SECTION THRU FORMLINER

- Structural concrete can only be assumed to retain the load imposed. Design structural details as necessary to maintain required fill strength. Concrete dimensions as indicated on the standards.

FORMLINER DETAILS

RETAINING WALL NOTES
- Formliner coursing on retaining walls shall be level.

ABUTMENT NOTES
- Formliner coursing on abutments and hinges shall be level.
- The formliner coursing on the hinges shall be vertically aligned with the formliner coursing on the face of the abutment.
- The formliner pattern shall be continuous across construction joints.
- Interpretation of formliner pattern at corners.

PIER NOTES
- Formliner coursing on piers shall be level.
- The formliner coursing on all faces of each column shall be vertically aligned.
- Space adjacent formliners or formliner on slope face so that coursing is slanted vertically with coursing on vertical face.
- The formliner pattern shall be continuous across construction joints.
- Interpretation of formliner pattern at corners.

PARAPET NOTES
- Formliner coursing on parapets shall be parallel to top of parapets.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DEVELOPMENT SECTION

APPROVED: Bill Oliva

STANDARD 4.01
**DESIGNER NOTES**

Provide 4" HR clear between anchor bolts and reinforcement.

For pier caps up to 36" PEE, provide at least one 3/4" HR clearance between reinforcing bars for anchor bolts for caps larger than 36" PEE, provide at least two bars.*

Show anchors locations on pier cap sheets.

Reinforcement layout similar to pier cap reinforcement layouts.

**NOTE**

Provide transverse stirrup bars as needed to provide 3 3/4" HR clear between anchor bolts and reinforcement.
**Designer Notes**

The details shown on the drawings on the page are for general guidance and may be subject to change.

- **Concrete:** The concrete should be at least 4,000 MPa (550 psi) in compression strength.
- **Steel:** Steel bars should have a yield strength of at least 400 MPa (58000 psi).
- **Adhesive:** Adhesive anchors should have a bond strength of at least 10 MPa (1450 psi).

**Section A-A**

- **Concrete Footing:** The concrete footing should be at least 20 cm (8 inches) thick.
- **Base Aggregate:** The base aggregate should be crushed stone with a maximum size of 25 mm (1 inch).
- **Select Aggregate:** The select aggregate should be a mix of gravel and sand with a maximum size of 15 mm (0.6 inches).
- **Depth of Select Aggregate:** The depth of the select aggregate should be at least 10 cm (4 inches).

**Section B-B**

- **Concrete Footing:** The concrete footing should be at least 20 cm (8 inches) thick.
- **Base Aggregate:** The base aggregate should be crushed stone with a maximum size of 25 mm (1 inch).
- **Select Aggregate:** The select aggregate should be a mix of gravel and sand with a maximum size of 15 mm (0.6 inches).
- **Depth of Select Aggregate:** The depth of the select aggregate should be at least 10 cm (4 inches).

**Adhesive Anchor Layout**

- **Provide 1-inch level or flush anchor on concrete barrier detail(s).**
- **Bar Bending Diagrams:**
  - Bar dimensions are cut to cut-out bar.

**5-inch Vertical Concrete Barrier and Transition**

- **See standard 5-H for further details.**

**Integral Barrier Details**

**State of Wisconsin Department of Transportation**

**Appointed:** Bill Oliva

**Standard 13.11**
CAST-IN-PLACE CONCRETE TRAFFIC BARRIER DETAIL FOR PRECAST WALL PANELS

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPET AND ANCHOR SLAB BETWEEN EXPANSION JOINTS MAY BE USED. NON-BAR REINFORCEMENT SHALL BE PLACED ATестественнее контекстное значение
EXPANSION JOINTS IN PARAPET BARS.

CAST-IN-PLACE CONCRETE TRAFFIC BARRIER DETAIL FOR CAST-IN-PLACE WALL PANELS

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPET AND ANCHOR SLAB BETWEEN EXPANSION JOINTS MAY BE USED. NON-BAR REINFORCEMENT SHALL BE PLACED AT EXPANSION JOINTS IN PARAPET BARS.

TRAFFIC BARRIER EXPANSION JOINT DETAIL

ANCHOR SLAB EXPANSION JOINT DETAIL

COPING EXPANSION JOINT DETAIL

NOTE: AVOID SPACING SMALLER THAN 5/8".

ANCHOR SLAB EXPANSION JOINT DETAIL

COPING EXPANSION JOINT DETAIL

NOTE: AVOID SPACING SMALLER THAN 5/8".

ANCHOR SLAB EXPANSION JOINT DETAIL

COPING EXPANSION JOINT DETAIL

NOTE: AVOID SPACING SMALLER THAN 5/8".

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ANCHOR SLAB EXPANSION JOINT DETAIL

COPING EXPANSION JOINT DETAIL

NOTE: AVOID SPACING SMALLER THAN 5/8".

ANCHOR SLAB EXPANSION JOINT DETAIL

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ANCHOR SLAB EXPANSION JOINT DETAIL

COPING EXPANSION JOINT DETAIL

NOTE: AVOID SPACING SMALLER THAN 5/8".

ANCHOR SLAB EXPANSION JOINT DETAIL

COPING EXPANSION JOINT DETAIL

NOTE: AVOID SPACING SMALLER THAN 5/8".

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COPING EXPANSION JOINT DETAIL

NOTE: AVOID SPACING SMALLER THAN 5/8".

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ANCHOR SLAB EXPANSION JOINT DETAIL

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ANCHOR SLAB EXPANSION JOINT DETAIL

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NOTE: AVOID SPACING SMALLER THAN 5/8".

ANCHOR SLAB EXPANSION JOINT DETAIL

COPING EXPANSION JOINT DETAIL

NOTE: AVOID SPACING SMALLER THAN 5/8".
28" GIRDERS

\[ A = 32 \times 50.84 \text{ in}^2 \]
\[ f_c' = 270,000 \text{ psi} \]
\[ f_t = 0.75 \times 270,000 = 202,500 \text{ psi} \]

For low relaxation strands:

\[ f_y = 186 \text{ ksi} \]
\[ f_y = 13.48 \text{ ksi} \]
\[ f_y = 10.0 \text{ ksi} \]

\[ P_{\text{PER}} = 0.5 \times 298 \text{ ksi} = 149 \text{ ksi} \times 202,500 = 31,000 \text{ kips} \]

\[ P_{\text{PER}} = 0.4 \times 298 \text{ ksi} = 0.27 \times 202,500 = 43,440 \text{ kips} \]

\[ \frac{28,687 \text{ kips}}{32,500 \text{ kips}} = 0.88 \]

* Needs bond breakers at ends. * Indicates strand to be epoxied.

** Standard Arrangements to Raise Center of Gravity to Avoid Draping of 0.6" Dia. Strands (0.5" Dia. strands may also be used).**

<table>
<thead>
<tr>
<th>NO. STRANDS</th>
<th>D (INCHES)</th>
<th>PITCH x 1.25 (KIPS)</th>
<th>E/(HAT x 1.25) (KIPS/FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Strands</td>
<td>-1.84</td>
<td>322</td>
<td>2.242</td>
</tr>
<tr>
<td>10 Strands</td>
<td>-2.42</td>
<td>434</td>
<td>3.408</td>
</tr>
<tr>
<td>12 Strands</td>
<td>-2.75</td>
<td>547</td>
<td>3.645</td>
</tr>
<tr>
<td>14 Strands</td>
<td>-3.09</td>
<td>660</td>
<td>3.864</td>
</tr>
<tr>
<td>16 Strands</td>
<td>-3.41</td>
<td>773</td>
<td>4.069</td>
</tr>
</tbody>
</table>

** Standard Strands Patterns for Unbroken Strands (0.6" Dia.).**

** Standard Strands Patterns for Draped Strands (0.5" Dia.).**

** Bond Breaker Details:**

Designer Notes:

On the strand pattern sheet, place a bond breaker with strand pattern that applies to the designed structure.

**28" Prestressed Girder Design Data**

[State of Wisconsin]
[Department of Transportation]
[Structures Development Section]

Approved:  
Signed:  
Date:  

Standard: 9A02
36" GIRDER

A = 369 SQ. IN.

\( \frac{c^2}{K_1} = 158.15 \) IN.

\( K_1 = 20.17 \) IN.

\( K_2 = -15.83 \) IN.

\( I = 50.976 \) IN.

\( s_y = 2.627 \) IN.

\( s_x = -5.220 \) IN.

\( \tau = 384 \ lb / ft^2 \)

PRE-TENSION

\( \frac{Y}{c^2} = \frac{270,000}{200,000} = 0.525 \)

\( \frac{Y}{c^2} = 0.525 \times 200,500 = 106,108 \) KPS

\( \frac{Y}{c^2} = 0.525 \times 200,500 = 529 \) KPS

\( \frac{2}{c^2} = -15.83 \frac{\text{in}}{\text{in}^2} = 0.0146 \text{ kips} / \text{in}^2 \)

\( \frac{\tau}{c^2} = -\frac{5.220}{384} = -0.0146 \text{ kips} / \text{in}^2 \)

\( \frac{3}{2} \frac{\tau}{c^2} = -0.0146 \text{ kips} / \text{in}^2 \)

INSTANTANEOUS MOMENTS:

<table>
<thead>
<tr>
<th>NO. of Strands</th>
<th>( h_0 ) (Inches)</th>
<th>( \phi ) (kips)</th>
<th>( \phi h_0 ) (kips-in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>-12,48</td>
<td>248</td>
<td>3,016</td>
</tr>
<tr>
<td>10</td>
<td>-12,48</td>
<td>496</td>
<td>2,094</td>
</tr>
<tr>
<td>12</td>
<td>-12,48</td>
<td>927</td>
<td>5,250</td>
</tr>
<tr>
<td>14</td>
<td>-12,48</td>
<td>927</td>
<td>5,250</td>
</tr>
<tr>
<td>16</td>
<td>-12,48</td>
<td>927</td>
<td>5,250</td>
</tr>
<tr>
<td>18</td>
<td>-12,48</td>
<td>927</td>
<td>5,250</td>
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<td>20</td>
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<td>927</td>
<td>5,250</td>
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</tr>
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</tr>
<tr>
<td>26</td>
<td>-12,48</td>
<td>927</td>
<td>5,250</td>
</tr>
</tbody>
</table>

DESIGNER NOTES
ON THE STRAND PATTERN SHEET, PLACE A BOX AROUND EACH STRAND PATTERN THAT APPLIES TO THE DESIGNED STRUCTURE.
36" GIRDERS

PRE-TENSION

\[ t_1 = 270,000 \text{ P.S.I.} \]

\[ t_2 = 0.75 \times 270,000 = 202,500 \text{ P.S.I.} \]

For low relaxation strands.

In 90°F, 0.6" Dia. Strand: 0.015 x 202,500 = 3,038 K.P.S.I.

\[ n = \frac{t_2 - t_1}{E} = \frac{202,500 - 270,000}{29,000} \]

\[ 0.015 x 202,500 = 3,038 K.P.S.I. \]

STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY
TO AVOID DRAPING OF 0.6" DIA. STRANDS

Arrangement at 6" span - for girders with draped 0.6" dia. strands

DESIGNER NOTES
ON THE STRAND PATTERN SHEET, PLACE A BOX AROUND EACH STRAND PATTERN THAT APPLIES TO THE DESIGNED STRUCTURE.

36" PRESTRESSED GIRDER DESIGN DATA

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DEVELOPMENT SECTION

APPROVED: Bill Oliva 1-98

STANDARD 19-12
### 54W GIRDER

**x = 798.50 in.**

- **t_1** = 0.75 x 270,000 = 202,500 psi
- **f_y** = 32,044 psi

- **f_t** = 11,592 psi
- **f_y** = 32,044 psi

**Design Notes:**

- **diameter of 0.6" logical Strand = 0.40**
- **Width of Strand = 0.40**
- **Area of Strand = 0.059**

**54W PRESTRESSED GIRDER DESIGN DATA**

**State of Wisconsin**

**Department of Transportation Structures Development Section**

**Bill Oliva**

**T-36**

**Standards:**

- **19.18**

---

**Arrangement at 6 Span - for Girders with Draped 0.6" Dia. Strands**

**Standard Strand Patterns for Unwrapped Strands**

<table>
<thead>
<tr>
<th>No. of Strands</th>
<th>D_H (in)</th>
<th>F_H (ksi)</th>
<th>f_y (ksi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>50</td>
<td>2.36</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>50</td>
<td>2.71</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>50</td>
<td>2.92</td>
<td></td>
</tr>
</tbody>
</table>

**Standard Strand Patterns for Draped Strands**

<table>
<thead>
<tr>
<th>No. of Strands</th>
<th>D_H (in)</th>
<th>F_H (ksi)</th>
<th>f_y (ksi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>25.5</td>
<td>1.92</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>25.5</td>
<td>1.92</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>25.5</td>
<td>1.92</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>25.5</td>
<td>1.92</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>25.5</td>
<td>1.92</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>25.5</td>
<td>1.92</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>25.5</td>
<td>1.92</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>25.5</td>
<td>1.92</td>
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</tr>
<tr>
<td>36</td>
<td>25.5</td>
<td>1.92</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>25.5</td>
<td>1.92</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>25.5</td>
<td>1.92</td>
<td></td>
</tr>
</tbody>
</table>

**Designer Notes:**

On the strand pattern sheet, place a box around each strand pattern that applies to the designed structure.
Standard Arrangements To Raise Center Of Gravity
To Avoid Draping Of 0.6" Dia. Strands

Arrangement At C Span - For Girders With Draped 0.6" Dia. Strands

72w* Girder
- \( a = 95.5 \text{ ft} \)
- \( r^2 = 753.5 \text{ ft}^2 \)
- \( Y_a = 370 \text{ kN} \)
- \( Y_a = -344.4 \text{ kN} \)
- \( I = 656,426 \text{ ft}^4 \)
- \( f_a = 18,880 \text{ kN/m} \)
- \( S_a = -20,025 \text{ kN/m} \)
- \( \gamma_a = 953 \text{ kN/ft}^3 \)

Pre-Tension
- \( \tau = 270,000 \text{ kN/ft} \)
- \( t_s = 0.75 \times 270,000 = 202,500 \text{ kN/ft} \)

For low relaxation strannds

- \( \tau = 348.7 \text{ kN/ft} \)
- \( \gamma_s = -0.0486 \text{ kN/ft}^2 \)

- \( \gamma_s \text{ (kN/ft)} = \frac{\gamma_a S_a}{I} \)
**82-W Girder**

- \( E = 980,500 \, \text{psi} \)
- \( A = 924.1 \, \text{in}^2 \)
- \( W = 453 \, \text{in} \)
- \( V = -39.68 \, \text{in} \)
- \( I = 905,453 \, \text{in}^4 \)
- \( f_1 = 23.99 \, \text{ksi} \)
- \( S_w = -22.879 \, \text{ksi} \)
- \( M_t = 10(27) \, \text{ft} \)

**Pre-Tension**

- \( f_t = 270,000 \, \text{psi} \)
- \( f_p = 0.75 \times 270,000 \, \text{psi} \)
- \( f_i = 0.65 \times 270,000 \, \text{psi} \)

For low relaxation strands:

- \( 8 \) strand 0.6-in. strand: 0.427 \times 270,000 = 115,044 kips

**Standard Arrangements to Raise Center of Gravity to Avoid Draping of 0.6-in. Dia. Strands**

- **Arrangement at 50% Span - for Girders with Draped 0.6-in. Dia. Strands**

**Designer Notes**

On the strand pattern sheet, place a box around each strand pattern that applies to the designed structure.

**82-W Prestressed Girder Design Data**

State of Wisconsin
Department of Transportation
Structures Development Section

Approved: Bill Oliva

There is currently a moratorium on the use of 82-W prestressed girder.
NOTES

The concrete for the prestressed box girders shall conform to Section 503.2 of the Standard Specifications.

An approved concrete sealer shall be applied to the bottom of the girders and the exterior face of exterior girders. Do not apply concrete sealer to the interior or to the shear key on the top of girders.

Strands shall be flush with the ends of the girders. For concrete reinforcing, the strands shall be set in with non-sagging joint sealant. For exterior girders, the shear key shall be set flush with the ends of the girders. For non-sagging joint sealant, use a product that conforms to ASTM C 305, Type C, Grade 2, Class B, or C. The sealer shall be applied at least 2 days after work has been completed and prior to the application of the sealer.

Nuts shall be lubricated and drained by casting 10-22 gal. piles at each end of the segment. Locate piles at bottom edges of the corner units, avoid strand locations.

Four jack stacks may be used to engage all 4 lifting devices on both ends of units.

Post-tensioning of the travel beams shall not be deemed to the extent between the prestressed box girders has been allowable to such for 10 years and when the section reaches a service strength of 3,000 psi.

Seal washers shall be made of material that will not be damaged by the concrete after post-tensioning.

Transition between travel beams of post-tensioning ducts shall be formed by either a circular or parallel pipe and a uniform friction of 100.

DESIGNER NOTES

The maximum recommended shear angle of the structure shall be 30 degrees.

Bean seats shall be integral with the substructure units to ensure alignment with the cross slope on super-elevation on the curve.

Beam seatings shall be parallel to grade line to grade at 90 degrees. Place elevations on plans to meet these requirements. Strands to be tensioned, maximum number of strands and strand arrangements are shown. Strand not to be replaced. Anchor beams require anchorage details at the ends of the structure. Change in design of strands available by an engineering firm.

The following specimen specimens shall be used for prestressed girders using Type G-1 (6x120,000.

See standard for shear key detail. A.

MATERIAL PROPERTIES

Concrete Masonry Blocks
- 3,000 psi

Bar Steel Reinforcement, Grade 60
- 60,000 psi

Prestressed Box Girders, Concrete Masonry
- 6,500 psi

Strands - 0.73 on ultimate tensile strength of 1.13 times the yield strength.

LEGEND

- Dimension given for a post-tensioning duct 12-in. from end of prestressed box girders.

- Dimension given for strands perpendicular to the prestressed box girders, length adjust. The dimension for strands at either prestressed box girders.

- Show strands for these strands only if required by design.

- Substitute bar on exterior edge of exterior girders, see standard details.

3'0" PRESTRESSED BOX GIRDER SECTIONS

STATE OF WASHINGTON
DEPARTMENT OF TRANSPORTATION
STRUCTURES DEVELOPMENT SECTION

APPROVED: Bill Oliva

STANDARD 19.50
BEARING NOTES

All bearings are symmetrically sized. E of Center and E of Bearing.

All material in bearings, except for stainless steel plate, tension surface, and anchor bolts, nuts, and washers shall conform to ASTM A572 Gr. 50, Structural Steel Plate, not conforming to ASTM A36. All material in bearings shall be free from rust and all edges shall be smooth, except for bearing surfaces. All material in bearings shall be free from rust and all edges shall be smooth, except for bearing surfaces.

Tension surface shall be machined to a smooth finish, and all edges shall be smooth, except for bearing surfaces.

All anchor bolts and nuts shall be sized in accordance with the dimensions of the bearing plate, and all edges shall be smooth, except for bearing surfaces.

Designer Notes

If all bearings at a given structure are not fixed at the same height, the thickness will be adjusted to accommodate expansion and contraction. For expansion bearings, the limiting range of expansion and contraction will be determined.

For expansion bearings, the limiting range of expansion and contraction will be determined.

State of Wisconsin

Department of Transportation

Structures Development Section

Approver: Bill Oliva

Standard: 27.09
DESIGNER NOTES FOR PRECAST CONCRETE STRUCTURE

BE SURE TO BE "THREE-SIDED PRECAST CONCRETE STRUCTURE".

PRECAST BRICKS WILL BE LIPPED TO SPANS NOT TO EXCEED 16".

DESIGNER MUST CHECK AND CERTIFY SIGNS AND EMBLEMS APPROVED BEFORE INCORPORATING PRECAST BRICKS IN ANY PROJECT.

CHECK FOUNDATION PRINTING AND LOCATION TO ENSURE THAT NO FOUNDATION FAILURE OCCURS, PREVENTS PRECASTERING ON WELDING FOUNDATION MATERIALS. HOWEVER, ALWAYS EXPERIMENT.

PRECAST BRICKS WITHIN 1 HR CONCRETE WALLS REQUIRE A MINIMUM BASE WIDTH OF 12"x12". THE DESIGN STRUCTURE COMPONENTS TO RESIST FORCES CAUSED BY THE DIFFERENTIAL SETTLEMENT. DESIGNER MUST CONSIDER THE ENTRY POINTS AS RECOMMEND BY THE SPECIFICATIONS.

PRECAST SPOOLS MUST BE 1/2" DIA. OVER THE PRECAST SPOOLS. PROVIDE A DEPTH OF FILL MIGHT BE TO TOP OF ARCH SPOOLS TO TOP OF ROADWAY AT LEAST EQUAL TO THE MINIMUM DEPTH SHOWN ON [SHEET] "A" PLUS .75".

FOR SHORTER SPOOLS, THERE BE A SHARING OF THE LENGTH OF THE STRUCTURE. CONSIDERATION MUST BE GIVEN TO THE DETAILS SHOWN ON [SHEET] "B" AS SHOWN. PROVIDE ALL REQUIREMENTS ON THE STANDARD SHEET CAN BE MET.

A CONCRETE BRACKET IS SHOWN ALONG THE LENGTH OF THE STRUCTURE. THE TOTAL NUMBER OF SHOWN ALONG THE LENGTH OF THE STRUCTURE. THE FULL DEPTH MUST BE PROVIDED TO ACCOMMODATE THE REQUIRED POSTING REQUIREMENTS FOR CONCRETE BRACKET DEVIATIONS.

PLACE FOOTINGS BEHIND CURB AND PRECAST DEPICTION, PLACE ENDFROM POSTING AT A MINIMUM DEPTH EQUAL TO PRECASTED CURB DEPTH OR DEPICTION DEPTH BUT NOT LESS THAN 5-7' BELOW GRADE ELEVATION UNLESS CONSTRUCTED OF PRECASTED CURB. PROVIDE ENTRANCE TO SYSTEM BETWEEN VERTICAL LEG OF THE PRECAST AUGMENT AND POSTER AS INDICATED ON THE STANDARD SHEET.

REPAIR AND REPLACING CONCRETE BRACKET DEVIATIONS TO THE CENTER OF THE SPAN WILL BE SUCH AS TO ENSURE THE CORRECTNESS OF THE BRIDGE DESIGN.

LPFD DESIGN LOADS

LIVE LOADWL-90

HORIZONTAL EARTH PRESSURE: 1200 LF

VERTICAL EARTH PRESSURE: 750 LF

WALL BACKFILL REQUIREMENTS

PRECAST THREE-SIDED BOX CULVERT DESIGN NOTES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DEVELOPMENT SECTION

APPROVED: Bill Oliva

STANDARD 36.10
**HANDHOLE NOTES**

Handholes shall be located in one column of the side bridge structure if electrically operated devices are installed on the structural columns. When handholes shall be filled by the electrical service, the cover shall be filled by the electrical service or the owner shall provide an additional means of access.

**TYPICAL "J" HOOK LOCATION**

The "J" hook shall be factory welded to the edge of all columns containing electrical wiring. The "J" hook shall be attached above the extension of the utility handhole and extended directly opposite the handhole as shown in the drawing.

**GROUNDING LUG DETAIL**

Wires and washers shall be stainless steel.

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**HANDHOLE DETAILS**

State of Wisconsin
Department of Transportation
Structures Development Section

APPROVED: Bill Oliva

Page 1

Standard: 39.13
EXPANSION BEARING REreplacement - STEEL GIRderS

STEEL BEARINGS

See standard plans for bearing details.

EXPANSION BEARING REplacement - STEEL GIRderS

ELASTOMERIC BEARINGS

EXPANSION BEARING REplacement - PREStRESSED GIRderS

ELASTOMERIC BEARINGS

EXPANSION BEARING REPLACEMENT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DEVELOPMENT SECTION

APPROVED: Bill Oliva

STANDARD 40.08
CONCRETE BEARING BLOCK DETAILS

PRECAST CONCRETE BLOCK DETAIL

1. Designate block size and location, including anchor bolts.
2. Anchor bolts in continuous lengths.
3. Precast block on any concrete block must be taken in consideration when locating anchor bolts.
4. Anchor bolts must be aligned with the block.
5. Be sure to follow the manufacturer's recommendations for anchor bolts.

ELEVATION

SIDE ELEVATION

CONCRETE BEARING BLOCK DETAILS

MAY BE USED IN LIEU OF PLATE IF AS SHOWN ON SHEET. FOR REVISIONS TO SHEET.
**DESIGNER NOTES**

_preparing concrete surface 20 days before placing overlay, characteristics to concrete for alcohol may be to 20% of the strength desired for placing overlay._

Do not provide a profile grade line on the plans.

**TOTAL ESTIMATED QUANTITIES**

<table>
<thead>
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<th>BR ITEMS</th>
<th>UNIT</th>
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<td>00420005</td>
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**DESIGNER NOTES**

_preparing concrete surface with a minimum age of 20 days and a strength of 50% of the desired concrete strength is required for application of the overlays. When placing the overlays, a 20% alcohol solution should be sprinkled on the overlay._

When the term "Polymer Overlay" is used, rating should include the 0042 Overlay.

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**REHABILITATION OVERLAY**

**NOTES**

_Drawings should not be used._

_Emergencies shown on the original structure plan._

总面积 of preparation facing type 1 shall be defined by a saw cut._

_preparation facing type 1, preparation facing type 2, and full-depth deck repair areas are based on the plans and are determined by the engineer._

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**PREVENTATIVE OVERLAY**

**NOTES**

_Drawings should not be scaled._

_deck surface preparation is included in the 0042 Overlay._

**TOTAL ESTIMATED QUANTITIES**

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