**DESIGNER NOTES**

- **Semi-Expansion Seat**
  - When required as stated in Chapter 12, with Section 502.3.5.3 Standard Specifications.
  - Concrete poured under water will be allowed and shall be done in accordance with theDesigner Notes.
  - The semi-expansion seat shall be used when the top of girder slopes more than 1%, slope the beam seat where necessary. See Figure 12.7-1 of the Bridge Manual or whenever a wing pile is required.

- **Concrete Poured Under Water**
  - When body section is > 50'-0" long, provide vertical construction joints on backface.
  - Use 3/4" thick filler for slab structures.
  - Use 2'-3" for girder spans with a structural approach slab. (Std. 12.10)
  - Use 1'-7" for slab spans with a structural approach slab. (Std. 12.10)
  - Use 1'-11" for girder spans with a paving notch, but no structural approach slab.
  - Use 1'-3" for slab spans with a paving notch, but no structural approach slab. (Std. 12.10)
  - Use 1'-6" for girder spans with no paving notch, but where 36W", 45W", 54", 54W", 70", 72W" or 82W" girders are used, and skew > 25°.

- **Steel Bars and Dowel Bars**
  - Shall be epoxy coated.
  - Splice, lap lengths for horizontal bars shall be based on a "Class C" top tension lap space.
  - Wing bars and corbel bars shall be epoxy coated.
  - Joint filler. Length of horizontal bars shall be extended as shown in Figure 12.2, Figure 12.4 of the bridge manual or Appendix A on a wing pile if required.

- **Concrete Poured Under Water**
  - When the bottom of girder slopes more than 1%, slope the beam seat where necessary. See Standard 12.08 for details.

- **Slab Spans**
  - Use 2'-3" for girder spans with a structural approach slab. (Std. 12.10)
  - Use 1'-7" for slab spans with a structural approach slab. (Std. 12.10)
  - Use 1'-11" for girder spans with a paving notch, but no structural approach slab.
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**DESIGNER NOTES**

- The type of wing should be used when possible in lieu of wings parallel to the roadway, not for wings parallel to the roadway, with water elevation at bridge.
- Use anchors the unstable classes which are sometimes encountered in stability considerations.
- The wing length of the construction joint shall be measured from the centerline of the wing, after the wing end posts are in place.
- All wing bars shall be epoxy coated.

**LRFD DESIGN LOADS (WINGS)**

<table>
<thead>
<tr>
<th>Wing Length</th>
<th>Wing Height</th>
<th>Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1'-0&quot;</td>
<td>0.6 Wing Length</td>
<td>#4 BARS @ 1'-0&quot; F.F.</td>
</tr>
<tr>
<td>2'-0&quot;</td>
<td>2'-1&quot;</td>
<td>#4 BARS @ 1'-0&quot; F.F.</td>
</tr>
<tr>
<td>3'-0&quot;</td>
<td>2'-9&quot;</td>
<td>#4 BARS @ 1'-0&quot; F.F.</td>
</tr>
<tr>
<td>4'-0&quot;</td>
<td>3'-8&quot;</td>
<td>#4 BARS @ 1'-0&quot; F.F.</td>
</tr>
<tr>
<td>5'-0&quot;</td>
<td>4'-7&quot;</td>
<td>#4 BARS @ 1'-0&quot; F.F.</td>
</tr>
</tbody>
</table>

**WING PILE REQUIRED**

- 10'-0": 5-#5's, 2-#5's, 4-#6's
- 12'-0": 6-#5's, 2-#5's, 5-#7's, 2-#7's, 6-#8's, 2-#8's, 7-#9's, 2-#9's
- 16'-0": 8'-6" length

**WING ELEVATION**

- Wing pile required for wings over 16'-6" only.

**SECTION A-A**

- See standard for notes & details

**SECTION B-B**

- See standard for notes & details

**TABLE A**

<table>
<thead>
<tr>
<th>Wing Length</th>
<th>Wing Height</th>
<th>Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>10'-0&quot;</td>
<td>0.6 Wing Length</td>
<td>2-#4 BARS</td>
</tr>
<tr>
<td>12'-0&quot;</td>
<td>2'-1&quot;</td>
<td>2-#4 BARS</td>
</tr>
<tr>
<td>16'-0&quot;</td>
<td>2'-9&quot;</td>
<td>2-#4 BARS</td>
</tr>
</tbody>
</table>

**PLAN FOR TYPE A1 ABUTMENT**

- See standard for notes & details

**SECTION**

- See standard for notes & details
**Alternate Construction Joint**

- **Abutment Body Section A-A**
  - Abutment width: 2"
  - Notes: 2" Chamfer strips

- **Pier Cap Section Thru**
  - Pier cap width: B
  - Notes: 2" Channeled strips

- **Alternate Construction Joint at Pier Cap**
  - Use a joint tool to construct a contraction joint approximately 1/8" deep.
  - Bend zinc or plastic strip.

- **Alternate Construction Joint at Abutment**
  - Approved: Bill Oliva
  - Date: 1-18

**Notes**
- Joint is not allowed.
- Care is to be used in casting concrete around joints to prevent dislocation or misalignment of the members.
- Vertical construction joint keyway is not required when using alternate construction joint.
- Use a joint tool to construct a contraction joint approximately 1/8" deep.
- Bend zinc or plastic strip.

**Bureau of Structures**

**Standard 12.09**
NO FILLER, NO GAP

SECTION E-E

SECTION THRU APPROACH SLAB

SECTION F-F

SECTION G-G

LEGEND

STEEL SHIELD THE SURFACE OF ERODING AND PLACE MULTIPLE LAYERS OVER THE ENTIRE TOP OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

PLACE MULTIPLE LAYERS OVER THE ENTIRE TOP OF SUBGRADE UNDER SLAB.

MEASURED NORMAL TO ABUTMENT.

FOLLOW ROW ARRANGEMENT REQUIREMENTS FOR ROADWAY APPROACH.

SECTION REPRESENTATIVE OF SIMILAR LOCATION AS SHOWN ON STANDARD SLAB FOR DIFFERENT APPLICATION.

* THE PAVEMENT FILLER AND CONCRETE SHEET SHALL BE STANDARD SPECIFICATION 300-300 1000 FILLER WITH FILLER ACCORDING TO PARAPET ON STRUCTURAL APPROACH SLAB. AND ADD STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH PRIOR TO POURING STRUCTURAL APPROACH SLAB.

STRUCTURAL APPROACH SLAB.

TO PAVING NOTCH PRIOR TO POURING APPLY PROTECTIVE SURFACE TREATMENT STRUCTURAL APPROACH SLAB.

DESIGNER NOTES

SEE CHAPTER 30 FOR PARAPETS ON STRUCTURAL APPROACH SLAB DETAILS.

SECTIONS A-A THRU G-G ARE FROM STANDARD SLAB.

STANDARD 12.12

BILL OLIVA
PARTIAL PLANS shown here are from standard 12.10

LEGEND

A. Seal all exposed horizontal and vertical surfaces of 1" deep polystyrene sheet 1" deep and hold ½" below surface of concrete.

* Note: See plans representative of similar location as shown on standards 12.10 for different applications.