

Note: Use Type B1 Approach Gutters at both ends of bridge. For details, see DWG. No. 2016B + 2017.

Note: For Right-of-Way data and guard rail, see Roadway Plans.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	5802		20	102

① 6404 LAYOUT 31897

GENERAL NOTES

BENCH MARK: Chiseled square northeast wingwall Br. No. M0149, 13' rt. centerline Sta. 25+44, elev. 667.31.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 1991 edition, with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges, 1989 with current interim specifications.

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor
SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:
Class S(AE) Concrete (superstructure) $f'c = 4,000$ psi
Class S Concrete (substructure) $f'c = 3,500$ psi
Reinforcing Steel (A615 or A617, GR. 60) $F_y = 60,000$ psi
Structural Steel (A588) $F_y = 50,000$ psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

STEEL PILING: Piling in End Bents 1 and 4 shall be HP 10x42 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 55 tons per pile and into the material designated as hard sandstone on the boring legend. Lengths of piling shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the standard specifications. Piles in end bents to be driven after embankment to bottom of cap is in place.

FOOTINGS: Footings shall be set a minimum of 1'-6" into material designated as hard shale on the boring legend. The top of the intermediate bent footings shall be set at or below the channel bottom. Foundations for footings shall be prepared in accordance with section 801.04 of the Standard Specifications. Rock excavations shall be made to neat lines of the concrete footings. Care shall be exercised to avoid shattering of rock faces by excessive blasting. Concrete in footings shall be poured directly against excavated surfaces of rock.

BRIDGE DECK: The concrete bridge deck shall be given a fine finish as specified for final finishing in subsection 802.20 for Class 5 Bridge Roadway Surface Finish.

BOILED LINSEED OIL: Boiled linseed oil treatment shall be applied to the roadway surface and to the face and top of the concrete parapet rail.

DETAIL DRAWINGS:	DRAWING NO.
End Bents	31898-31900, 31902, 31903
Intermediate Bents	31901
40'-0" W-Beam spans	31904-31908

EXISTING BRIDGE: The existing bridge No. M0149 (log mile 12.23, 1-span) is 20' wide and 43' long and consists of steel beams and a concrete deck supported by a rubble masonry substructure.

REMOVAL AND SALVAGE: The existing bridge (M0149) shall be removed in accordance with section 205 of the Standard Specifications. All material from the existing bridge shall become the property of the contractor.

TEMPORARY BRIDGE: Construct a 125' long temporary bridge approximately 40' downstream. The temporary bridge shall have a minimum roadway width of 24', a minimum live load capacity of H15 and a minimum deck elevation of 670.0. See section 603 of the Standard Specifications. See drawing numbers 2391, 2391A and 2392A for standard temporary bridge details. If timber piling and pine timber are used on this temporary bridge structure, the materials shall be treated with a preservative according to the standard specifications. See roadway plans for actual detour grade and alignment.

BORING LEGEND

- A - Moist, medium dense, clayey sand with sandstone fragments and cobbles
- B - Medium hard to hard calcareous sandstone
- C - Hard Sandstone
- D - Medium hard to hard calcareous shale
- E - Alternating layers of hard, calcareous shale and hard calcareous siltstone
- F - Medium hard, calcareous weathered shale
- G - Hard, calcareous siltstone
- H - Moist, very stiff, sandy clay with sandstone cobbles and fragments
- J - Soft, calcareous shale
- K - Soft, highly weathered shale

HYDRAULIC DATA

	Frequency	Discharge c.f.s.	Normal Water Surface Elevation	Water Surface Elevation with Backwater
Design Flood	Q ₅₀	3,070	663.7	665.7
Basic Flood	Q ₁₀₀	3,720	664.5	666.8
Extreme Flood	Q ₁₀₀₀	5,700	666.2	668.9

Note: Elevations shown at E are working point elevations. See DWG. No. 31904.

BENT NO.

1 2 3 4

LAYOUT OF BRIDGE OVER
COVE PRONG
MOUNTAIN VIEW-SOUTH BRS. 8 APPRS.
STONE COUNTY
ROUTE 5 SEC. 16
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

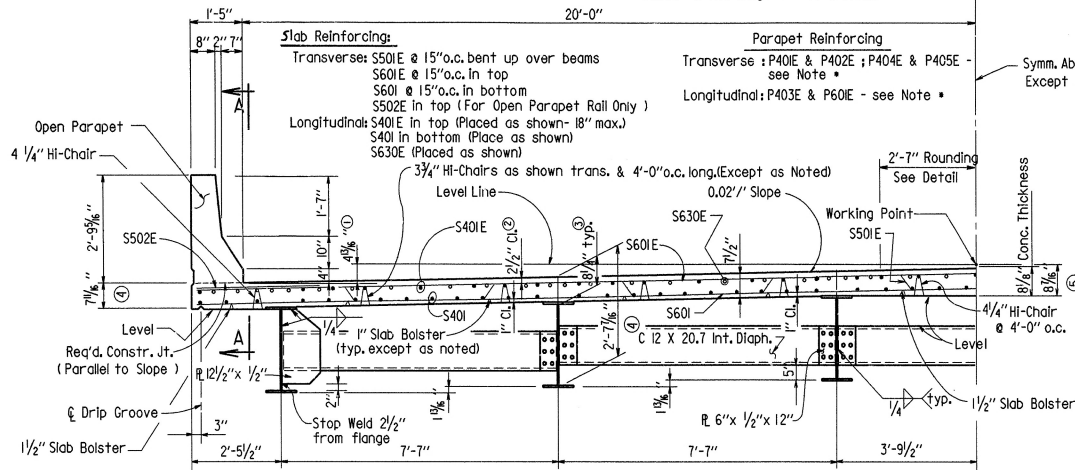
DRAWN BY: EAK DATE: 10-3-89
CHECKED BY: GVA DATE: 11-2-89
SCALE: 1" = 20'-0"

Note: "E" Suffix Indicates the Bars are to be Epoxy Coated.

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				6	ARK.			
				JOB NO.		5802	27	102
				1	6404	SPAN DETAILS		31904

Note: Baked Linseed Oil Treatment shall be applied to the Roadway Surface and the Face and Top of Concrete Parapet Rail.

Note: At Contractor's Option, In lieu of providing bar S501E, two #5 bars may be substituted with the bars in the top mat Epoxy Coated. Payment for Reinforcing will be based based on the weight of bars S501E.



HALF - SECTION NEAR MIDSPAN

1/2" = 1'-0"

① Working Point to Gutter Line

② Tolerance: Minus = 1/4"

Plus: Equal to amount of slab thickening used to meet slab thickness tolerance-See Detail A on drwg. no. 31907.

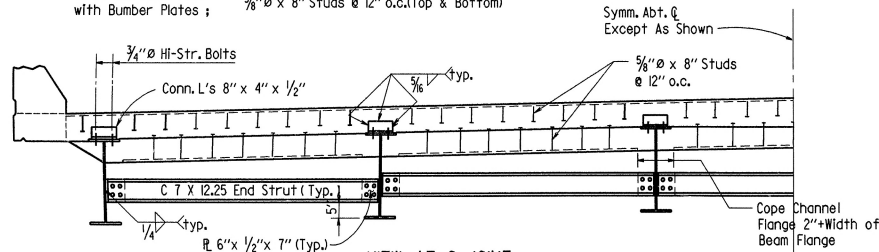
③ See Detail A, drwg. no. 31907.

④ These Dimensions are taken at CL Bearing & CL W-Beam

⑤ Working Point to Bot. of Slab

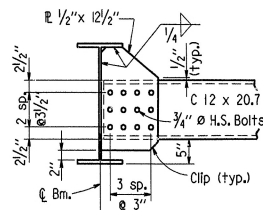
Expansion Device:

Rdwy. C 15 x 33.9 ; Conn. L's 8" x 4" x 1/2" ; Close Cell Joint Filler with Bumber Plates ; Detail Device 1/8" high & provide 1/4" Shims using 2- 1/16" & 1- 1/8" R's ; 3/8" x 8" Studs @ 12" o.c. (Top & Bottom)



VIEW AT JOINT

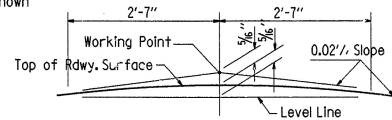
1/2" = 1'-0"



Note: Bolts in Diaphragm Connections shall be properly installed and tightened in accordance with Subsection 807.22 of the Standard Specifications.

DIAPHRAGM CONNECTIONS AT EXTERIOR BEAMS

N.T.S.



ROUNDING DETAIL

N.T.S.

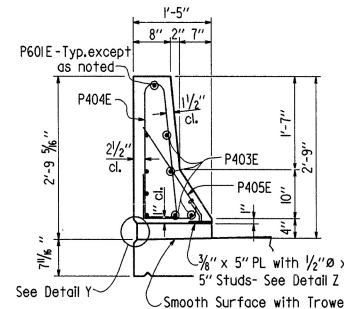
NOTE: Working Point matches Theoretical Roadway Grade.

Note : The Concrete Bridge Deck shall be given a Fine Finish as specified for Final Finishing in subsection 802.20 for Class 5, Roadway Surface Finish.

Holes for 3/4" HI-Str. Bolts for Expansion Device, Diaphragms & End Struts may be 5/8" holes if a washer is supplied for use under both the nut & the head of the bolt.

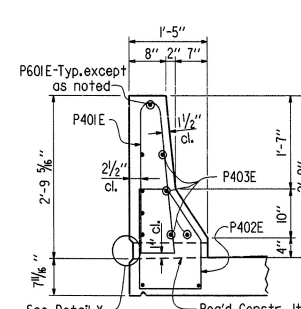
* Note :

For placing of P401E, P402E, P403E, P404E, P405E, P601E & S502E - see Section A-A (For Open Parapet Rail) or Reinforcing Plan.



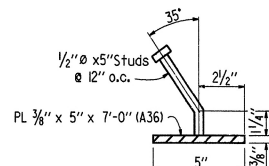
SECTION B-B

3/4" = 1'-0"



SECTION C-C

3/4" = 1'-0"

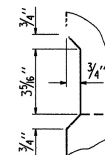


DETAIL Z

N.T.S.

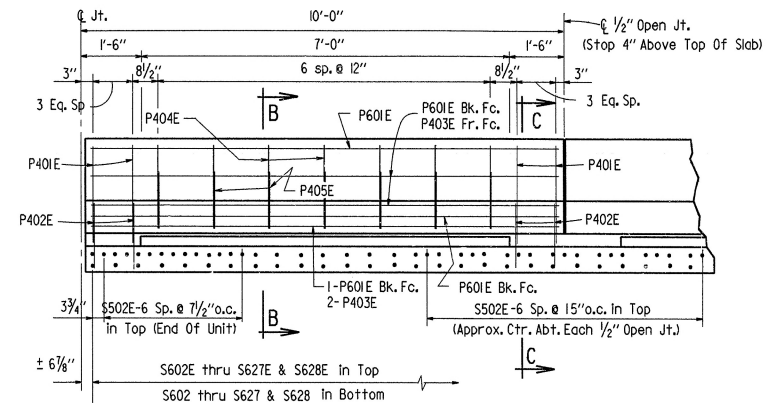
Note:

The surfaces of the 3/8" Plates which will not be in contact with concrete shall receive two coats of paint in the shop. These coats shall be those specified as Shop Prime Coat and Finish Coat in Section 638 as approved by the Engineer. Painting will not be paid for directly, but will be included in the item of structural steel.



DETAIL Y

N.T.S.



SECTION A-A (FOR OPEN PARAPET RAIL)

No Scale

Note :

Design Specifications: AASHTO 1989 with current Interim specifications

Live loading: HS20

Method of Design: Load Factor

Dead Load:

Interior Beam

Exterior Beam

A. To W-Beam

722 plf +

580 plf +

B. To Composite Beam

1.3 (Wt./Ft. of W-Bm.)

1.3 (Wt./Ft. of W-Bm.)

Open Parapets

277 plf *

277 plf *

Live Load: To each composite beam

1.379 wheels + impact

1.286 wheels + impact

* Includes 160 plf future wearing surface

Material Strengths:

Class (SAC) Concrete (N=8)

f'c = 4,000 p.s.i.

Reinforcing Steel (A615 or A617)

f'y = 60,000 p.s.i.

Structural Steel (A36)

Fy = 36,000 p.s.i.

Structural Steel (A588)

Fy = 50,000 p.s.i.

SHEET 1 OF 5
DETAILS OF 120'-0" CONTINUOUS
W-BEAM UNIT
COVE PRONG
STONE COUNTY

ROUTE 5 SEC. 16

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: J.P.S.

DATE: 3-26-90

CHECKED BY: GVA

DATE: 6-27-90

DESIGNED BY: JGT

DATE: 3-90

SCALE: AS SHOWN