Bridge Approach
## Bridge Approach

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 Sections and details apply to Standard Road Plans BR-112 and BR-102 through BR-107.

1. Design Shoulder width.
2. Reinforced Bridge Approach Section.
3. Build curb. See Detail 'C'.
4. Reinforcing Bar.
5. Temporary paving block removed by paving contractor.
6. Bridge Abutment.
7. Longitudinal Joint (PV-101):
   - Single pour - Saw cut joint per Detail B.
   - Two pours - Use "KS-1" joint.
8. Secure polymer grid on top of paving notch.
9. Extend polymer grid to 2 feet outside edge of pavement.
11. If bridge is skewed, place additional #5 bar parallel to skewed face.
12. T = 10 inches.

### Joint Type for Movable Abutment Bridges

<table>
<thead>
<tr>
<th>Joint</th>
<th>Concrete Beam Maximum Bridge Length</th>
<th>Steel Beam Maximum Bridge Length</th>
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<tr>
<td>CF-1</td>
<td>370'</td>
<td>250'</td>
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<tr>
<td>CF-2</td>
<td>465'</td>
<td>320'</td>
</tr>
<tr>
<td>CF-3</td>
<td>575'</td>
<td>400'</td>
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Possible Contract Item: Bridge Approach, Two Lane
Possible Tabulation: 112-6

**TWO LANE APPROACH PAVEMENT LAYOUT AT A SKEW**

**BRIDGE ALIGNMENT AND JOINT PLACEMENT**

**DETAIL A**

- Movable Abutment Bridge
  - Design Shoulder width
  - Pavement
  - Polymer Grid
  - Modified Subbase

**SECTION A-A**

**DETAIL A**

- Fixed Abutment Bridge
  - 15' Minimum
  - Skew Angle
  - Bridge Floor
  - 20' Min. Paving

**SECTION B-B**

**DETAIL C**

- Five Hole Bridge Rail End Section
  - Bridge Rail End Section
  - Bridge Floor
  - "CF" or "E" Joint Per Detail A

**DETAIL D**

- 4" Sloped Curb
  - Curb, see Detail "D"

**SECTION C-C**

**DETAIL C**

- Retrofit Bridge Rail End Section
  - Bridge Rail End Section
  - Bridge Floor
  - "CF" or "E" Joint Per Detail A

- Low Speed Bridge Rail End Section
  - Bridge Rail End Section
  - Bridge Floor
  - "CF" or "E" Joint Per Detail A

- 6" Standard Curb, see PV-102

**REVISIONS:**

New. Replaces RK-19A.

APPROVED BY DESIGN METHODS ENGINEER

STANDARD ROAD PLAN

BRIDGE APPROACH SECTION (GENERAL DETAILS)

Page 1 of 1
Approach Roadway

See DR-306 for outlet details

Pay Limits for Contract Item

Bridge Floor

Detail 'A'

See Granular Backfill line

Excavate to existing Modified Subbase

2'

As required by skew angle (20' Min.)

Reinforced Section

'CD' Joint

'EF' Joint

Polymer Grid

4'' Perforated Subdrain (Polyethylene, Corrugated Tubing)

(See Project Typical Drawings)

Design Shoulder

(See Project Typical Drawings)

PLAN VIEW

Reinforced Section

Non-Reinforced Section

As required by skew angle (20' Min.)

'D' Joint

'CD' Joint

'EF' Joint

Approximately 10'

DW Joint

Roadway Surface

For joint details, see PV-101.

1. Build curb to end of Reinforced Bridge Approach Section. See Curb Location Details (Section B-B on BR-101).
3. Longitudinal Joint (PV-101):
   - Single Pour - Saw cut joint per Detail B.
   - Two Pours - Use 'KS-1' joint.
4. 'CD' Joints required up to 300 feet each way from end of Reinforced Bridge Approach Section.
5. Excavation limits of Modified Subbase 2 feet outside of pavement edge, see BR-101.
6. Slope subdrain to drain.
7. Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.
8. Place 'BD' joint where PCC shoulder. Place 'B' joint otherwise.

Possible Contract Item

Bridge Approach, Two Lane

Possible Tabulation:

1-12-6

Detail 'B'

Dowelled PCC Pavement
Build curb to end of Reinforced Bridge Approach Section. See Curb Location Details (Section B-B on BR-101).

See BR-101.

Longitudinal Joint (PV-101):
- Single Pour - Saw cut joint per Detail B.
- Two Pours - Use 'KS-1' joint.

Minimum 1 panel, maximum 3 panels. 15 foot minimum, 20 foot maximum panel length. Use C/Y joints.

Excavation limits of Modified Subbase 2 feet outside of pavement edge, see BR-101.

Slope subdrain to drain.

Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.

Place 'BD' joint where PCC shoulder. Place 'B' joint otherwise.

For joint details, see PV-101.

Possible Contract Item:
- Bridge Approach, Two Lane

Possible Tabulation:
112-5

For joint details, see PV-101.

See BR-101.

Longitudinal Joint (PV-101):
- Single Pour - Saw cut joint per Detail B.
- Two Pours - Use 'KS-1' joint.

Minimum 1 panel, maximum 3 panels. 15 foot minimum, 20 foot maximum panel length. Use C/Y joints.

Excavation limits of Modified Subbase 2 feet outside of pavement edge, see BR-101.

Slope subdrain to drain.

Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.

Place 'BD' joint where PCC shoulder. Place 'B' joint otherwise.

For joint details, see PV-101.

See BR-101.

Longitudinal Joint (PV-101):
- Single Pour - Saw cut joint per Detail B.
- Two Pours - Use 'KS-1' joint.

Minimum 1 panel, maximum 3 panels. 15 foot minimum, 20 foot maximum panel length. Use C/Y joints.

Excavation limits of Modified Subbase 2 feet outside of pavement edge, see BR-101.

Slope subdrain to drain.

Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.

Place 'BD' joint where PCC shoulder. Place 'B' joint otherwise.

For joint details, see PV-101.

See BR-101.

Longitudinal Joint (PV-101):
- Single Pour - Saw cut joint per Detail B.
- Two Pours - Use 'KS-1' joint.

Minimum 1 panel, maximum 3 panels. 15 foot minimum, 20 foot maximum panel length. Use C/Y joints.

Excavation limits of Modified Subbase 2 feet outside of pavement edge, see BR-101.

Slope subdrain to drain.

Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.

Place 'BD' joint where PCC shoulder. Place 'B' joint otherwise.

For joint details, see PV-101.

See BR-101.

Longitudinal Joint (PV-101):
- Single Pour - Saw cut joint per Detail B.
- Two Pours - Use 'KS-1' joint.

Minimum 1 panel, maximum 3 panels. 15 foot minimum, 20 foot maximum panel length. Use C/Y joints.

Excavation limits of Modified Subbase 2 feet outside of pavement edge, see BR-101.

Slope subdrain to drain.

Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.

Place 'BD' joint where PCC shoulder. Place 'B' joint otherwise.

For joint details, see PV-101.

See BR-101.
#8 Bars at 12'' Centers

Norm Pavement Slope

Polymer Grid

Design Shoulder (See Project Typical Drawings)

Existing PCC Pavement

Existing Joint or Crack

Pay Limits for Contract Item

'EF' Joint

See Detail 'B'

Dowelled PCC Pavement

Possible Contract Item:
Bridge Approach, Two Lane

Possible Tabulation:
112-6

For joint details, see PV-101.

1. Build curb to end of Reinforced Bridge Approach Section. See Curb Location Details (Section B-B on BR-101).
3. Longitudinal Joint (PV-101):
   - Single Pour - Saw cut joint per Detail B.
   - Two Pours - Use 'KS-1' joint.
4. T = 10 inches.
5. Slope subdrain to drain.
6. Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.
7. Minimum 1 panel, maximum 3 panels. 15 foot minimum, 20 foot maximum panel length. Use 'CD' joints.
8. Place 'RD' joint where PCC shoulder. Place 'B' joint otherwise.
9. Excavation limits of Modified Subbase 2 feet outside of pavement edge, see BR-101.

T = 10 inches.

See PV-101.

See BR-101.

PV-101.

PV-101.

PV-101.

PV-101.

PV-101.

PV-101.
Approach Roadway

Bridge Floor

Detail 'A'

See Granular Backfill line

Excavate to existing 2'

Modified Subbase

'CD' Joint

As required by skew angle (20' Min.)

Reinforced Section

Polymer Grid

4''

HMA Pavement

See Detail 'B'

possible Tabulation:
Bridge Approach, Two Lane
Possible Pay Limits for Contract Item:

'B' Joint

Modified Subbase

Polymer Grid

Subbase (if applicable)

'B' Joint

Subbase (if applicable)

PLAN VIEW

SECTION THRU CENTERLINE

For joint details, see PV-101.

1. Build curb to end of Reinforced Bridge Approach Section. See Curb Location Details (Section B-B on BR-101).
3. Longitudinal Joints (PV-101):
   Single Pour - Saw cut joint per Detail B.
   Two Pours - Use 'KS-1' joint.
4. Excavation limits of Modified Subbase 2 feet outside of pavement edge, see BR-101
5. The Contractor may need to saw cut the HMA pavement full depth to accommodate the 'B' joint.
6. Place '103' joint where PCC shoulder. Place 'B' joint otherwise.

Possible Contract Item:
Bridge Approach, Two Lane
Possible Pay Limits for Contract Item:
Approach Roadway

Bridge Floor

See Detail 'A'

See Detail 'B'

See Detail 'C'

Design Shoulder (See Project Typical Drawings)

Reinforced Section

Non-Reinforced Section

Existing HMA Pavement

Approach roadway

PLAN VIEW

Possible Contract Item:
Bridge Approach, Two Lane

Possible Tabulation:
112-6

For joint details, see PV-101.

1. Build curb to end of Reinforced Bridge Approach Section. See Curb Location Details (Section B-B on BR-101).
3. Longitudinal Joint (PV-101):
   - Single Pour - Saw cut joint per Detail B.
   - Two Pours - Use 'KS-1' joint.
4. Minimum 2 panels, maximum 3 panels. 20 foot panel length. Use 'CD' joints.
5. Excavation limits of Modified Subbase 2 feet outside of pavement edge. see BR-101.
6. The Contractor may need to saw cut the HMA pavement full depth to accommodate the 'B' joints.
7. Place 'RD' joint where PCC shoulder. Place '11' joint otherwise.
Approach Roadway

#8 Bars at 12'' Centers

(See Project Typical Drawings)

Design Shoulder
Non-Reinforced Section
L-2 or KT-2

(See Project Typical Drawings)

Design Shoulder
Reinforced Section
L-2 or KT-2

Pay Limits for Contract Item
Non-Reinforced Section - 40' Min.
Reinforced Section

Minimum 2 panels, maximum 3 panels 20 foot panel length.

The contractor may need to saw cut the HMA pavement full depth to accommodate the 'B' joint.

Place 'RD' joint where PCC shoulder. Place '1F' joint otherwise.

Possible Contract Item:
Bridge Approach, Two Lane

Possible Tabulation:
112-6

For joint details, see PV-101.
This plan shows construction details of a PCC Overlay on a bridge approach section to match the thickness of the bridge deck overlay. After underscoring (by others), work is to proceed in the following sequence and according to the traffic control plans:

1. Rout out existing joints as detailed in the plans.
2. Scarify to the minimum depth of 2'' the existing PCC surface of the reinforced bridge approach section. Scarify deep enough to provide a minimum overlay thickness of 2''.
3. Overlay the scarified approach pavement with PCC according to Section 2413 of the Standard Specifications. The existing joint at the bridge end is not to be overlaid and cut out by saw. Use a method approved by the Engineer.
4. Install sealed joint at the bridge end and at the locations of overlaid existing joints as detailed on this sheet.
5. Trim the first existing ‘CF’ joint beyond the resurfaced area to a uniform 3'' width, clean joint, and install new preformed joint material with lubricant adhesive.

Routing at joints will be measured and paid for as ‘Class A Deck Repair’ according to Section 2413 of the Standard Specifications.

Overlaying of the bridge approach pavement with PCC will be paid for at the contract unit price for ‘Deck Overlay’ according to Section 3413 of the Standard Specifications. Scarification to the depth required is incidental to ‘Deck Overlay’.

Sealed joints installed at locations of existing joints will not be paid for separately, but are incidental to ‘Deck Overlay’.

For raising HMA shoulder to match the PCC overlay of the bridge approach pavement, ‘Class II’ compaction is required as specified in Section 2303 of the Standard Specifications. Asphalt binder and tack coat are incidental.

Construct ‘Granular Shoulders, Type B’ according to Section 2121 of the Standard Specifications when other than paved shoulders exist.

For joint details, refer to PV-101.

This section is divided into the following parts:

- **Section A-A**
  - **Joint Rebuilding Requirements**
    - **Existing Joint Width**
      - 0 to 1''
        - Cut to 1'' width
          - See Detail 'A'
      - 1'' to 2''
        - See Detail 'A'
      - Greater than 2''
        - See Detail 'E'
    - **Construction Method Required**

- **DETAIL 'A'**
  - Bridge Deck
  - Bridge Abutment
  - Existing Joint
  - Scarify Depth (Nominal)
  - Overlay Depth (Nominal)
  - 1'' (min.) to 2'' (max)
  - See Detail 'B'

- **DETAIL 'B'**
  - Bridge Deck
  - Bridge Abutment
  - Existing Joint
  - Scarify Depth
  - Overlay Depth
  - 1'' (min.) to 2'' (max)

- **DETAIL 'C'**
  - Bridge Deck
  - Bridge Abutment
  - Existing Joint
  - Scarify Depth
  - Overlay Depth
  - 1'' (min.) to 2'' (max)

- **DETAIL 'D'**
  - Bridge Deck
  - Bridge Abutment
  - Existing Joint
  - Scarify Depth
  - Overlay Depth
  - 1'' (min.) to 2'' (max)

- **DETAIL 'E'**
  - Bridge Deck
  - Bridge Abutment
  - Existing Joint
  - Scarify Depth
  - 1'' (min.) to 2'' (max)

APPENDIX A: Design Methodology

**Joint Rebuilding Requirements**

- **Existing Joint Width**
  - 0 to 1''
    - Cut to 1'' width
      - See Detail 'A'
  - 1'' to 2''
    - See Detail 'A'
  - Greater than 2''
    - See Detail 'E'

**Construction Method Required**

- **Join Rebuilding**
  - Removing HMA Resurfacing if present. The cost of removal is considered incidental to "Bridge Floor Overlay" as detailed herein.
  - Existing shoulder elevation to be raised to match new pavement grade.
  - At first existing ‘CF’ joint beyond PCC Overlay area, clean joint, trim to 3'' and install preformed joint material 4'' wide times pavement thickness minus 1 inch deep with lubricant adhesive. See Materials I.M. 436.06 for list of approved materials.
  - Reinforced bridge approach section overlay “Runout” stops not to exceed 1 inch in 50 feet from profile grade.
  - Existing joint. Remove all expansion material and clean joint area. Do not overlaid and saw cut.
  - Saw and seal over existing joint. Refer to Detail 'C' on PV-101.
  - Tire buffing. Refer to Detail 'H' on PV-101.
  - Existing joint. Remove all expansion material and fill with overlaid material.
  - Applicable only if a transverse crack in the reinforced section exists.

- **Joint Rebuilding**
  - Remove HMA Resurfacing if present. The cost of removal is considered incidental to "Bridge Floor Overlay" as detailed herein.
  - Existing shoulder elevation to be raised to match new pavement grade.
  - At first existing ‘CF’ joint beyond PCC Overlay area, clean joint, trim to 3'' + 1/2 and install preformed joint material 4'' wide times pavement thickness minus 1 inch deep with lubricant adhesive. See Materials I.M. 436.06 for list of approved materials.
  - Reinforced bridge approach section overlay “Runout” stops not to exceed 1 inch in 50 feet from profile grade.
  - Existing joint. Remove all expansion material and clean joint area. Do not overlaid and saw cut.
  - Saw and seal over existing joint. Refer to Detail 'C' on PV-101.
  - Tire buffing. Refer to Detail 'H' on PV-101.
  - Existing joint. Remove all expansion material and fill with overlaid material.
  - Applicable only if a transverse crack in the reinforced section exists.

- **Joint Rebuilding**
  - Remove HMA Resurfacing if present. The cost of removal is considered incidental to "Bridge Floor Overlay" as detailed herein.
  - Existing shoulder elevation to be raised to match new pavement grade.
  - At first existing ‘CF’ joint beyond PCC Overlay area, clean joint, trim to 3'' + 1/2 and install preformed joint material 4'' wide times pavement thickness minus 1 inch deep with lubricant adhesive. See Materials I.M. 436.06 for list of approved materials.
  - Reinforced bridge approach section overlay “Runout” stops not to exceed 1 inch in 50 feet from profile grade.
  - Existing joint. Remove all expansion material and clean joint area. Do not overlaid and saw cut.
  - Saw and seal over existing joint. Refer to Detail 'C' on PV-101.
  - Tire buffing. Refer to Detail 'H' on PV-101.
  - Existing joint. Remove all expansion material and fill with overlaid material.
  - Applicable only if a transverse crack in the reinforced section exists.

- **Joint Rebuilding**
  - Remove HMA Resurfacing if present. The cost of removal is considered incidental to "Bridge Floor Overlay" as detailed herein.
  - Existing shoulder elevation to be raised to match new pavement grade.
  - At first existing ‘CF’ joint beyond PCC Overlay area, clean joint, trim to 3'' + 1/2 and install preformed joint material 4'' wide times pavement thickness minus 1 inch deep with lubricant adhesive. See Materials I.M. 436.06 for list of approved materials.
  - Reinforced bridge approach section overlay “Runout” stops not to exceed 1 inch in 50 feet from profile grade.
  - Existing joint. Remove all expansion material and clean joint area. Do not overlaid and saw cut.
  - Saw and seal over existing joint. Refer to Detail 'C' on PV-101.
  - Tire buffing. Refer to Detail 'H' on PV-101.
  - Existing joint. Remove all expansion material and fill with overlaid material.
  - Applicable only if a transverse crack in the reinforced section exists.

- **Joint Rebuilding**
  - Remove HMA Resurfacing if present. The cost of removal is considered incidental to "Bridge Floor Overlay" as detailed herein.
  - Existing shoulder elevation to be raised to match new pavement grade.
  - At first existing ‘CF’ joint beyond PCC Overlay area, clean joint, trim to 3'' + 1/2 and install preformed joint material 4'' wide times pavement thickness minus 1 inch deep with lubricant adhesive. See Materials I.M. 436.06 for list of approved materials.
  - Reinforced bridge approach section overlay “Runout” stops not to exceed 1 inch in 50 feet from profile grade.
  - Existing joint. Remove all expansion material and clean joint area. Do not overlaid and saw cut.
  - Saw and seal over existing joint. Refer to Detail 'C' on PV-101.
  - Tire buffing. Refer to Detail 'H' on PV-101.
  - Existing joint. Remove all expansion material and fill with overlaid material.
  - Applicable only if a transverse crack in the reinforced section exists.

- **Joint Rebuilding**
  - Remove HMA Resurfacing if present. The cost of removal is considered incidental to "Bridge Floor Overlay" as detailed herein.
  - Existing shoulder elevation to be raised to match new pavement grade.
  - At first existing ‘CF’ joint beyond PCC Overlay area, clean joint, trim to 3'' + 1/2 and install preformed joint material 4'' wide times pavement thickness minus 1 inch deep with lubricant adhesive. See Materials I.M. 436.06 for list of approved materials.
  - Reinforced bridge approach section overlay “Runout” stops not to exceed 1 inch in 50 feet from profile grade.
  - Existing joint. Remove all expansion material and clean joint area. Do not overlaid and saw cut.
  - Saw and seal over existing joint. Refer to Detail 'C' on PV-101.
  - Tire buffing. Refer to Detail 'H' on PV-101.
  - Existing joint. Remove all expansion material and fill with overlaid material.
  - Applicable only if a transverse crack in the reinforced section exists.

- **Joint Rebuilding**
  - Remove HMA Resurfacing if present. The cost of removal is considered incidental to "Bridge Floor Overlay" as detailed herein.
  - Existing shoulder elevation to be raised to match new pavement grade.
  - At first existing ‘CF’ joint beyond PCC Overlay area, clean joint, trim to 3'' + 1/2 and install preformed joint material 4'' wide times pavement thickness minus 1 inch deep with lubricant adhesive. See Materials I.M. 436.06 for list of approved materials.
  - Reinforced bridge approach section overlay “Runout” stops not to exceed 1 inch in 50 feet from profile grade.
  - Existing joint. Remove all expansion material and clean joint area. Do not overlaid and saw cut.
  - Saw and seal over existing joint. Refer to Detail 'C' on PV-101.
  - Tire buffing. Refer to Detail 'H' on PV-101.
  - Existing joint. Remove all expansion material and fill with overlaid material.
  - Applicable only if a transverse crack in the reinforced section exists.
Possible Contract Items:
Bridge Approach, Two Lane Paved Shoulder, P.C. Concrete

Possible Tabulation:
BR-112

BRIDGE APPROACH DETAILS
(IN CONJUNCTION WITH BRIDGE DECK OVERLAY)

Maintain traffic in adjacent lanes. For joint details, see PV-101.

If an existing "CF" joint is located approximately 60 feet from the new 'B' or 'RT' joint, the joint is to be recut to a width of 4 inches and new form joint material installed. If no "CF" exists, construct a new "CF" joint approximately 60 feet from the new 'B' or 'RT' joint.

Modified Subbase under paved shoulder panels adjacent to the bridge approach is incidental to "Paved Shoulder, P.C. Concrete", unless measured and paid for elsewhere on the project plans.

1. Build curb to end of Reinforced Bridge Approach Section. See Curb Location Details (Section B-B on BR-101).
2. Place 'RD' joint if P.C. Shoulder, 'B' joint otherwise.
3. Optional 'KS-1' joint.
4. See Typical Paving Cross-Sections.
5. Slope Subdrain to drain.
6. Place 'RT' joint if existing pavement is P.C., 'B' joint otherwise.
7. If bridge is skewed, place additional #5 bar parallel to skewed face.
8. T=10 inches.
Use the same concrete for the bridge approach section as is used for the remainder of the project pavement.

For joint details, see PV-101.

1. If bridge is skewed, place additional #5 bar parallel to skewed face.
2. T is the same thickness as is required for the remainder of the project pavement.

Possible Contract Items:
- Bridge Approach, Secondary Roads
- Standard or Slip-Form PCC Pavement

Possible Tabulation: 112-6

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<tr>
<th>Joint</th>
<th>Concrete Beam</th>
<th>Steel Order</th>
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<tr>
<td>CF-1</td>
<td>370</td>
<td>260</td>
</tr>
<tr>
<td>CF-2</td>
<td>465</td>
<td>320</td>
</tr>
<tr>
<td>CF-3</td>
<td>570</td>
<td>400</td>
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As required by skew angle (20'-0" min.)

SECTION THRU CENTERLINE
(Abutting PCC or Composite Pavement)

SECTION THRU CENTERLINE
(Abutting HMA Pavement)
Approach Roadway

#4 bars at 12" Centers
D = 2"

SECTION A-A

SECTION B-B

BENT BAR SHAPES

APPROACH PAVEMENT LAYOUT AT A SKEW

Section Expansion Joint Filler complying with Section 4136 of the Standard Specifications

Joint length as required to completely fill from back of Curb Placement.

Minimum filler width is the abutment 'CF' joint width.

Double reinforced 10" approach.
For joint details, see PV-101.

For curb details, see Detail 'G'.

All Transverse Bars are #5.

See BR-211 or BR-212 for shoulders.

1. 2" to 2\(\frac{2}{3}\)" clear to bent bar.

2. Minimum lap length: #5 bars - 18 inches #6 bars - 27 inches #8 bars - 48 inches

3. If bridge is skewed, place additional #5 bar parallel to skewed face.

Possible Contract Item:
Bridge Approach, BR-202

Possible Tabulation:
112-6

<table>
<thead>
<tr>
<th>Joint Type for Moveable Abutment Bridges</th>
<th>Concrete Beam or Slab</th>
<th>Steel Girder</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF-1</td>
<td>375</td>
<td>250</td>
</tr>
<tr>
<td>CF-2</td>
<td>465</td>
<td>320</td>
</tr>
<tr>
<td>CF-3</td>
<td>575</td>
<td>490</td>
</tr>
</tbody>
</table>

Paving Notch

For joint details, see PV-101.
2" to 2 1/2" clear to bent bar.

2 Minimum lap length: #5 bars - 18 inches
    #6 bars - 27 inches
    #8 bars - 68 inches

3 If bridge is skewed, place additional #5 bar parallel
to skewed face.
**SECTION A-A**

- Normal Pavement Slope
- Polymer Grid
- Modified Subbase
- Excavation Limits

**SECTION B-B**

- Design Shoulder
- Bridge Rail End Section (typ.)
- Bridge Deck
- Roadway Pavement
- Skew Angle

**BENT BAR SHAPES**

- #4 bars at 12" Centers
- Steel Rod or #4 Rebar
- #5 bars at 12" Centers (Pavement Lug)

**APPROACH PAVEMENT LAYOUT AT A SKEW**

**DETAIL 'D'**

- Joint Placement
- Back of Curb Placement

**DETAIL 'G'**

- Curb per Detail 'G'

**DETAIL 'E'**

- Curb per Detail 'G'
- See Detail 'E'

- Longitudinal Joint (PV-101):
  - Single pour - Saw cut joint per Detail B.
  - Two pours - Use KS-2 joint.

- Refer to BR-211, BR-212, or BR-231.

- Design shoulder width.

- Reinforced bridge approach section.

- Expansion joint at end of Bridge Rail End Section: Place joint filler the full depth of the bridge approach pavement. In areas with curb, place full depth of pavement plus curb and shape material to fit the shape of the curb per Section B-B of PV-101. Seal joint per Detail F of PV-101.

  - Fixed Abutment Bridges: Type 'E' Joint.
  - Moveable Abutment Bridges: Flexible Foam Expansion Joint Filler complying with Section 4136 of the Standard Specifications. Minimum filler width is the abutment 'CF' joint width. Joint length as required to completely fill from back side of curb to front face of bridge wing.

---

**STANDARD ROAD PLAN**

**BR-202**

**REVISIONS:**
  - Changed dimension from 4" to 5" and added 4" dimension to U shaped bent bar shapes in Page 4.

**APPROVED BY DESIGN METHODS ENGINEER**

**REVISIONS:**
- Double Reinforced 10" Approach with Variable Depth Paving Notch.
**DETAIL A**

(Moveable Abutment)

- **Joint Type**
  - See Table for Joint Type
  - For joint details, refer to PV-101.
  - All transverse bars are #5.
  - Possibility Contract Item: Bridge Approach, BR-203
  - Possible Tabulation: 112-6

**DETAIL B**

(Fixed Abutment)

- **Expansion Joint on Bridge**
- **Approach Pavement**
  - Dowel to be placed with bridge. Do not bend.
  - Rubberized bitumen joint filler
  - Resilient Joint Filler
  - Full Length of Paving Notch

**DOUBLE REINFORCED 12'' APPROACH**

<table>
<thead>
<tr>
<th>Joint</th>
<th>Concrete Beam or Slab</th>
<th>Steel Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF-1</td>
<td>370'</td>
<td>250'</td>
</tr>
<tr>
<td>CF-2</td>
<td>460'</td>
<td>320'</td>
</tr>
<tr>
<td>CF-3</td>
<td>575'</td>
<td>400'</td>
</tr>
</tbody>
</table>

For curb details, see Detail 'G'.

For joint details, refer to PV-101.

All transverse bars are #5.

Possible Contract Item: Bridge Approach, BR-203

Possible Tabulation: 112-6
LONGITUDINAL JOINT (PV-101)
- Single pour - Saw cut joint per Detail B.
- Two pours - Use KS-2 joint.

REFERENCE TO
- BR-211, BR-212, or BR-231.
- Design shoulder width.
- Reinforced bridge approach section.

EXPANSION JOINT AT END OF BRIDGE RAIL END SECTION: Place joint filler the full depth of the bridge approach pavement. In areas with curb, place full depth of pavement plus curb and shape material to fit the shape of the curb per Section 8-B of PV-101. Seal joint per Detail F of PV-101.

- Fixed Abutment Bridges: Type 'E' joint.
- Moveable Abutment Bridges: Flexible Foil Expansion Joint Filler complying with Section 4106 of the Standard Specifications. Minimum filler width is the abutment 'CF' joint width. Joint length as required to completely fill from back side of curb to front face of bridge wing.

REVISIONS:
- Bent Bar Shapes on Page 3.
- Changed dimension from 6" to 7" and added 6" dimension to U-shaped Bow Bridge Shapes in Section 4.
For joint details, see PV-101.
For curb details, see Detail 'G'.
All Transverse Bars are #5.
See BR-211 or BR-212 for shoulders.
1) 2" to 2 1/2" clear to bent bar.
2) Minimum lap length: 
   - #5 bars - 18 inches
   - #6 bars - 27 inches
   - #8 bars - 48 inches
3) If bridge is skewed, place additional #5 bar parallel to skewed face.
Possible Contract Item:
Bridge Approach, BR-204
Possible Tabulation:
112-6

<table>
<thead>
<tr>
<th>JOINT TYPE FOR MOVEABLE ABUTMENT BRIDGES</th>
<th>Maximum Bridge Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint</td>
<td>Concrete Beam or Slab</td>
</tr>
<tr>
<td>CF-1</td>
<td>370</td>
</tr>
<tr>
<td>CF-2</td>
<td>465</td>
</tr>
<tr>
<td>CF-3</td>
<td>575</td>
</tr>
</tbody>
</table>

DETAIL 'A'

DETAIL 'B'

MOVEABLE ABUTMENT
If bridge is skewed, place additional #5 bar parallel to skewed face.

2" to 2½" clear to bent bar.

Minimum lap length:
- #5 bars: 18 inches
- #6 bars: 27 inches
- #8 bars: 48 inches

If bridge is skewed, place additional #5 bar parallel to skewed face.
SECTION THRU CENTERLINE
(Abulting PCC or Composite Pavement)

DETAIL ‘C’
(Downowed PCC Pavement)

SECTION THRU CENTERLINE
(Abulting HMA Pavement)

DETAIL ‘F’

BR-204
STANDARD ROAD PLAN
WITH VARIABLE DEPTH PAVING NOTCH

IOWA DOT

REVISION 10-17-17
SHEET 3 of 4

REVISIONS:
Bent Bar Shapes on Page 4.
Changed dimension from 6" to 7" and added 6" dimension to U-shaped
See Detail A

APPROVED BY DESIGN METHODS ENGINEER

STANDARD ROAD PLAN
WITH VARIABLE DEPTH PAVING NOTCH

DOUBLE REINFORCED 12" APPROACH
WITH VARIABLE DEPTH PAVING NOTCH
**SECTION A-A**

- Modified Subbase
- Polymer Grid
- Excavation Limits
- Normal Pavement Slope
- Curb per Detail 'G'
- 24'
- 8'
- 6'
- Earth

**SECTION B-B**

- Modified Subbase
- Polymer Grid
- Excavation Limits
- Design Shoulder
- 24'
- 6'
- D=2'

**APPRAOCH PAVEMENT LAYOUT AT A SKEW**

- Bridge Rail End Section (typ.)
- Bridge Deck
- 22'-0' min.
- Roadway Pavement
- Skew Angle
- 15'-0' min.
- 6'

**DETAIL 'D'**

- Joint Placement
- See Detail 'E'

**DETAIL 'G'**

- (Back of Curb Placement)

**DETAIL 'E'**

- (Joint Placement)

---

**BENT BAR SHAPES**

- #4 bars at 12" Centers
- #5 bars at 12" Centers (Pavement Lug)
- 2" dia x 24" Steel Rod or #4 Rebar

**REVISIONS:**

- Changed dimension from 6" to 7" and added 6" dimension to U shaped.

**APPROVED BY:**

- DESIGN METHODS ENGINEER

**STANDARD ROAD PLAN**

-SHEET 4 of 4

**DOUBLE REINFORCED 12" APPROACH WITH VARIABLE DEPTH PAVING NOTCH**

- Longitudinal Joint (PV-101):
  - Single pour - Saw cut joint per Detail B.
  - Two pours - Use KS-2 Joint.

- Refer to BR-211, BR-212, or BR-231.

- Design shoulder width.

- Reinforced bridge approach section.

- Expansion joint at end of Bridge Rail End Section. Place joint filler the full depth of the bridge approach pavement. In areas with curb, place full depth of pavement plus curb and shape material to fit the shape of the curb per Section B-B of PV-101. Seal joint per Detail F of PV-101.

  - Fixed Abutment Bridges: Type 'E' Joint.
  - Moveable Abutment Bridges: Flexible Foam Expansion Joint Filler complying with Section 4136 of the Standard Specifications. Minimum filler width is the abutment 'CF' joint width. Joint length as required to completely fill from back side of curb to front face of bridge wing.

**BR-204**

SHEETS 1 of 4

- SDOT APPROVED 10-17-17

- REVISION 10-17-17
For joint details, see PV-101.

For curb details, see Detail 'G'.

All transverse bars are #5.

Use epoxy coated bars for all reinforcement.

Quantities for both the 1'-9" top part of the sleeper slab and the 6'-3" portion under the approach pavement have been included in the double reinforced section quantities.

Build 4 inch Sloped Curb to end of Reinforced Sections.

Longitudinal Joint (PV-101): Single Pour - Saw cut joint per Detail 'B'.

Two Pours - Use 'KS-1' joint (Single Reinforced Section)

Use 'KS-2' joint (Double Reinforced Section).

Extend 'CD' and 'EF' joints where PCC Shoulder.

Use epoxy coated bars for all reinforcement.

Polymer Grid and excavation limits of Modified Subbase

Extend 'CD' and 'EF' joints where PCC Shoulder.

Saw cut joint per Detail 'B'.

Place "RD" Joint where PCC shoulder. Place 'B' joint otherwise.

3/8 inch Preformed Joint Filler and seal top.

Place an "X" in the plastic concrete near the "EF" joint at 2 feet outside of pavement edge.

Build 4 inch Sloped Curb to end of Reinforced Sections.

For joint details, see PV-101.

For curb details, see Detail 'G'.

All transverse bars are #5.

Use epoxy coated bars for all reinforcement.

Quantities for both the 1'-9" top part of the sleeper slab and the 6'-3" portion under the approach pavement have been included in the double reinforced section quantities.

Build 4 inch Sloped Curb to end of Reinforced Sections.

Longitudinal Joint (PV-101): Single Pour - Saw cut joint per Detail 'B'.

Two Pours - Use 'KS-1' joint (Single Reinforced Section)

Use 'KS-2' joint (Double Reinforced Section).

Extend 'CD' and 'EF' joints where PCC Shoulder.

Use epoxy coated bars for all reinforcement.

Polymer Grid and excavation limits of Modified Subbase

Extend 'CD' and 'EF' joints where PCC Shoulder.

Saw cut joint per Detail 'B'.

Place "RD" Joint where PCC shoulder. Place 'B' joint otherwise.

3/8 inch Preformed Joint Filler and seal top.

Place an "X" in the plastic concrete near the "EF" joint at 2 feet outside of pavement edge.

Build 4 inch Sloped Curb to end of Reinforced Sections.

For joint details, see PV-101.

For curb details, see Detail 'G'.

All transverse bars are #5.

Use epoxy coated bars for all reinforcement.

Quantities for both the 1'-9" top part of the sleeper slab and the 6'-3" portion under the approach pavement have been included in the double reinforced section quantities.

Build 4 inch Sloped Curb to end of Reinforced Sections.

Longitudinal Joint (PV-101): Single Pour - Saw cut joint per Detail 'B'.

Two Pours - Use 'KS-1' joint (Single Reinforced Section)

Use 'KS-2' joint (Double Reinforced Section).

Extend 'CD' and 'EF' joints where PCC Shoulder.

Use epoxy coated bars for all reinforcement.

Polymer Grid and excavation limits of Modified Subbase

Extend 'CD' and 'EF' joints where PCC Shoulder.

Saw cut joint per Detail 'B'.

Place "RD" Joint where PCC shoulder. Place 'B' joint otherwise.

3/8 inch Preformed Joint Filler and seal top.

Place an "X" in the plastic concrete near the "EF" joint at 2 feet outside of pavement edge.

Build 4 inch Sloped Curb to end of Reinforced Sections.

For joint details, see PV-101.

For curb details, see Detail 'G'.

All transverse bars are #5.

Use epoxy coated bars for all reinforcement.

Quantities for both the 1'-9" top part of the sleeper slab and the 6'-3" portion under the approach pavement have been included in the double reinforced section quantities.

Build 4 inch Sloped Curb to end of Reinforced Sections.

Longitudinal Joint (PV-101): Single Pour - Saw cut joint per Detail 'B'.

Two Pours - Use 'KS-1' joint (Single Reinforced Section)

Use 'KS-2' joint (Double Reinforced Section).

Extend 'CD' and 'EF' joints where PCC Shoulder.

Use epoxy coated bars for all reinforcement.

Polymer Grid and excavation limits of Modified Subbase

Extend 'CD' and 'EF' joints where PCC Shoulder.

Saw cut joint per Detail 'B'.

Place "RD" Joint where PCC shoulder. Place 'B' joint otherwise.

3/8 inch Preformed Joint Filler and seal top.

Place an "X" in the plastic concrete near the "EF" joint at 2 feet outside of pavement edge.

Build 4 inch Sloped Curb to end of Reinforced Sections.

For joint details, see PV-101.

For curb details, see Detail 'G'.

All transverse bars are #5.

Use epoxy coated bars for all reinforcement.

Quantities for both the 1'-9" top part of the sleeper slab and the 6'-3" portion under the approach pavement have been included in the double reinforced section quantities.

Build 4 inch Sloped Curb to end of Reinforced Sections.

Longitudinal Joint (PV-101): Single Pour - Saw cut joint per Detail 'B'.

Two Pours - Use 'KS-1' joint (Single Reinforced Section)

Use 'KS-2' joint (Double Reinforced Section).

Extend 'CD' and 'EF' joints where PCC Shoulder.

Use epoxy coated bars for all reinforcement.

Polymer Grid and excavation limits of Modified Subbase

Extend 'CD' and 'EF' joints where PCC Shoulder.

Saw cut joint per Detail 'B'.

Place "RD" Joint where PCC shoulder. Place 'B' joint otherwise.

3/8 inch Preformed Joint Filler and seal top.

Place an "X" in the plastic concrete near the "EF" joint at 2 feet outside of pavement edge.

Build 4 inch Sloped Curb to end of Reinforced Sections.

For joint details, see PV-101.

For curb details, see Detail 'G'.

All transverse bars are #5.

Use epoxy coated bars for all reinforcement.

Quantities for both the 1'-9" top part of the sleeper slab and the 6'-3" portion under the approach pavement have been included in the double reinforced section quantities.

Build 4 inch Sloped Curb to end of Reinforced Sections.

Longitudinal Joint (PV-101): Single Pour - Saw cut joint per Detail 'B'.

Two Pours - Use 'KS-1' joint (Single Reinforced Section)

Use 'KS-2' joint (Double Reinforced Section).

Extend 'CD' and 'EF' joints where PCC Shoulder.

Use epoxy coated bars for all reinforcement.

Polymer Grid and excavation limits of Modified Subbase

Extend 'CD' and 'EF' joints where PCC Shoulder.

Saw cut joint per Detail 'B'.

Place "RD" Joint where PCC shoulder. Place 'B' joint otherwise.

3/8 inch Preformed Joint Filler and seal top.

Place an "X" in the plastic concrete near the "EF" joint at 2 feet outside of pavement edge.

Build 4 inch Sloped Curb to end of Reinforced Sections.
Double Reinforced Section (20'-0" min.)

- #5 Bars at 12" max. Centers
- Full Length of Paving Notch through drilled holes

Single Reinforced Section (20'-4")

- CF-Joint
- 2" Preformed Joint Filler and Seal Top

Non-Reinforced Section

- Approach Pavement
- Steel Rod
- Resilient Joint Filler
- Modified Subbase
- Modified Joint Filler
- Polymer Grid

PARTIAL PLAN VIEW

- Double Reinforced Section
- Single Reinforced Section
- Sleeper Slab
- Preformed Joint Filler
- Galvanized End Plate

END VIEW

- Double Reinforced Section
- Single Reinforced Section
- Sleeper Slab
- Preformed Joint Filler
- Galvanized End Plate

DETAIL 'A'

(Slab Bridge)

DETAIL 'B'

Sleeper Slab

Approach Pavement

Steel Rod

Resilient Joint Filler

Modified Joint Filler

Polymer Grid

DETAIL 'C'

(Slab Edge Details for CF Joint with Curb)
SECTION THRU CENTERLINE
(Abluting PCC or Composite Pavement)

Pay Limits for Contract Item

10'-0"
12" min.

'EF' Joint

Subbase
Modified Subbase
Polymer Grid

4" Perforated Subdrain

12" min.

'CD' Joint

'DW' or 'RT' Joint
Abutting PCC or Composite Pavement

SECTION THRU CENTERLINE
(Abluting HMA Pavement)

Pay Limits for Contract Item

10'-0"
12" min.

'EF' Joint

Subbase
Modified Subbase
Polymer Grid

4" Perforated Subdrain

12" min.

'CD' Joint

'DW' or 'RT' Joint
Abutting HMA Pavement

If abutting pavement (PCC or HMA) is not in place, refer to BR-213.

DETAIL 'D'
(Doweled PCC Pavement)

BR-213

REVISION
04-20-21

SHEET 3 of 4

STANDARD ROAD PLAN
BR-205

DOUBLE REINFORCED 12" APPROACH
(SLAB BRIDGE)
- DETAIL 'G'
  - Joint Placement
  - Back of Curb Placement

- DETAIL 'F'
- DETAIL 'H'
- 8" Gutter Line
- Curb per Detail 'G'
- Bridge Floor
- Bridge Rail End Section
- Provide 2" Preformed Joint Filler and seal top
- Joint Filler and seal top
- Preformed Joint Filler and seal top
- See Detail 'H'

- DETAIL 'Y'
  - (Back of Curb Placement)

- DETAIL 'G'
  - 1"
  - 4"
  - 2"

REVISIONS:
- Modified #4 Bars at 12" Centers to #5 Bars.

APPROVED BY DESIGN METHODS ENGINEER
Approach Roadway

- See Project Typical Drawings

Design Shoulder

See DR-306 for outlet details

Include the following areas:

- Pay limits for contract item
- Double Reinforced Section
- Single Reinforced Section
- Non-Reinforced Section

Double Reinforced Section

Single Reinforced Section

Non-Reinforced Section

For joint details, see PV-101.

1. Build 4 inch Sloped Curb to end of Double Reinforced Section.
2. See BR-201, BR-202, BR-203, or BR-204.
3. Longitudinal Joint (PV-103):
   - Single Pour - Saw cut joint per Detail B, Two Pours - Use 'KS-1' joint (Single Reinforced Section).
   - Use 'KS-2' joint (Double Reinforced Section).
4. Extend 'CD' and 'EF' joints where PCC Shoulder.
5. Polymer Grid and excavation limits of Modified Subbase 2 feet outside of pavement edge. See BR-201, BR-202, BR-203, or BR-204.
6. Slope subdrain to drain.
7. Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.
8. Place "RD" Joint where PCC Shoulder. Place "B" Joint otherwise.
9. Extend 'CD' and 'EF' joints where PCC Shoulder.
10. Use 'KS-1' joint (Single Reinforced Section).
11. Two Pours - Use 'KS-1' joint (Single Reinforced Section).
12. Joint (See Project Typical Drawings).
13. Possible Contraction Joint.
14. P.C.C. or Composite Pavement
15. Approach Roadway
16. See Detail D
17. See Detail D
18. 4" Perforated Subdrain (Polyethylene, Corrugated Tubing)
19. See DR-306 for outlet details

PLAN VIEW
Pay limits for contract item include the following areas:

- **Double Reinforced Section**
- **Single Reinforced Section**
- **Non-Reinforced Section**

For joint details, see PV-101.

1. Build 4 inch Sloped Curb to end of Double Reinforced Section.
2. See BR-201, BR-202, BR-203, or BR-204.
3. Longitudinal Joint (PV-101):
   - Single Pour - Saw cut joint per Detail B.
   - Two Pours - Use 'KS-1' joint (Single Reinforced Section).
   - Use 'KS-2' joint (Double Reinforced Section).
4. Extend 'CD' joints where PCC Shoulder.
5. Polymer Grid and excavation limits of Modified Subbase 2 feet outside of pavement edge. See BR-201, BR-202, BR-203, or BR-204.
6. Place 'RD' joint where PCC shoulder. Place 'B' joint otherwise.

- Place two joints - use 'KT-2' or L-2.
- Design Shoulder (See Project Typical Drawings)
For Jointing Details, see PV-101.

If abutting pavement (PCC or HMA) is not in place when bridge approach pavement is constructed, the following procedure applies:

1. The paving contractor of the bridge approach pavement paves Additional Pavement (as shown in Detail 'A'), constructs 'C' joint at end of bridge approach section, and leaves in this state.

2. The paving contractor of the abutting pavement saw cuts full depth at 'C' joint and removes Additional Pavement (see Detail 'B'), then constructs 'RT' joint or 'B' joint, accordingly (see Detail 'C').

3. The paving contractor of the abutting pavement constructs 'RT' joint or 'B' joint, accordingly (see Detail 'C').

This work is incidental to other work as follows:

Detail 'A': Bridge Approach, BR-203.

Details 'B' and 'C': Standard or Slip Form PCC Pavement, or Hot Mix Asphalt Mixture.
Build 4 inch Sloped Curb, unless noted otherwise in the plans. See BR-201, BR-202, BR-203, or BR-204.

Longitudinal Joint (PV-101):
- Single Pour - Saw cut joint per Detail B.
- Two Pours - Use "KS-1" joint (Single Reinforced Section). Use "KS-2" joint (Double Reinforced Section).

Polymer Grid and excavation limits of Modified Subbase 2 feet outside of pavement edge. See BR-201, BR-202, BR-203, or BR-204.

Slope subdrain to drain.

Place an "X" in the plastic concrete near the "EF" joint at the outside edge of pavement.

4 inch perforated subdrain (polyethylene, corrugated tubing). See DR-333 or DR-306 for outlet details.

"DW" or "RT" joint.

For joint details, see PV-101.

Pay limits for contract item include the following areas:

- Double Reinforced Section
- Single Reinforced Section
- Non-Reinforced Section

Includes the following areas:
- Pay limits for contract item
- Double Reinforced Section
- Single Reinforced Section
- Non-Reinforced Section
- Pavement
- P.C.C.

"E" Joint

Normal Pavement Slope

Polymer Grid

Modified Subbase

Excavation Limits

SECTION C-C

PLN

APPROACH ROADWAY

PLAN

pay limits for contract item include the following areas:

- double reinforced section
- single reinforced section
- non-reinforced section

includes the following areas:

- pay limits for contract item
- double reinforced section
- single reinforced section
- non-reinforced section
- pavement
- p.c.c.

"e" joint

normal pavement slope

polymer grid

modified subbase

excavation limits

section c-c

plan

approach roadway

plan

approach roadway

approach roadway

approach roadway

approach roadway

approach roadway
PV-101

For joint details, refer to PV-101.

For curb details, see Detail 'F'.

All transverse bars are #5.

1. 2” min. to 2 1/2” max. clear to bent bar.
2. Minimum lap length: #5 Bars - 38”
   #6 Bars - 45”
   #8 Bars - 56”
3. If bridge is skewed, place additional #5 bar parallel to skewed face.

GENERAL NOTES:

- All concrete is standard ready-mix.
- The designer has already calculated and approved the required amount of concrete for the project.
- The construction details presented are intended to guide the contractor in the execution of the work.
- Any deviations from the standard procedures must be approved by the designer.

DOUBLE REINFORCED 10” APPROACH ON GRAVEL ROADS

BENT BAR SHAPES

DETAIL 'A'

(All Abutments)

Possible Contract Item:
Bridge Approach, BR-241

Possible Tabulation:
112-6

Possible Tabulation:

DETAIL 'B'

Approach Pavement
Dowel to be Placed with Bridge. Do not bend.

DETAIL 'C'

(Pavement Bevel)

4 Mil Polyethylene Sheeting

Special Backfill

Resilient Joint Filler

#4 bars at 12” Centers

#6 Bars at 12” Centers

Steel Rod

2” (min.) to 2 1/2” (max.) Lap

D=2”

3/8” dia. x 24” Steel Rod, Place at 32” + Spacing Full Length of Paving Notch through drilled holes

2” thick x 16” Wide Resilient Joint Filler Placed Full Length of Paving Notch

See Detail 'C'

See Detail 'B'

REVISION

New.

APPROVED BY DESIGN METHODS ENGINEER

STANDARD ROAD PLAN

BR-241

REVISIONS:

New.

ON GRAVEL ROADS

DOUBLE REINFORCED 10” APPROACH ON GRAVEL ROADS
Longitudinal joint (PV-101):
Single pour - Saw cut joint per Detail B.
Two pours - Use "KS-2" joint.

Two pours - Use "KS-2" joint.

Plan View:
- Bridge Rail End Section (typ.)
- Bridge Deck
- Skew Angle

Section Thru Centerline:
- Double Reinforced Section
- As required by skew angle
- Excavate to existing Granular Backfill line

Section A-A:
- Normal Pavement Slope
-特写
- Earth
- Special Backfill
- Excavation Limits

Approach Roadway:
- Car per Detail F
- 20'-0" min. CL Roadway

Approaching Gravel Roadway:
- 15'-0" min.
- 24'

Approaching Bridge Deck:
- Pay Limits for Contract Item
- See Detail 'A'

Approaching Gravel Roadway:
- 6"
DETAIL 'D'
(Joint Placement and Curb)

BRIDGE RAIL END SECTION

Curb per Detail 'F'

12" BEVEL AREA

6" CURB RAMP

DETAIL 'E'
(Back of Curb Placement)

BRIDGE RAIL END SECTION

GUTTER LINE

Curb per Detail 'F'

DETAIL 'F'

12" BEVEL AREA

6" CURB RAMP

8"