B

TYPICAL JOINT LAYOUT – TAPER ADDED TO STANDARD WIDTH PAVEMENT

NOTES
1. Typical layout only. See the Drawings for dimensioned layout.
2. Tapers shall be of the same thickness as the concrete carriageway. If unreinforced, slabs with an aspect ratio of >2.5 (3.0 for limestone) shall be reinforced as in Drawing no. C26.
3. The transition between rigid and flexible construction shall be a transition bay as in Drawing nos. C7/1, C7/2 and C7/3.
4. Transverse joint spacings are shown as for URC. If the carriageway is JRC or CRC the taper shall be JRC, with appropriate joint spacings. If carriageway has CRCB, the taper shall have CRCB.
ROAD WITH HARDSTRIP, TAPER AND LAY-BY OR SLIP ROAD CONSTRUCTED SEPARATELY FROM CARRIAGeway

CONSTRUCTION JOINT

DETAIL AT A
Unreinforced hardstrip.
Layout of tie bars

DETAIL AT B
Unreinforced bays next to reinforced carriageway.
Layout of tie bars

LONGITUDINAL JOINT POSITIONS (See Drg no. C11)

Type 1
Type 1 or 2
Type 1 or 2
Type 1 or 2

1000 min

ALL PURPOSE ROAD CONSTRUCTED AS ONE PIECE WITH SEPARATE LAY-BY OR SLIP ROAD

HARDSTRIP, TAPER AND LAY-BY

Extra warping joints unless slabs are reinforced (Note 2)

Joints in JRC to match those in hardshoulders etc.

UNREINFORCED HARDSHOULDER, LAY-BY OR HARDSTRIP ADJACENT TO REINFORCED CARRIAGeway (JRC OR CRCP)

CONSTRUCTION JOINT

L = normal bay length
for URC

600  600  600
L/2  L/2  L/2

600  600
L/4  L/4

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. Hardshoulders, hardstrips, Lay-bys and tapers shall be of the same thickness as the concrete carriageway. Surface slabs with an aspect ratio >2.5 (3.0 for limestone) shall be reinforced with the same reinforcement as main slab, if JRC. If URC, minimum reinforcement shall be standard mesh C636, to Clause1008.
3. Transverse joints at normal positions shall be expansion or contraction joints. Extra joints to reduce slab length shall be warping joints.
4. See the Drawings for dimensions for tapers, lay-bys, etc.