1. **PILING:** MAXIMUM DESIGN LOADING PER PILE: IN ABUTMENTS AND FEET AT THE END OF THE BRIDGE.

2. **RIPRAP:** THE RIPRAP APRON LENGTH AS REQUIRED ON SPECIAL DRAWING IS OMITTED AND SHALL BE VERIFIED PRIOR TO SUBMITTING SHOP DRAWINGS AND WITH MAIN TRANSVERSE REINFORCING BARS. ANY GALVANIZING REQUIRED INCIDENTALS NECESSARY FOR CONSTRUCTION AND REMOVAL OF SAME.

3. **EFFECTIVE:** AND ALSO THE DATE THE RESTRICTION IS REMOVED. FIVE (5) DAYS IN ADVANCE WHEN RESTRICTED VERTICAL CLEARANCE WILL BE EFFECTIVE.

4. **POURING CURBS, RAILS AND SIDEWALKS:** ALL SLAB CONCRETE SHALL BE SEALED IN ACCORDANCE WITH THE DETAILS SHOWN IN STANDARD DRAWING I-131 WITH SILICONE.

5. **CONCRETE SURFACE FINISH:** CLASS 3 SURFACE FINISH SHALL APPLY TO ALL BRIDGE DECK JOINTS SHALL BE SEALED IN ACCORDANCE WITH THE DETAILS SHOWN IN STANDARD DRAWING I-131.

6. **FOUNDATION REPORT:** ACCESS TO A FOUNDATION REPORT AND CORE BORINGS IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION, INDEPENDENT INTERPRETATIONS OR JUDGMENT OF THE CONTRACTOR. THIS SUBSURFACE INFORMATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED FOR STATE DESIGN AND ESTIMATE PURPOSES. ITS PRESENTATION IS FOR THIS STRUCTURE. ALL AVAILABLE SUBSURFACE INFORMATION BY THE GEOTECHNICAL SECTION OF THE ALABAMA DEPARTMENT OF TRANSPORTATION IS REQUIRED FOR THIS STRUCTURE. THE EXISTING GIRDERS SHALL NOT BE DAMAGED IN ANY WAY DUE TO THE REMOVAL OF THE BRIDGE DECK. THE CONTRACTOR SHALL NOT USE ANY REMOVAL, EQUIPMENT LARGER THAN A 10'-0" HAND FIELD PAVING BREAKER. THE HAMMER SIZE SHALL BE LIMITED TO 35 POUNDS WHEN WORKING WITH-IN 6" OF THE BREAKLINE OR EDGE OF GIRDERS. CARE SHALL BE TAKEN NOT TO DAMAGE THE CONCRETE AND STEEL REINFORCEMENT TO BE TAILORED TOWARD THE BREAKOUT AREA TO PREVENT SPALLS ON THE UNDERSIDE OF THE SLAB. THE CONTRACTOR SHALL REPAIR CONCRETE SPALLS AND DAMAGED STEEL REINFORCEMENT, AT NO ADDITIONAL COST TO THE PROJECT, BY A METHOD APPROVED BY THE ENGINEER. ALL PLAN ELEVATIONS AND DIMENSIONS ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND ANY NEEDED ADJUSTMENTS MADE PRIOR TO SUBMITTING SHOP DRAWINGS AND ANY ADDITIONAL LENGTH SO THE CONTRACTOR CAN FURNISH THE BUREAU WITH ADDITIONAL LENGTH.
**WELDED SPLICE DETAILS**

**NOTE:** Where a welded splice is used, place one (1) stud two inches (2") each side of the welded splice as shown. A full penetration groove weld shall be used for shop welded splices.

**TYPICAL ELEVATION**

**NOTE:** Field splices shall not be located inside the limits of parabolic crowns unless otherwise shown by plan details.

**SECTION A - A**

**NOTE:** Any junctions on roadway edge of slab shall be ground smooth.

**OPTIONAL BOLTED FIELD SPLICE**

**NOTE:** Weight of optional bolted splice plate and 1/8" X 1-1/2" stud will not be measured for payment. Cost shall be included in payment for armor plates.

**ARMOR PLATE CONNECTION DETAIL**

**NOTE:** Armor plates shall be galvanized according to AASHTO M 111 and the following, unless otherwise noted on the contract plans.

1. The armor plate shall be returned to the fabrication shop for inspection after galvanization.
2. Areas which are to be welded after galvanization shall have the galvanization removed prior to welding.
3. The field splice to be welded, cold galvanization shall be used to repair these areas and any damaged areas.
4. Number of bolted splices shall be held to a minimum dependent on construction requirements and approval of the Engineer.

**FIELD WELDING**

The following field welds may be made by an electric arc welder who demonstrates to the project engineer that he is a proficient welder.

1. The cap plates and pile cap channel to piles.
2. Field splices in bridge joint armor plate.
3. This welder is not required to have a qualification card issued by the Alabama Department Of Transportation.
4. All other field welds shall be performed by welders who have current Alabama Department Of Transportation welders qualification cards.
5. Field welding will be permitted on steel girders or steel caps unless otherwise noted on the bridge drawings or approved in writing by the Bridge Engineer.

**PILE SPlice**

**NOTE:** At the contractor's option, pre-fabricated H-Frame splice may be used in lieu of the splice shown. The contractor shall list the manufacturer's Splice details and recommendations for installation to the Construction Engineer for approval.

**PILE CAP PLATE**

**NOTE:** Units of pile to be turned square and bolt welded.

**PILE CAP CHANNEL**

**NOTE:** Shop drawings as required by ALDOT Standard Specs. for pay item 508-A are required for Pile Cap Plate.

**PIPE SLEEVE**

**NOTE:** Shop drawings as required by ALDOT Standard Specs. for pay item 508-A are required for Pipe Sleeve.

**PILE BENT ELEVATION**

**TYPICAL WELDING FOR SWAY BRACING AND BATTENS**

**HOLEs @ HOLD DOWN POINTS**

**PIPE**

**REFERENCE SHEET**

**STANDARD DETAILS**

**INDEX NO.** 51004
PILE PAINTING DETAIL NOTES

1. The System 1A Intermediate and Top Coat may be omitted whenever Concrete Encasement extends to within 6" from bottom of cap.

2. Notched Surface (1'-0" above & below top of encasement) shall receive a SSPC SP6 Surface Preparation prior to being coated with an approved Galv. Repair Paint that satisfies the requirements of sub-article 855.15 of the Standard Specifications.

3. Surface Preparation and Painting for Pile and Sway Bracing shall be Field Applied.

PERMANENT REFERENCE MARK DETAIL

Silicone Joint Seal shall be installed in accordance with the manufacturer's recommendations. Materials used for sealing the joint shall be 100% silicone rubber designed to seal expansion joints that experience both thermal and vertical movement due to traffic loading. Payment for materials and installation shall be included in the Lump Sum Pay Item — "Bridge Concrete Superstructure"

NOTE: Brass marker to be cast in one piece, out of leaded semi-red brass ASTM B-584 alloy. Galv. or approved equal. Aluminum disc shall be aluminum alloy CS 208 or approved equal. 1.25" marker shall be parallel to bridge axis.

JOINT SEAL DETAIL

See bridge plans for required joint opening.

NOTE: Information and field stenciling illustrated in light weight letters shall be the responsibility of the Contractor.

Bridges Skewed 15 Degrees On Std. Dwg. I-131 Sht. No. 4, For Barrier Rail Extension Details, 15 Degrees Less Than 15 Degrees. See

NOTES

1. The System 1A Intermediate and Top Coat shall receive a SSPC SP6 Surface Preparation prior to being coated with an approved Galv. Repair Paint that satisfies the requirements of sub-article 855.15 of the Standard Specifications.

2. Hatched Surface (1'-0" above & below top of encasement) extends to within 6" from bottom of cap.

3. Surface Peparation and Painting for Pile and Sway Bracing shall be Field Applied.

System 1A Primary Coat
SSPC SP10 Surface Preparation

System 1A Intermediate and Top Coat
Galv. Repair Paint
SSPC SP6 Surface Preparation

NOTE: Brass marker to be cast in one piece, out of leaded semi-red brass ASTM B-584 alloy. Galv. or approved equal. 1.25" marker shall be parallel to bridge axis.

NOTE: Information and field stenciling illustrated in light weight letters shall be the responsibility of the Contractor.
A

GUARDRAIL ANCHOR DETAIL

PLAN-ONE WAY TRAFFIC

PLAN-TWO WAY TRAFFIC

▲ GUARDRAIL ANCHOR LOCATIONS

NOTE: Guardrail Anchors are required at both ends of all bridges, as shown. Plates shall be ASTM A 36 steel. Pipe materials shall be one inch (1") or ASTM A 53 schedule 40. Galvanize complete Guardrail Anchor after fabrication in accordance with AASHTO M 111. Attach securely to forms to assure the exposed faces are flush with concrete faces of Barrier Rail. Cost of Guardrail Anchors shall be included in pay item 508-A, unless otherwise noted.

 Match slope shown on Typical Bridge Cross Section of contract plans.

 BARS B1 #4 shall be placed continuously from end of Barrier Rail (where applicable) to fit transition. Bars B1 #4 shall be spaced twenty-four (24) diameters.

 BARS B2

 BARS B3

 BARS B4

 BARS BL4

 ALABAMA DEPARTMENT OF TRANSPORTATION

 PART PLAN - BARRIER RAIL

 SECTION A-A

 NOTE: Bars B1 #4 shall be placed continuously and cut at joint locations to provide for two inch (2") end cover. Field bend Bars B1 #4 to fit transition. Bars B1 #4 shall be spaced twenty-four (24) diameters.

 SECTION B-B

 TYPICAL SECTION - THRU RAIL

 TYPICAL SECTION - THRU RAIL

 FHWA APPROVED

 BRIDGE STANDARD DRAWING

 INDEX NO.

 I-131
PLAN - BARRIER EXTENSION & BARRIER EXTENSION SUPPORT SLAB

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

SECTION F-F

NOTE: See Roadway Drawings for limits of Bridge End Slab.

NOTE: At end of Barrier Extension, chamfer corner of inside face 2" and corner of outside face 1/2".

The 3"launch depth may be adjusted as necessary to accommodate thickness of asphalt overlay as required by roadway drawings. When no overlay material is required, top of Barrier Extension Support Slab shall be constructed flush with finished grade of roadway.

Scuffly surface of backwall that will be in contact with Barrier Extension and apply an approved Type II Epoxy Adhesive to scarified surface just prior to pouring Barrier Extension concrete.

When Barrier Extension Support Slab is poured continuously with Bridge End Slab, Bar BGM4 may be omitted and Bar BAA4 extended 1'-0" into Bridge End Slab. When these pours are made separate, BGM4 may be cast with first pour or installed in drilled 1/2" drilled holes using an approved epoxy grout.

NOTE: See Roadway Drawings for limits of Bridge End Slab.

Concrete for Barrier Extension shall have a minimum 28 day compressive strength of 4000 psi. Reinforcing steel for Barrier Extension Support Slab shall be Gr. 60. Concrete Quantities and Reinforcing Quantities for the Barrier Extension and Barrier Extension Support Slab are included in pay Item 450-B Reinforced Cement Bridge End Slab. (Roadway Item).

Concrete for Bridge End Slab may be poured to the same thickness as the Bridge. Strength of 4000 psi. Reinforcing steel for Bridge End Slab shall be Gr. 60. Concrete Quantities and Reinforcing Quantities for the Bridge End Slab are included in pay Item 450-B Reinforced Cement Bridge End Slab (Roadway Item).
NOTE: Drain shall be white or gray PVC (Sanitary) sewer pipe (Article 854.11). Locate and attach two (2) 1" X 1" (min.) stays every 20' apart, as shown. Stays shall be made from PVC pipe and bonded with PVC solvent cement. One drain over traffic area, unopened scope fills high side if superimposed and in barrier rail transition. Space @ 5'-0" O.C. unless shown otherwise on the contract plans.

Class 3 surface finish is required, or when joint opening is

For spans exceeding 60 feet in length: Provide one open joint at mid-point of the span and additional joint at equal spaces not to exceed 30 feet between joints.

For continuous span units, open joints in barrier rails shall also be provided at interior bent locations.

NOTE: Joint openings shall be three-quarters inch ( 3/4" ) in width whenever barrier rails are constructed by means other than a slip form extension machine.

NOTE: In addition to the open joints shown on the bridge drawings at the beginning and end of spans, open joints in barrier rails as specified in Article 510.03(j) of the Standard Specifications shall be located as follows:

<table>
<thead>
<tr>
<th>Span Up to 60 Feet</th>
<th>Provide One Open Joint at Mid-point of Span.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Spans Exceeding 60 Feet</td>
<td>Provide One Open Joint at Mid-point of the Span and Additional Joint at Equal Spaces Not to Exceed 30 Feet Between Joints. For Continuous Span Units, Open Joints in Barrier Rails Shall Also Be Provided at Interior Bent Locations.</td>
</tr>
</tbody>
</table>

NOTE: The year of completion of bridge shall be constructed on the inside face of barrier rail at beginning and end, as shown. Numerals to be similar to those shown on this sheet.

Numerals may be constructed of suitable material and attached to forms in order to cast six inch (6") high by three-eighths inch (3/8") minimum depth numerals that are permanently embedded within the barrier rail so the face of the numerals are flush with concrete face. Edges of numerals should have inward bevel to insure permanent embedment.

Cost of numerals shall be included in pay item "Bridge Concrete Superstructure".

WATERSTOP DETAIL

NOTE: Open joints in barrier rail to be sealed with a 3'' x 3'' waterstop, except as noted below. Waterstop shall be bonded to bridge deck with an approved adhesive meeting requirements of sub-article 832.05(b) of the Standard Specifications.

Cost of waterstops shall be included in pay item "Bridge Concrete Superstructure".

SPAN REINFORCEMENT DETAIL

REVISIONS

NOTE: Reinforcement in slab may be poured providing 2"-0" at contractor's option.

NOTE: Concrete reinforcing shall be placed with headers parallel to and located at least 1" away from any edge of forms.

Numerals may be formed square at contractor's option. (Typical in mirror file)

NOTE: Open joints in barrier rail to be sealed with a 3'' x 3'' waterstop, except as noted below. Waterstop shall be bonded to bridge deck with an approved adhesive meeting requirements of sub-article 832.05(b) of the Standard Specifications.

Cost of waterstops shall be included in pay item "Bridge Concrete Superstructure".

NOTE: Drain shall be white or gray PVC (Sanitary) sewer pipe (Article 854.11). Locate and attach two (2) 1" X 1" (min.) stays every 20' apart, as shown. Stays shall be made from PVC pipe and bonded with PVC solvent cement. One drain over traffic area, unopened scope fills high side if superimposed and in barrier rail transition. Space @ 5'-0" O.C. unless shown otherwise on the contract plans.

Class 3 surface finish is required, or when joint opening is

For spans exceeding 60 feet in length: Provide one open joint at mid-point of the span and additional joint at equal spaces not to exceed 30 feet between joints.

For continuous span units, open joints in barrier rails shall also be provided at interior bent locations.

NOTE: Joint openings shall be three-quarters inch ( 3/4" ) in width whenever barrier rails are constructed by means other than a slip form extension machine.
**BEARING MARK "VB" DETAIL**

**NOTE:** A bearing layout ( erection plan ) shall be provided by the manufacturer of the bearings whenever Type 4 Mark "VB" elastomeric bearings are specified in the bridge drawings. The layout shall be included in the bearing plate fabrication drawings submitted to the bridge engineer for approval and shall include all bearings- (VB and Mark "B") required for each structure. The layout shall locate each bearing with respect to mark number and shall indicate correct placement of bearings with respect to beveling.

**NOTE:** Sole Plates shall be hot-dipped galvanized in accordance with AASHTO M-111. Beveled edges of the sole plate to receive field welding shall be ground to bevel before being cut in order. Reference Sections 511 and 807 of the standard specifications for bearing plate preparation requirements.

The contractor shall remove any rust that appears on the web areas of the bearing plate and sole plate by wire brushing and prior to field welding these plates. All check plates shall be completed prior to welding of the bearing plate to sole plate.

**NOTE:** For anchor bolt, anchor bolt weld, and clip angle details see Spec. Doc. - 131 Sheet 7 of 8.

**END ELEVATION**

**SOLE VIEW**

**END VIEW**

**PLAN**

**ELEVATION**

**SOLE PLATE DETAIL (FOR ALL GIRDER TYPES)**

**BEARING PAD DETAIL (FOR BEARING MARK "B" & "VB")**

**STANDARD DETAILS**

**REVISIONS**

**INDEX NO.**

**FISCAL NUMBER**

**PROJECT NUMBER**

**REFERENCE SHEET**

**NUMBER**

**DATE OF DRAWING**

**STATE ADOPTED**

**FREIGHT NO.**

**PLOTTED**

**SHEET REFERENCE**

**PLOTTED**

**DATE OF DRAWING**

**STATE ADOPTED**

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