**TABLE A**

<table>
<thead>
<tr>
<th>LENGTH</th>
<th>BARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10'-0&quot;</td>
<td>5-#5's, 2-#5's, 4-#6's</td>
</tr>
<tr>
<td>12'-0&quot;</td>
<td>5-#5's, 2-#5's, 4-#6's</td>
</tr>
<tr>
<td>16'-0&quot;</td>
<td>5-#5's, 5-#6's, 2-#7's</td>
</tr>
<tr>
<td>20'-0&quot;</td>
<td>5-#5's, 5-#6's, 2-#7's</td>
</tr>
</tbody>
</table>

**WING HEIGHT**

<table>
<thead>
<tr>
<th>LENGTH</th>
<th>BARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10'-0&quot;</td>
<td>6-#5's, 2-#5's, 5-#6's, 2-#7's</td>
</tr>
<tr>
<td>11'-6&quot;</td>
<td>6-#7's, 2-#8's, 5-#9's, 2-#9's</td>
</tr>
<tr>
<td>13'-0&quot;</td>
<td>7-#9's, 2-#9's, 8-#9's</td>
</tr>
</tbody>
</table>

**DETAILS FOR WINGS PARALLEL TO A1 ABUTMENT CENTERLINE**

- All wing bars shall be epoxy coated.
- 2'-0" MIN. PRIVATE WORKERS OR HOMESTEAD CAN BE USED AS WING WALL.
- Use 2"³:1 for the unstable clays which are sometimes encountered in northwest wisconsin.
- Concrete masonry unit is required on the outside face of the wing when used as piers, piers, or abutments.
- Pipe underdrain is optional for wing walls.
- Interim to the wing should be used when possible in lieu of wing walls.

**LRFD DESIGN LOADS (WINGS)**

- For wings over 12'-0" long, 4-#6 "L" shaped bars (1'-0" legs) are required.
- For wings over 16'-6" long, only 4-#5 "L" shaped bars (1'-0" legs) are required.
- Concrete masonry unit is required on the outside face of the wing when used as piers, piers, or abutments.
- Pipe underdrain is optional for wing walls.
- Interim to the wing should be used when possible in lieu of wing walls.

**WING ELEVATION**

- Wing pile required for wings over 16'-6" only.
- All wing bars shall be epoxy coated.
- 2'-0" MIN. PRIVATE WORKERS OR HOMESTEAD CAN BE USED AS WING WALL.
- Use 2"³:1 for the unstable clays which are sometimes encountered in northwest wisconsin.
- Concrete masonry unit is required on the outside face of the wing when used as piers, piers, or abutments.
- Pipe underdrain is optional for wing walls.
- Interim to the wing should be used when possible in lieu of wing walls.

**SECTION A-A**

- Show all longitudinal bars for clarity.
- All wing bars shall be epoxy coated.

**SECTION B-B**

- All wing bars shall be epoxy coated.
- 2'-0" MIN. PRIVATE WORKERS OR HOMESTEAD CAN BE USED AS WING WALL.
- Use 2"³:1 for the unstable clays which are sometimes encountered in northwest wisconsin.
- Concrete masonry unit is required on the outside face of the wing when used as piers, piers, or abutments.
- Pipe underdrain is optional for wing walls.
- Interim to the wing should be used when possible in lieu of wing walls.

**ADDITIONAL DETAILS**

- Use 2"³:1 for the unstable clays which are sometimes encountered in northwest wisconsin.
- Concrete masonry unit is required on the outside face of the wing when used as piers, piers, or abutments.
- Pipe underdrain is optional for wing walls.
- Interim to the wing should be used when possible in lieu of wing walls.

**WING TRAVELING UP STATION.**

- Locate name plate on first right hand pile.
- Name plate only for type "W", "M", "W", or "M", or where used as piers, piers, or abutments.
- Pipe underdrain is optional for wing walls.
- Interim to the wing should be used when possible in lieu of wing walls.
DESIGNER NOTES

FOR SLAB AND PRESTRESSED CONCRETE SPANS L < 200'-0" FOR STEEL GIRDERS SPANS L < 150'-0" WHERE L = LENGTH OF CONTINUOUS SUPERSTRUCTURE BETWEEN ABUTMENTS.

WING BARS AND DOWEL BARS SHALL BE EPOXY COATED.

WHEN BODY SECTION IS > + 50'-0" LONG, PROVIDE VERT. CONST. JOINT. RUN BAR STEEL THRU JOINT. BEVEL EXPOSED EDGES AND SEAL JOINT. SEE STD. 12.09 FOR ALTERNATE CONSTRUCTION.

LAP LENGTH FOR HORIZONTAL BARS SHALL BE BASED ON A "CLASS C" TOP TENSION LAP SPLICE. 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.

USE 1'-11" FOR GIRDER SPANS WITH NO PAVING NOTCH, BUT WHERE 36W", 45W", 54", 60W", 70", 72W" OR 82W" GIRDERS ARE USED, AND SKEW > 25°.

USE 1'-6" FOR GIRDER SPANS WITH NO PAVING NOTCH, BUT WHERE 36W", 45W", 54", 60W", 70", 72W" OR 82W" GIRDERS ARE USED, AND SKEW > 25°.

USE 1'-3" FOR SLAB SPANS AND FOR GIRDER SPANS WITH NO PAVING NOTCH.

HEAVY RIPRAP TO BE DESIGNED, SHEET METAL "H" OR C-I-P CONC., PILES TO BE DESIGNED. ONE HALF PILE SPA. MAX. 12'-0" MAX.

EDGE OF DECK TO BE DESIGNED. MAX. SPA. 8'-0". (STEEL "H" OR C-I-P CONC.)

WING WALL ON F.F. OF ABUTMENT.

WING DETAIL FOR SKewed STRUCTURES

SECTION A-A

TYP, SECTION THRU ABUTMENT BODY

ELEVATION

PLAN

EDGE OF DECK

ABUTMENT A5 (INTEGRAL, PILE ENCASED ABUTMENT)

ADDITIONAL DETAILS

(SEE STD. 9.01 FOR WRAPPED (6-INCH) PIPE UNDERDRAIN)

PIPE UNDERDRAIN

APPROVED:

DATE: 1-19

Bill Oliva

STANDARD 12.08
STRUCTURAL APPROACH SLAB DETAILS 2

LEGEND
- Steel shoe, top surface of footing and place multiple layers (0.03") of polyethylene sheets over the entire top of subgrade below slab.
- Measures normal to abutment.
- Follow row showing requirements for roadway approach pavement.
- Section dimensions of similar location as shown on standard slab for different application.
- The bid item for ss901 and ss601 bars shall be standard special provision for reinforcing stainless steel structures.
- Rod bars to be used for structural approach slab steel and adjust steel before structural approach slab is poured.

DESIGNER NOTES
- See chapter 10 for parapets on structural approach slab details.
- Sections E-E thru G-G are from standard slab.

NO FILLER, NO GAP

SECTION E-E

SECTION F-F

SECTION G-G

SECTION THRU APPROACH SLAB

OUTSIDE ELEVATION

PLAN

SECTION G-G

CONCRETE ABUTMENT & ABUTMENT

CONCRETE ABUTMENT & ABUTMENT

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.

DECK EDGE OF PAVING

DESIGNER NOTES
- See chapter 10 for parapets on structural approach slab details.
- Sections E-E thru G-G are from standard slab.

NO FILLER, NO GAP

SECTION E-E

SECTION F-F

SECTION G-G

SECTION THRU APPROACH SLAB

OUTSIDE ELEVATION

PLAN

SECTION G-G

CONCRETE ABUTMENT & ABUTMENT

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DESIGNER NOTES
- See chapter 10 for parapets on structural approach slab details.
- Sections E-E thru G-G are from standard slab.

NO FILLER, NO GAP

SECTION E-E

SECTION F-F

SECTION G-G

SECTION THRU APPROACH SLAB

OUTSIDE ELEVATION

PLAN

SECTION G-G

CONCRETE ABUTMENT & ABUTMENT

CONCRETE ABUTMENT & ABUTMENT

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.

DECK EDGE OF PAVING