SAME SPACING BETWEEN BEAMS

TYPICAL`).

REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN, MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

NOTE: REBAR NUMBER RAIL NOT SHOWN IN DETAILS.

ABUTMENT NOTES:

MAXIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN, IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

ABUTMENT CONCRETE QUANTITY

ABUTMENT FOOTING

TOTAL (CU. YDS.)

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.
PART REAR ELEVATION AT ABUTMENT

MAXIMUM SPACING 1'-4"

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

ABUTMENT NOTES:

ABUTMENT CONCRETE QUANTITY

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: HAMMER RAIL NOT SHOWN IN DETAILS.
ABUTMENT NOTES:

Maximum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

If necessary to prevent damage to the end of the bridge, deck or backwall from construction equipment, an appropriate method of protection approved by the engineer shall be provided by the bridge contractor at no extra cost to the state.

REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.
ABUTMENT NOTES:

- Maximum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown. If necessary to prevent damage to the end of the bridge deck or backwall from construction equipment, an appropriate method of protection approved by the Engineer shall be provided by the Bridge Contractor at no extra cost to the State.

- Table of Abutment Steps

- Table of Abutment Elevations

- Abutment Concrete Quantity

- Abutment Footing Details
COIL ROD ½" x 1'-3

ABUT. OF ABUT.

ABUTMENT NOTES:

- MAXIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN. IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION ADVISED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

- NOTE: WIRE BARS IN PLACE 4x3 BARS PARALLEL TO LONGIT. STEEL.

- NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

- NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

- NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.
COIL ROD ½x1'-3

PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE

DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE

IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE

REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

ABUTMENT NOTES:

MAXIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR
REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

If necessary to prevent damage to the end of the bridge.

DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE

METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE

PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.
**ABUTMENT CONCRETE QUANTITY**

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ABUTMENT FOOTING DETAILS**

- **Note:** Concrete quantities are included on the summary quantities sheet.
- **Note:** PM - 10 x 57 steel bearing piles required in each abutment.
- **Note:** Pounding may not show in details.

**SUMMARY QUANTITIES SHEET**

- **Note:** Concrete quantities are included on the summary quantities sheet.
ABUTMENT STEP DIAGRAM

ABUTMENT PILE PLAN

TABLE OF ABUTMENT STEPS

<table>
<thead>
<tr>
<th>#</th>
<th>ALT.</th>
<th>ALT.</th>
<th>ALT.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE OF ABUTMENT ELEVATIONS

<table>
<thead>
<tr>
<th>#</th>
<th>ALT.</th>
<th>ALT.</th>
<th>ALT.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ABUTMENT CONCRETE QUANTITY

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE QUANTITIES ARE INCLUDED ON THE SUM
ABUTMENT NOTES:
- Shift rebar bars in par, as necessary to avoid pile in Abutment Area.
- Minimum embedment of pile.

TABLE OF ABUTMENT STEPS

<table>
<thead>
<tr>
<th>Step</th>
<th>Area</th>
<th>Area</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

TABLE OF ABUTMENT ELEVATIONS

<table>
<thead>
<tr>
<th>Point</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

ABUTMENT FOOTING DETAILS

<table>
<thead>
<tr>
<th>Location</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

ABUTMENT CONCRETE QUANTITY

<table>
<thead>
<tr>
<th>Location</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

NOTE: Concrete quantities are included on the summary quantities sheet.
**COIL ROD 1/2" x 1'-3"**

Provided by the Bridge Contractor at no extra cost to the State.

Method of protection approved by the Engineer shall be

determined appropriate to prevent damage to the end of the bridge.

Reinforcing Bar is to be 2" unless otherwise noted or shown.

Minimum clearance distance from face of concrete to nearest top of deck is 1'-0".

To be 57 turn of No. 2 bars, 21" diameter, 3" pitch with 3 x 6" x 6" spacers

Placed to hold spiral.

**NOTE:** See Design Sheet for details.

*NOTE:* See Design Sheet ?? for details.

**NOTE:** Concrete quantities are included on the summary quantities sheet.

**Note:** 10 x 57 Steel bearing piling required at each abutment.

Notwithstanding, rules not shown in details.

Iowa Department of Transportation - Highway Division

**ABUTMENT PILE PLAN**

**ABUTMENT CONCRETE QUANTITY**

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABUTMENT FOOTING</td>
<td>TOTAL (1-5)</td>
</tr>
</tbody>
</table>

**ABUTMENT FOOTING DETAILS**

**ABUTMENT STEP DIAGRAM**

**TABLE OF ABUTMENT STEPS**

<table>
<thead>
<tr>
<th>STEP</th>
<th>ASLT.</th>
<th>ASLT.</th>
<th>POINT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE OF ABUTMENT ELEVATIONS**

<table>
<thead>
<tr>
<th>ELEV. A</th>
<th>ELEV. A</th>
<th>ELEV. A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SHEET NUMBER**

W:\Highway\Bridge\MethodsSection\CADD Concept Drafts\TempHoldingfor_SEPTEMBER_ReplacedStds\HighLightedChanges\EnglishBTIntegralBridges.dgn   2089-BTE   11x17_pdf.pltcfg

**DESIGN NO.**

8/31/2016   12:08:52 PM

**IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION**

**PART SECTION A-A**

**PART REAR ELEVATION AT ABUTMENT**

**PART SECTION B-B**

**MAXIMUM SPACING 1' - 0"**

**PART SECTION C-C**

**ABUTMENT NOTES:**

Maximum clear distance from face of concrete to near
Reinforcing Bar is to be 2" unless otherwise noted or shown.
If necessary to prevent damage to the end of the bridge,
Deck or backwall from construction equipment, an appropriate
Method of protection approved by the Engineer shall be
Provided by the Bridge Contractor at no extra cost to the State.
**TABLE OF SIZE OF 'b2' BAR**

<table>
<thead>
<tr>
<th>LENGTH ADJACENT SPAN</th>
<th>SITE BEAM BAR SIZE</th>
<th>b2 BAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>35'-0</td>
<td>x x 4</td>
<td></td>
</tr>
<tr>
<td>40'-0</td>
<td>x x 6</td>
<td></td>
</tr>
<tr>
<td>45'-0</td>
<td>x x 8</td>
<td></td>
</tr>
<tr>
<td>50'-0</td>
<td>x x 10</td>
<td></td>
</tr>
<tr>
<td>55'-0</td>
<td>x x 12</td>
<td></td>
</tr>
<tr>
<td>60'-0</td>
<td>x x 14</td>
<td></td>
</tr>
<tr>
<td>65'-0</td>
<td>x x 16</td>
<td></td>
</tr>
<tr>
<td>70'-0</td>
<td>x x 18</td>
<td></td>
</tr>
<tr>
<td>75'-0</td>
<td>x x 20</td>
<td></td>
</tr>
<tr>
<td>80'-0</td>
<td>x x 22</td>
<td></td>
</tr>
<tr>
<td>85'-0</td>
<td>x x 24</td>
<td></td>
</tr>
<tr>
<td>90'-0</td>
<td>x x 26</td>
<td></td>
</tr>
<tr>
<td>95'-0</td>
<td>x x 28</td>
<td></td>
</tr>
<tr>
<td>100'-0</td>
<td>x x 30</td>
<td></td>
</tr>
<tr>
<td>105'-0</td>
<td>x x 32</td>
<td></td>
</tr>
</tbody>
</table>

The weight of the top bar is to be placed at the center of the pier. x x indicates b2 bar placed in top deck only.

**INTERIOR BEAMS**

![Diagram of Interior Beams]

**EXTERIOR BEAMS**

![Diagram of Exterior Beams]

**TYPICAL DECK AND HAUNCH DETAIL**

A FOR DECK TANGENTS EXPANSION JOINTS SEE HAUNCH AND CAMBER DETAILS ON DESIGN SHEET....

**DRAIN DETAILS**

NOTE 1: Drains are to be calculated. Drain related to be included in the summary quantities sheet.

**DATA FOR ONE DRAIN**

<table>
<thead>
<tr>
<th>TEAM NAME</th>
<th>STD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAIN WEIGHT</td>
<td>50</td>
</tr>
</tbody>
</table>

**SUPERSTRUCTURE NOTES:**

The bridge deck as shown includes an integral wearing surface. The pier and abutment cross sections and concrete is to be placed monolithically with the bridge deck. Cost of all preformed expansion joint filler material is to be included in the price bid. For structural concrete, special reinforcing bars are to be placed as follows:

- Top transverse reinforcing bars are to be parallel to and 1/4" clear below. Bottom transverse reinforcing steel is to be parallel to and 1/4" clear above. Bottom transverse reinforcing steel is to be supported by individual bars spaced at not more than 3" centers longitudinally and transversely or by continuous rows of bars shown. A minimum of 2" clear above deck and 2" clear below. Cost of reinforcing material is to be included in the price bid for preformed prestressed concrete beams.

For details of intermediate cross sections see design sheet...

**QUESTIONS:**

- What is the primary purpose of the bridge deck cross section design in the context of superstructure notes?
- How are reinforcing bars positioned in the bridge deck to ensure structural integrity and durability?
- What specific materials, such as expansion joint filler, are included in the price bid for structural concrete?

**NOTES:**

- Stainless steel level or rebar epoxy A level should be on or off to the bridge deck cross section in the bridge deck.
**TABLE OF SIZE OF 'b2' BAR**

<table>
<thead>
<tr>
<th>LONGEST ALIGNMENT SPAN</th>
<th>30'-0</th>
<th>40'-0</th>
<th>60'-0</th>
<th>70'-0</th>
<th>80'-0</th>
<th>90'-0</th>
<th>100'-0</th>
<th>110'-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTB BEAM SIZE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

**NOTE FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET...**

**SUPERSTRUCTURE NOTES:**

THE BRIDGE DECK AS SHOWN INCLUDES A 'b' INTERNAL WEARING SURFACE.

THE MIDPOINT OF THE 'b2' BAR IS TO BE PLACED AT THE TOP DECK ONLY.

NOTE: 'STAINLESS STEEL' LEVEL OR 'REBAR EPOXY A' LEVEL SHOULD BE ON OR OFF DECK SURFACE.

HALF SECTION NEAR ABUTMENT  
HALF SECTION NEAR PIER

DATA FOR ONE DRAIN

<table>
<thead>
<tr>
<th>BEAM SIZE</th>
<th>SPS</th>
<th>DRAIN WEIGHT (LB.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

**NOTE:** 'STAINLESS STEEL' LEVEL OR 'REBAR EPOXY A' LEVEL SHOULD BE ON OR OFF DECK SURFACE.

HALF SECTION NEAR PIER

EXPANSION JOINT DECK CROSS SECTION IN BRIDGE DECK.
TABLE OF SIZE OF 'b2' BAR

<table>
<thead>
<tr>
<th>LONGEST SPAN</th>
<th># TC</th>
<th>SBC</th>
<th>BAR SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>30'-0</td>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
<tr>
<td>40'-0</td>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
<tr>
<td>50'-0</td>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
<tr>
<td>60'-0</td>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
<tr>
<td>70'-0</td>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
<tr>
<td>80'-0</td>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
<tr>
<td>90'-0</td>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
<tr>
<td>100'-0</td>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
<tr>
<td>110'-0</td>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
<tr>
<td>120'-0</td>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
</tbody>
</table>

**NOTE:**
- Width of the top bar is to be placed at the E of Piers.
- Indicates 0'2' bar placed in top deck only.

**SUPERSTRUCTURE NOTES:**
- The bridge deck as shown includes a (I) integral wearing surface.
- The top and abutment diaphragm concrete is to be placed monolithically with the bridge deck.
- Cost of all preformed expansion joint filler material is to be included in the price bid for structural concrete (bridge). All items are to be set vertically.
- Piers for the deck and barrier rail are to be supported by the precast concrete beams.
- Clear distance from face of concrete to near reinforcing bar shall be 2 inches unless otherwise noted on plans.
- All deck and diaphragm reinforcing is to be fixed in place and designated before concrete is placed.

**DATA FOR ONE DRAIN**

<table>
<thead>
<tr>
<th>DRAIN SIZE</th>
<th>BDC</th>
<th>LBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>#3</td>
<td>#3</td>
<td>#3</td>
</tr>
</tbody>
</table>

**NOTES:**
- For details of intermediate diameters see design sheet...

**HALF SECTION NEAR ABUTMENT**

**HALF SECTION NEAR PIER**

**FOR DETAILS OF SOIL AND SEPTIC SEE STANDARD CADD CONCEPT DRAFTS**

**IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION**

**DESIGN TEAM**

**FILE NO.**
**Superstructure Notes:**

- **The Bridge Deck as Shown includes:** Internal Reinforcing, Interior Beams, Deck Area = 29.27 SQ. FT., Deck Area Does Not Include The Margin.
- **Interior Beams:**
- **Top of Deck:**
  - Straight Line Between Haunches
  - 1" Depression in Deck Concrete at Drain
- **Exterior Beams:**
  - Straight Line Between Haunches
  - 1" Depression in Deck Concrete at Drain
- **Drain Details:**
  - Note: Drains Are to Be Exploded; Drain Heights Are Included on the Summary Quantities Sheet.
- **Data For One Drain:**
  - Beam Size: 6"x3"x7'
  - Drain Height (Lap): 12'
  - Drain Length (Lap): 36'

**Typical Deck and Haunch Detail:**

- For deck thicknesses over beams see Haunch and Camber Details on Design Sheet.

**Half Section Near Abutment:**

- Deck Area = 29.27 SQ. FT., Deck Area Does Not Include The Margin.

**Half Section Near Pier:**

- Deck Area = 29.27 SQ. FT., Deck Area Does Not Include The Margin.

**NOTE:** Stainless Steel Level or Rebar Epoxy A Level Should Be On or Off Haunch Level Depending on Barrier Steel Embedded in the Bridge Deck.

**Superstructure Notes:**

- The Bridge Deck as Shown includes:
  - Internal Reinforcing
  - Interior Beams
  - Deck Area = 29.27 SQ. FT.
  - Deck Area Does Not Include The Margin

**Data For One Drain:**

- Beam Size: 6"x3"x7'
- Drain Height (Lap): 12'
- Drain Length (Lap): 36'

**Typical Deck and Haunch Detail:**

- For deck thicknesses over beams see Haunch and Camber Details on Design Sheet.
TABLE OF SIZE OF 'b2' BAR

<table>
<thead>
<tr>
<th>LONGEST SPAN</th>
<th>STD BEAM</th>
<th>BAR</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>30'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>130'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140'-0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

THE MIDPOINT OF THE TOP BAR IS TO BE PLACED AT THE "E" OF PIER.

** INDICATES 'b2' BAR PLACED IN TOP DECK ONLY.

DATA FOR ONE DRAIN

<table>
<thead>
<tr>
<th>DATA</th>
<th>5b1 BARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEAM SPACES @ 0'-10&quot;</td>
<td>36'-2</td>
</tr>
</tbody>
</table>

NOTE: FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ____

SUPERSTRUCTURE NOTES:

THE BRIDGE DECK AS SHOWN INCLUDES A "F" INTERNAL REINFORCEMENT SURFACE.

ALL BEAMS ARE TO BE SET VERTICAL.

COST OF ALL PREFORMED EXPANSION JOINT FILLER MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR STRUCTURAL CONCRETE BEAMS.

COST OF REINFORCING STEEL IS TO BE INCLUDED IN THE PRICE BID FOR BAR CHAIRS, BAR HIGH CHAIRS, AND DECK BOLSTERS.

COST OF BAR CHAIRS, BAR HIGH CHAIRS, AND DECK BOLSTERS SPACED AT NOT MORE THAN 3'-0 CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF BAR CHAIRS OR DECK BOLSTERS SPACED 4'-0 APART, ARE ALSO REQUIRED.

NOTE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF IN THE BRIDGE DECK.

NOTE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF IN THE BRIDGE DECK.

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR PIER

NOTE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF DECK SURFACE, DEPENDING ON BARRIER STEEL EMBEDDED.AS REQUIRED.

SUPERSTRUCTURE NOTES:

THE BRIDGE DECK AS SHOWN INCLUDES 0.3" DEPRESSION IN DECK CONCRETE AT DRAIN TO DETECT EMBEDDED BASE PLATE DETAILS AVAILABLE BY THE PRESTRESSED CONCRETE BEAMS FOR THE DECK AND BARRIER RAIL ARE TO BE SUPPORTED BY THE PRESTRESSED CONCRETE GIRDERS.

CLEARANCE BETWEEN FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED ON SHEETS.

ALL DECK AND DIAPHRAGM REINFORCING IS TO BE MIGAS IN PLACE AND REGULARLY SUPPORTED, BECAME CONCRETE IS PLACED. TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 27" CLEAR BELOW TOP OF DECK. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 CENTER TO CENTER, OR BY CONTINUOUS ROWS OF BAR HIGH CHAIRS OR DECK BOLSTERS SPACED 2'-0 APART. All, Guidelines, and Local Requirements Apply For Bar Chairs, Bar High Chairs, and Deck Bolters.

COST OF DECK MATERIAL IS TO BE INCLUDED IN THE PRICE BID. ALL PRESTRESSED PRECASTED CONCRETE REINFORCING MAY BE SPACED WITH ONE LAP LOCATED AT FOLLOWING.

DECK AREA DOES NOT MONOLITHICALLY WITH THE BRIDGE DECK. TOP TRANSVERSE REINFORCING MAY BE SPACED WITH ONE LAP IN THE BRIDGE DECK AS SHOWN INCLUDES "INTEGRAL WEARING SURFACE"

THE FABRIC AND ADJACENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE BRIDGE DECK.

COST OF ALL PRECASTED EXPANSION JOINT FILLER MATERIAL IS TO BE INCLUDED IN THE PRICE BID. FOR STRUCTURAL CONCRETE (BRIDGE) BAR CHAIRS, BAR HIGH CHAIRS, AND DECK BOLSTERS SPACED 4'-0 APART.  I.M. 451.01 REQUIREMENTS SHALL APPLY FOR BAR CHAIRS, BAR HIGH CHAIRS, AND DECK BOLSTERS.

NOTE: "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF DECK SURFACE, DEPENDING ON BARRIER STEEL EMBEDDED.AS REQUIRED.

SUPERSTRUCTURE NOTES:

THE BRIDGE DECK AS SHOWN INCLUDES 0.3" DEPRESSION IN DECK CONCRETE AT DRAIN TO DETECT EMBEDDED BASE PLATE DETAILS AVAILABLE BY THE PRESTRESSED CONCRETE GIRDERS.

CLEARANCE BETWEEN FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED ON SHEETS.

ALL DECK AND DIAPHRAGM REINFORCING IS TO BE MIGAS IN PLACE AND REGULARLY SUPPORTED, BECAME CONCRETE IS PLACED. TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 27" CLEAR BELOW TOP OF DECK. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 CENTER TO CENTER, OR BY CONTINUOUS ROWS OF BAR HIGH CHAIRS OR DECK BOLSTERS SPACED 2'-0 APART. All, Guidelines, and Local Requirements Apply For Bar Chairs, Bar High Chairs, and Deck Bolters.

COST OF DECK MATERIAL IS TO BE INCLUDED IN THE PRICE BID. ALL PRESTRESSED PRECASTED CONCRETE REINFORCING MAY BE SPACED WITH ONE LAP LOCATED AT FOLLOWING.

DECK AREA DOES NOT MONOLITHICALLY WITH THE BRIDGE DECK. TOP TRANSVERSE REINFORCING MAY BE SPACED WITH ONE LAP IN THE BRIDGE DECK AS SHOWN INCLUDES "INTEGRAL WEARING SURFACE"

THE FABRIC AND ADJACENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE BRIDGE DECK.
TABLE OF SIZE OF 'b2' BAR

<table>
<thead>
<tr>
<th>LONGEST SPAN (FT)</th>
<th>STD. DEAM BAR SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>#4</td>
</tr>
<tr>
<td>40</td>
<td>#5</td>
</tr>
<tr>
<td>50</td>
<td>#6</td>
</tr>
<tr>
<td>60</td>
<td>#7</td>
</tr>
<tr>
<td>70</td>
<td>#8</td>
</tr>
<tr>
<td>80</td>
<td>#9</td>
</tr>
<tr>
<td>90</td>
<td>#10</td>
</tr>
<tr>
<td>100</td>
<td>#11</td>
</tr>
<tr>
<td>110</td>
<td>#12</td>
</tr>
</tbody>
</table>

TOP OF DECK

NOTES:
- For details of intermediate diaphragms, see Design Sheet...
- The bridge deck as shown includes a 3" internal bearing surface.
- The abutment and interior diaphragm concrete is to be placed monolithically with the bridge deck.
- The bridge deck cross section is symmetrical about the 44' roadways.
- The bridge deck in the middle of the superstructure consists of two 22' spans.

DATA FOR ONE DRAIN

<table>
<thead>
<tr>
<th>Beam Size</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECK</td>
<td>370</td>
</tr>
<tr>
<td>BID</td>
<td>92</td>
</tr>
</tbody>
</table>

DRAIN DETAILS

NOTE: For details of intermediate diaphragms, see Design Sheet...
- The bridge deck as shown includes a 3" internal bearing surface.
- The abutment and interior diaphragm concrete is to be placed monolithically with the bridge deck.
- The bridge deck cross section is symmetrical about the 44' roadways.
- The bridge deck in the middle of the superstructure consists of two 22' spans.

SUPERSTRUCTURE NOTES:

- The bridge deck as shown includes a 3" internal bearing surface.
- The abutment and interior diaphragm concrete is to be placed monolithically with the bridge deck.
- The bridge deck cross section is symmetrical about the 44' roadways.
- The bridge deck in the middle of the superstructure consists of two 22' spans.
- DECK AREA DOES NOT INCLUDE THE MUNICIPAL.

NOTE: For details of intermediate diaphragms, see Design Sheet...
- The bridge deck as shown includes a 3" internal bearing surface.
- The abutment and interior diaphragm concrete is to be placed monolithically with the bridge deck.
- The bridge deck cross section is symmetrical about the 44' roadways.
- The bridge deck in the middle of the superstructure consists of two 22' spans.

DATA FOR ONE DRAIN

<table>
<thead>
<tr>
<th>Beam Size</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECK</td>
<td>370</td>
</tr>
<tr>
<td>BID</td>
<td>92</td>
</tr>
</tbody>
</table>

DRAIN DETAILS

NOTE: For details of intermediate diaphragms, see Design Sheet...
- The bridge deck as shown includes a 3" internal bearing surface.
- The abutment and interior diaphragm concrete is to be placed monolithically with the bridge deck.
- The bridge deck cross section is symmetrical about the 44' roadways.
- The bridge deck in the middle of the superstructure consists of two 22' spans.

SUPERSTRUCTURE NOTES:

- The bridge deck as shown includes a 3" internal bearing surface.
- The abutment and interior diaphragm concrete is to be placed monolithically with the bridge deck.
- The bridge deck cross section is symmetrical about the 44' roadways.
- The bridge deck in the middle of the superstructure consists of two 22' spans.
TABLE OF SIZE OF 'b2' BAR

<table>
<thead>
<tr>
<th>LONGEST ADJACENT SPAN</th>
<th>STD DEAM</th>
<th>BAR SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>30'-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40'-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50'-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60'-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70'-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80'-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90'-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100'-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>110'-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120'-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INDICATES 'b2' BAR PLACED IN TOP DECK ONLY.**

**NOTE:** FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ...  

**SUPERSTRUCTURE NOTES:**  

THE BRIDGE DECK AS SHOWN INCLUDES 2% INTERNAL HEATING SURFACE.

THE DECK AND DIAPHRAGM CONCRETE IS TO BE PLACED MANUALLY WITH THE BRIDGE DECK.

THE COST OF ALL PRECAST EXPANSION JOINT FILLER MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR STRUCTURAL CONCRETE NINE TERTS, ALL BARS ARE TO BE SET VERTICALLY.  

FINS FOR THE DECK AND BARRIER RAIL ARE TO BE SUPPORTED BY THE PRECASTED CONCRETE BEAMS.  

CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

ALL DECK AND DIAPHRAGM REINFORCING IS TO BE APPLIED IN PLACE AND SECURELY SUPPORTED (REINFORCING STEEL IS TO BE PARALLEL TO AND NO CLEARANCE BETWEEN DECK).  

TRANSVERSE REINFORCING STEEL IS TO BE PLANTED TO AND 2" CLEAR BELOW TOP OF DECK.  

BOTTOM TRANVERSE REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL BAR SPANS SPACE AT NOT MORE THAN 3'-0 CENTERS LONGITUDINALLY AND TRANSVERSALLY, OR BY CONTINUOUS ROWS OF BAR HIGH CHAIRS OR DECK BUILDERS.

NOTE: "STAINLESS STEEL" LEVEL OR "BAR EPOXY" LEVEL SHOULD BE ON OR OFF IN THE BRIDGE DECK.

**DATA FOR ONE DRAIN**

<table>
<thead>
<tr>
<th>ITEM SIZE</th>
<th>DRAIN WEIGHT (LBS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3'-11&quot;</td>
<td>620</td>
</tr>
</tbody>
</table>

FOR MORE DETAILS ON DECK REINFORCING SEE BID.  

**NOTE:** THE TYPICAL GAUGE OF RAIL STEEL EMBEDDED DEPENDING ON BARRIER RAIL HEIGHT OR STREAMFLOW.

**NOTE:** FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ...
**TABLE OF SIZE OF 'b2' BAR**

<table>
<thead>
<tr>
<th>LONGEST ALIGNMENT SPAN</th>
<th>SITE SCALE</th>
<th>DRAWN NAME</th>
<th>SHEET NAME</th>
<th>BEND OR BENT</th>
<th>NON-RECURVED</th>
<th>CURVED</th>
<th>NON-CURVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>50'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>130'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>160'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>170'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COIL ROD DESIGN NO.**

**HALF SECTION NEAR PIER**

- **TOP OF DECK**: Straight line between haunches
- **INTERIOR BEAMS**: Straight line between haunches
- **EXTERIOR BEAMS**: Straight line between haunches

**NOTE FOR DETAILS OF INTERMEDIATE DIMENSIONS SEE DESIGN SHEET...**

**SUPERSTRUCTURE NOTES:**

**THE BRIDGE DECK AS SHOWN INCLUDES 3" INTERNAL Wearing SURFACE.**

**THE PIER AND ABUTMENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE BRIDGE DECK.**

**THE PIER AND ABUTMENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE BRIDGE DECK.**

**COIL ROD (BENT)**

**DATA FOR ONE DRAIN**

<table>
<thead>
<tr>
<th>REINFORCEMENT</th>
<th>DATA FOR DECK</th>
<th>DATA FOR BARRIER RAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**: STAINLESS STEEL LEVEL OR REBAR EPOXY A LEVEL SHOULD BE ON OR OFF IN THE BRIDGE DECK.
TABLE OF SIZE OF 'b2' BAR

<table>
<thead>
<tr>
<th>SPAN</th>
<th>LONGEST LENGTH</th>
<th># Bars</th>
<th>B2 Beam Bar Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>30'-0</td>
<td>#4</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>40'-0</td>
<td>#4</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>50'-0</td>
<td>#4</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>60'-0</td>
<td>#4</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>55'-0</td>
<td>#5</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>60'-0</td>
<td>#5</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>65'-0</td>
<td>#5</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>70'-0</td>
<td>#6</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>75'-0</td>
<td>#6</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>80'-0</td>
<td>#6</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>85'-0</td>
<td>#7</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>90'-0</td>
<td>#7</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>95'-0</td>
<td>#7</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>100'-0</td>
<td>#8</td>
<td>b2</td>
<td></td>
</tr>
<tr>
<td>105'-0</td>
<td>#8</td>
<td>b2</td>
<td></td>
</tr>
</tbody>
</table>

THE HEIGHT OF THE TOP BAR IS TO BE PLACED AT THE T-P E OF PIER.
# Indicates 'b2' Bar Placed In Top Deck Only.

HAUL CENTRAL WARNING

DRAIN DETAILS

NOTE: FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ...

SUPERSTRUCTURE NOTES:

THE BRIDGE DECK AS SHOWN INCLUDES 2' FILLER REINFORCING BARS AND CORRUGATED DOCK AREA ABOVE DECK PLATE.

DECK AREA = 29.22 SQ. FT.
DECK AREA DOES NOT INCLUDE THE RAIL.

DATA FOR ONE DRAIN

<table>
<thead>
<tr>
<th>Beam Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2</td>
<td>85</td>
</tr>
</tbody>
</table>

NOTE: DECK AREA INCLUDES "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL.

BARRIER RAIL鋼嵌入

NOTE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF DECK DECK MATERIAL IS TO BE INCLUDED.

NOTICE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF DECK DECK MATERIAL IS TO BE INCLUDED.

NOTICE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF DECK DECK MATERIAL IS TO BE INCLUDED.
** INDICATES 'b2' BAR PLACED IN TOP DECK ONLY.

PLACED AT THE MIDPOINT OF THE 'b2' BAR IS TO BE ADJACENT TO FORMS FOR NAILING TO FORMS.

1" x 8 x 0'-8 BAR-required for the use of SPLICES.

NOTE: DRAIN WEIGHTS ARE INCLUDED IN THE QUANTITY FOR "____".

WEIGHT IS BASED ON ROLLED TUBE. INCLUDED IN THE QUANTITY FOR "____".

DRAINS ARE TO BE GALVANIZED. ____ DRAINS REQUIRED.

NOTE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL DEPENDS ON BARRIER RAIL STEEL EMBEDDED IN THE BRIDGE DECK.

"REBAR OXYGEN I" LEVEL OR "STAINLESS STEEL" LEVEL SHOULD BE ON OR OFF DEPENDING ON BARRIER RAIL STEEL EMBEDDED IN THE BRIDGE DECK.

THE DECK AREA DOES NOT INCLUDE THE HAUNCH.

DECK AREA = 29.17 SQ. FT.

NOT FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ____

FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET  ____

** CORRECTION 01 -14 - ADDED REFERENCE TO SUMMARY QUANTITIES SHEET ABOUT CHOICE OF EPOXY OR STAINLESS STEEL DECK TO BARRIER RAIL BARS.

NOTE: DRAIN WEIGHTS ARE INCLUDED IN THE QUANTITY FOR "____".

WEIGHT IS BASED ON ROLLED TUBE. INCLUDED IN THE QUANTITY FOR "____".

DRAINS ARE TO BE GALVANIZED. ____ DRAINS REQUIRED.

NOTE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF DEPENDING ON BARRIER RAIL STEEL EMBEDDED IN THE BRIDGE DECK.

"REBAR OXYGEN I" LEVEL OR "STAINLESS STEEL" LEVEL SHOULD BE ON OR OFF DEPENDING ON BARRIER RAIL STEEL EMBEDDED IN THE BRIDGE DECK.

THE DECK AREA DOES NOT INCLUDE THE HAUNCH.

DECK AREA = 29.17 SQ. FT.

NOT FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET  ____

FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET  ____

** CORRECTION 01 -14 - ADDED REFERENCE TO SUMMARY QUANTITIES SHEET ABOUT CHOICE OF EPOXY OR STAINLESS STEEL DECK TO BARRIER RAIL BARS.

NOTE: DRAIN WEIGHTS ARE INCLUDED IN THE QUANTITY FOR "____".

WEIGHT IS BASED ON ROLLED TUBE. INCLUDED IN THE QUANTITY FOR "____".

DRAINS ARE TO BE GALVANIZED. ____ DRAINS REQUIRED.

NOTE: "STAINLESS STEEL" LEVEL OR "REBAR EPOXY A" LEVEL SHOULD BE ON OR OFF DEPENDING ON BARRIER RAIL STEEL EMBEDDED IN THE BRIDGE DECK.

"REBAR OXYGEN I" LEVEL OR "STAINLESS STEEL" LEVEL SHOULD BE ON OR OFF DEPENDING ON BARRIER RAIL STEEL EMBEDDED IN THE BRIDGE DECK.

THE DECK AREA DOES NOT INCLUDE THE HAUNCH.

DECK AREA = 29.17 SQ. FT.

NOT FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET  ____

FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET  ____

** CORRECTION 01 -14 - ADDED REFERENCE TO SUMMARY QUANTITIES SHEET ABOUT CHOICE OF EPOXY OR STAINLESS STEEL DECK TO BARRIER RAIL BARS.
### TABLE OF SIZE OF 'b2' BAR

<table>
<thead>
<tr>
<th>SPAN (FT)</th>
<th>BTC BEAM</th>
<th>BAR SIZE</th>
<th>BTC BEAM</th>
<th>BAR SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>30'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120'-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Indicates 'b2' bar placed in top deck only.

The height of the top bar is to be placed at the end of the pier.

---

### SUPERSTRUCTURE NOTES:

- **THE BRIDGE DECK AS SHOWN INCLUDES 10" INTERNAL REINFORCING SURFACE.**
- The Pier and Abutment Capping Concrete is to be placed monolithically with the Bridge Deck.
- Cost of all preformed expansion joint filler material is to be included in the price bid for structural concrete and placed under rebar, all beams are to be let vertical. Transverse reinforcing for the deck and barrier rail are to be supported by the precasted concrete beams.
- Clear distance from face of concrete to near reinforcing bars shall be 2 inches unless otherwise noted or shown.
- All deck and abutment reinforcing is to be fixed in place and regularly supported before concrete is placed.
- Top transverse reinforcing steel is to be parallel to and 2'-0" clear from top of deck, bottom transverse reinforcing steel is to be supported by individual bar chairs spaced at not more than 3'-0" centers longitudinally and transversely, or by continuous rows of bar chair holders spaced 2'-0" apart. I.M. 451.01 requirements shall apply for bar chairs, bar chair holders, and deck bolsters. Cost of reinforcing material is to be included in the price bid for precasted prestressed concrete beams.
- Transverse reinforcing may be spliced with one lap located as follows:
  - When lap is required between beams, lap shall not be placed over beams.
  - Transverse reinforcing lap is to be welded to transverse reinforcing lap in the bridge deck.

### DATA FOR ONE DRAIN

<table>
<thead>
<tr>
<th>DRAIN</th>
<th>TYPE</th>
<th>LENGTH (FT)</th>
<th>BAR CHAIRS</th>
<th>COST (LBS.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5e1</td>
<td>30</td>
<td>5d2</td>
<td>106</td>
</tr>
<tr>
<td>2</td>
<td>5e2</td>
<td>50</td>
<td>5d3 &amp; 5d4</td>
<td>116</td>
</tr>
<tr>
<td>3</td>
<td>5e3</td>
<td>70</td>
<td>5d5</td>
<td>116</td>
</tr>
<tr>
<td>4</td>
<td>5e4</td>
<td>90</td>
<td>5d6</td>
<td>116</td>
</tr>
</tbody>
</table>

**NOTE:** "Stainless Steel" level or "Rebar Epoxy A" level should be on or off in the bridge deck.
**CORRECTION 0-4 - ADDED REFERENCE NOTE TO SUMMARY QUANTITIES SHEET ABOUT CHOICE OF EPOXY OR STAINLESS STEEL TO BARRIER RAIL BARS.**
**PART LONGITUDINAL SECTION NEAR GUTTER**

FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ___

**PART END VIEW AT ABUTMENT**

**SECTION A-A**

**TABLE OF WING ELEVATIONS**

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>ELEV. A</th>
<th>ELEV. B</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.W. CORNER</td>
<td>ELEV. B</td>
<td>ELEV. A</td>
</tr>
<tr>
<td>N.W. CORNER</td>
<td>ELEV. A</td>
<td>ELEV. B</td>
</tr>
<tr>
<td>S.E. CORNER</td>
<td>ELEV. A</td>
<td>ELEV. B</td>
</tr>
<tr>
<td>N.E. CORNER</td>
<td>ELEV. A</td>
<td>ELEV. B</td>
</tr>
</tbody>
</table>

**PART SECTION AT PIER**

SEE CROSS SECTION THRU DECK FOR NUMBER OF DIAPHRAGM HOOP BARS BETWEEN BEAMS.

**PART END VIEW AT ABUTMENT**

**SECTION B-B**

**TOP OF PIER DETAILS**

**ABUT. & PIER DIAPHRAGM DETAILS**
**PART END VIEW AT ABUTMENT**

- ELEVATION B
- ELEVATION A

**SECTION A-A**

- TABLE OF WING ELEVATIONS
  - LOCATION
  - ELEVATION A
  - ELEVATION B

- NEPTUNE BEARING
  - SIZE: 12 x 12 x 2-
  - MATERIAL: 3/4 x 3/4 x 2-

- KEYWAY FILLER
  - SIZE: 1 x 2 x 2-

**PART SECTION AT PIER**

- PIER BEARING
  - SIZE: 12 x 12 x 2-

- JOINT FILLER AROUND BEARINGS, FACE OF BARRIER RAIL END SECTIONS

**PART LONGITUDINAL SECTION NEAR GUTTER**

- SEE DETAIL C

**PART PLAN**

- PVC PIPE
  - SIZE: 3 x 3 x 2-

- COIL ROD
  - SIZE: 1/8 x 1-

**TOP OF PIER DETAILS**

- PART END VIEW AT ABUTMENT

**ABUT. & PIER DIAPHRAGM DETAILS**

- SEE DETAIL A

- DETAIL C

**NOTE:**

- See Design Sheet for more details.
PART LONGITUDINAL SECTION NEAR GUTTER  
FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ___
PART LONGITUDINAL SECTION NEAR GUTTER

PART END VIEW AT ABUTMENT

SECTION A-A

TABLE OF WING ELEVATIONS

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>ELEV. A</th>
<th>ELEV. B</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.W. CORNER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E. CORNER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N.W. CORNER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N.E. CORNER</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PART SECTION AT PIER

TOP OF PIER DETAILS

ABUT. & PIER DIAPHRAGM DETAILS
**BEARING by BEVELED 2 x 8.**

**KEYWAY FORMED by BEAM & PIER.**

**BEARING KEYWAY FORMED by BEAM & PIER.**

**BEAMS - PART PLAN & LONGIT. SECTION - (R.A.) 15°01' - 30° SKEW**

**STANDARD SHEET 4506-BTB**

**BEARINGS**

**ABUT. BEARING**

**PART PLAN**

**PART END VIEW AT ABUTMENT**

**SECTION A-A**

**TABLE OF WING ELEVATIONS**

**FACE TO FACE OF BRIDGE END SECTIONS**

**DETAIL "C"**

**PART SECTION AT PIER**

**TOP OF PIER DETAILS**

**ABUT. & PIER DIAPHRAGM DETAILS**
PART LONGITUDINAL SECTION NEAR GUTTER

PART END VIEW AT ABUTMENT

TABLE OF WINGWALL ELEVATIONS

PART SECTION AT PIER

ABUT. & PIER DIAPHRAGM DETAILS
CONCRETE PLACEMENT DIAGRAM

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING DECK CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE CONTRACTOR IS REQUIRED TO MAINTAIN PLASTICITY OF THE CONCRETE DECK DURING PLACEMENT.

DECK, ABUT. & DIAPH. QUANTITIES

REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)

REINFORCING STEEL - TOTAL (LBS.)

EPOXY COATED REINFORCING

TOTAL (CU. YDS.)

DECK, ABUT. & DIAPH. QUANTITIES

REINFORCING BAR LIST

CONCRETE PLACEMENT QUANTITIES

LOCATION

SECTION 1, DECK & ABUT. DIAPH.

SECTION 2, DECK

SECTION 3, DECK & ABUT. DIAPH.

SECTION 4, DECK & PIER DIAPH.

SECTION 5, DECK & PIER DIAPH.

DECK CONSTRUCTION JOINT

PERMISSIBLE TRANSVERSE LONGITUDINAL REINFORCING.

OF CROWN AND DRILLED FOR HEADER CUT TO FIT SHAPE

BEVELED 1"x3"

NAILED TO HEADER

TOP OF DECK

NOTE: CONCRETE AND REINFORCING STEEL QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.
NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

CONCRETE PLACEMENT QUANTITIES

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECTION 1, DECK &amp; ABUT.</td>
<td></td>
</tr>
<tr>
<td>SECTION 2, DECK</td>
<td></td>
</tr>
<tr>
<td>SECTION 3, ABUT.</td>
<td></td>
</tr>
<tr>
<td>SECTION 4, PIERS</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING DECK CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE CONTRACTOR IS TO PROVIDE EVIDENCE TO THE SATISFACTION OF THE ENGINEERING STAFF THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE CONCRETE PLACEMENT DIAGRAM MUST BE UPDATED TO REFLECT THE CHANGES.

REINFORCING BAR LIST

<table>
<thead>
<tr>
<th>BAR LOCATION</th>
<th>SQUARE LENGTH</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECK TRANSV. TOP &amp; BOTT.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECK LONG. TOP &amp; BOTT.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECK LONG. TOP AT TIERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIER &amp; BRIDGE DIAPHRAGM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIER DIAPHRAGM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIER DIAPHRAGM END</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIER DIAPHRAGM TIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIER DIAPHRAGM TIES ENDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIERS &amp; ABUT. DIAPHRAGM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIERS &amp; ABUT. DIAPHRAGM TIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIERS &amp; ABUT. DIAPHRAGM TIES ENDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIER DIAPHRAGM EXPANSION PIER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIER DIAPHRAGM EXPANSION PIER ENDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECK DIAPHRAGM TIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECK DIAPHRAGM TIES ENDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECK DIAPHRAGM HOOPS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECK DIAPHRAGM HOOPS END</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECK DIAPHRAGM LONGIT. B.F.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECK DIAPHRAGM VERT. B.F.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECK DIAPHRAGM ENDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECK DIAPHRAGM LINES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNDER BEAMS AT ENDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REINFORCING STEEL - TOTAL (LBS.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING DECK CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE CONCRETE PLACEMENT DIAGRAM MUST BE UPDATED TO REFLECT THE CHANGES.
NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

BENT BAR DETAILS

CONCRETE PLACEMENT QUANTITIES

REINFORCING BAR LIST

DECK, ABUT. & DIAPH. QUANTITIES
NOTE: ALL DIMENSIONS ARE OUT TO OUT. D= PIN DIAMETER.

BENT BAR DETAILS

CONCRETE PLACEMENT QUANTITIES

DECK, ABUT. & DIAPH. QUANTITIES
**CONCRETE PLACEMENT DIAGRAM**

Note: Concrete shall be placed in sections and sequences indicated. Adequate drainage is required below concrete. Concrete may be placed prior to other work.

The contractor provides the necessary equipment and facilities to accomplish the required results. For approved alternate procedures, the contractor shall ensure that any proposed condition is required to maintain the working tolerance of the concrete deck during placement.

**REINFORCING BAR LIST**

<table>
<thead>
<tr>
<th>Location</th>
<th>Shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deck Longitudinal Top &amp; Bottom</td>
<td></td>
</tr>
<tr>
<td>Deck Longitudinal Top at Piers</td>
<td></td>
</tr>
<tr>
<td>Pier &amp; Diaphragm Longitudinal</td>
<td></td>
</tr>
<tr>
<td>Pier &amp; Diaphragm Vertical</td>
<td></td>
</tr>
<tr>
<td>Pier &amp; Diaphragm Deck Transverse</td>
<td></td>
</tr>
<tr>
<td>Pier &amp; Diaphragm Deck Longitudinal</td>
<td></td>
</tr>
<tr>
<td>Pier &amp; Diaphragm Deck Vertical</td>
<td></td>
</tr>
</tbody>
</table>

**DECK, ABUT. & DIAPH. QUANTITIES**

Epoxy Coated Reinforcing Total (LBS.)

| Total (LBS.) | 1883 |

Non-Coated Reinforcing Total (LBS.)

| Total (LBS.) | 1039 |

Concrete Placement Quantities

<table>
<thead>
<tr>
<th>Location</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1, Deck &amp; Abut. Diaph</td>
<td></td>
</tr>
<tr>
<td>Section 2, Deck</td>
<td></td>
</tr>
<tr>
<td>Section 3, Deck &amp; Abut. Diaph</td>
<td></td>
</tr>
<tr>
<td>Section 4, Deck</td>
<td></td>
</tr>
</tbody>
</table>

**EXHIBIT 59**

**NOTES:**

- Concrete and reinforcing steel quantities are included on the Summary Quantities Sheet.
- All dimensions are out to out. D = Pin Diameter.
- Plasticity of the concrete deck during placement.
- Engineer shall determine if a retard ing admixture is required to maintain the required results. For approved alternate procedures, the contractor shall ensure that any proposed condition is required to maintain the working tolerance of the concrete deck during placement.
**CONCRETE PLACEMENT QUANTITIES**

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>DESIGN NO.</th>
<th>SHEET NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABUT. EXTENSION HOOPS</td>
<td>6</td>
<td>6'-8</td>
</tr>
<tr>
<td>WEIGHT ABUT. EXTENSION HOOPS</td>
<td>68</td>
<td>6'-3</td>
</tr>
<tr>
<td>LENGTH ABUT. EXTENSION HOOPS</td>
<td>6</td>
<td>6'-11</td>
</tr>
<tr>
<td>DESIGN NO.</td>
<td>6</td>
<td>6'-3</td>
</tr>
<tr>
<td>SHEET NUMBER</td>
<td>6'-8</td>
<td>6'-8</td>
</tr>
<tr>
<td>PIER DIAPH. HOOPS EXPANSION PIER ENDS</td>
<td>8</td>
<td>6'-3</td>
</tr>
<tr>
<td>PIER DIAPH. TIES ENDS</td>
<td>8</td>
<td>6'-3</td>
</tr>
<tr>
<td>PIER &amp; ABUT. DIAPH. LONGIT.</td>
<td>12</td>
<td>6'-3</td>
</tr>
<tr>
<td>PIER &amp; ABUT. DIAPH. LONGIT.</td>
<td>12</td>
<td>6'-3</td>
</tr>
<tr>
<td>PAVING NOTCH LONGIT.</td>
<td>12</td>
<td>6'-3</td>
</tr>
<tr>
<td>PAVING NOTCH</td>
<td>12</td>
<td>6'-3</td>
</tr>
<tr>
<td>DECK TRANSV. TOP &amp; BOTT.</td>
<td>12</td>
<td>6'-3</td>
</tr>
<tr>
<td>DECK TRANSV. TOP &amp; BOTT.</td>
<td>12</td>
<td>6'-3</td>
</tr>
<tr>
<td>DECK LONGIT. TOP &amp; BOTT.</td>
<td>12</td>
<td>6'-3</td>
</tr>
<tr>
<td>DECK LONGIT. TOP &amp; BOTT.</td>
<td>12</td>
<td>6'-3</td>
</tr>
<tr>
<td>DECK, ABUT. &amp; DIAPH. QUANTITIES</td>
<td>12</td>
<td>6'-3</td>
</tr>
</tbody>
</table>

**REINFORCING BAR LIST**

<table>
<thead>
<tr>
<th>DECK, ABUT. &amp; DIAPH. QUANTITIES</th>
<th>NON-COADED</th>
<th>EPOXY COATED REINFORCING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Rebar</td>
<td>Diameter</td>
<td>Diameter</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

**CONCRETE PLACEMENT DIAGRAM**

- **Concrete Deck Placement Note**: Account for the possible addition of a retaining admixture to the concrete.
- **Plasticity of the Concrete Deck During Placement**: The Engineer shall determine if a retarding admixture is required to maintain concrete placement to achieve the required results. For approved alternate procedures, the contractor must provide evidence that they possess the necessary equipment and facilities to accomplish the required results. Alternate procedures for placing deck concrete may be submitted for approval together with a statement of the proposed method and evidence of the contractor's capability to execute the procedure.

**NOTE**: Concrete deck shall be placed in sections and sequences indicated.
CONCRETE PLACEMENT DIAGRAM

REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)

REINFORCING STEEL TOTAL (LBS.)

REINFORCING STEEL - TOTAL (LBS.)

DECK, ABUT. & DIAPH. QUANTITIES

FILE NO. 8213-850-S9
COUNT IS 100% COMPLETE

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DECK CONSTRUCTION JOINT

PERMISSIBLE TRANSVERSE

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.

NOTE: CONCRETE AND REINFORCING STEEL QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: CONCRETE AND REINFORCING STEEL QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

ENGINEER SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE THOSE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO

APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE ALTERNATE PROCEDURES FOR PLACING DECK CONCRETE MAY BE SUBMITTED FOR NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.
CONCRETE PLACEMENT DIAGRAM

ENGINEER SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE.

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.

ENGINEER SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE.

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.
ENGINEER SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.  FOR APPROVED ALTERNATE PROCEDURES FOR PLACING DECK CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.

CONCRETE PLACEMENT QUANTITIES

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.

REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)

NON-COATED REINFORCING STEEL - TOTAL (LBS.)

REINFORCING BAR LIST

CONCRETE PLACEMENT DIAGRAM

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.

1. Deck, Abut. & Diaph. Quantities
2. Deck, Abut. & Diaph. Quantities
3. Deck, Abut. & Diaph. Quantities
4. Deck, Abut. & Diaph. Quantities
5. Deck, Abut. & Diaph. Quantities

NOTE: CONCRETE AND REINFORCING STEEL QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.
CONCRETE PLACEMENT DIAGRAM

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.
ALTERNATE PROCEDURES FOR PLACING DECK CONCRETE MAY BE QUANTIFIED FOR
APPROVAL TOGETHER WITH A STATEMENT OF THE ALTERNATIVE METHODS AND EVIDENCE
THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO
ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATIVE PROCEDURES THE
CONTRACTOR SHALL ENSURE THAT ALL CONCRETE DECK PLACEMENT ADHERES TO THE
MANUFACTURER SPECIFICATIONS TO MAINTAIN FLATNESS OF THE CONCRETE DECK.

REINFORCING BAR LIST

TOTAL (LBS.)

EPoxy CoATED REINFORCING

DECK, ABUT. & DIAPH. QUANTITIES

REINFORCING STEEL - TOTAL (LBS.)

CONCRETE PLACEMENT QUANTITIES

LOCATION QUANTITY

SECTION 1, DECK & ABUT. DIAPH.
SECTION 2, DECK
SECTION 3, DECK & PIER DIAPH.
SECTION 4, DECK & PIER DIAPH.
SECTION 5, DECK & PIER DIAPH.

NOTE: CONCRETE AND REINFORCING STEEL QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.
CONCRETE PLACEMENT DIAGRAM

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATIVE PROCEDURES FOR PLACING DECK CONCRETE MAY BE QUANTIFIED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE CONTRACTOR SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN PLASTICITY OF THE CONCRETE DECK DURING PLACEMENT.

ENGINEER SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN PERFORMANCE OF CASTING. FOR APPROVED ALTERNATE PROCEDURES THE CONTRACTOR SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN PERFORMANCE OF CASTING.

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.

BENT BAR DETAILS

CONCRETE PLACEMENT QUANTITIES

LOCATION

SECTION 1, DECK & ABUT. DIAPH.
SECTION 2, DECK & PIERS DIAPH.
SECTION 3, DECK & PIERS DIAPH.
SECTION 4, DECK & PIERS DIAPH.
SECTION 5, DECK & ABUT. DIAPH.

QUANTITY

TOTAL (CU. YDS.)

CONCRETE PLACEMENT QUANTITIES

REINFORCING STEEL QUANTITIES

NOTE: CONCRETE AND REINFORCING STEEL QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

REINFORCING BAR LIST

REP. NO. DESIGN SHEET NO.

SECTION 1, DECK & ABUT. DIAPH.
SECTION 2, DECK & PIERS DIAPH.
SECTION 3, DECK & PIERS DIAPH.
SECTION 4, DECK & PIERS DIAPH.
SECTION 5, DECK & ABUT. DIAPH.

BAR

T.O. EL. LOCATION

FINISH LENGTH

COUNT

PROJECT NUMBER

FILE NO.

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.

ALTERNATIVE PROCEDURES FOR PLACING DECK CONCRETE MAY BE QUANTIFIED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS. FOR APPROVED ALTERNATE PROCEDURES THE CONTRACTOR SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN PLASTICITY OF THE CONCRETE DECK DURING PLACEMENT.

ENGINEER SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN PERFORMANCE OF CASTING. FOR APPROVED ALTERNATE PROCEDURES THE CONTRACTOR SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN PERFORMANCE OF CASTING.

NOTE: CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED.