

U.I.P., REDECK, STRENGTHEN AND REHABILITATE EXISTING (66'-87'-66')
CONTINUOUS COMPOSITE PLATE GIRDER SPANS

SEC/SUR 104&1202 TWP 47N RGE 6E

Required Lap Length For Bar Splices (1)

Bar Size	Splice Length
4	2'-8"
5	3'-4"
6	4'-0"
7	4'-8"

(1) Unless otherwise shown.

Table Showing S6 Bar Lengths

Int. Bent No. 2		Int. Bent No. 3	
Span 1	Span 2	Span 2	Span 3
15'-6"	15'-6"	15'-6"	15'-6"

General Notes:

Design Specifications:
2002 AASHTO LFD (17th Ed.)
Standard Specifications

Design Loading:
HS20-44
35 lb/sf Future Wearing Surface
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf

Design Unit Stresses:

Class B-1 Concrete $f'c = 4,000$ psi
Class B-2 Concrete (End Bents, Superstructure, except Barrier) $f'c = 4,000$ psi
Reinforcing Steel (ASTM A615 Grade 60) $f_y = 60,000$ psi
Structural Carbon Steel (ASTM A709 Grade 36) $f_y = 36,000$ psi

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Miscellaneous:

The top, sides and bottom of the top flanges of existing steel girders shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mills before concrete is poured. The cost will be considered completely covered by the contract unit price for Slab on Steel.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars, unless otherwise noted.

Final top of slab elevations shall match existing top of overlay elevations.

Roadway surfacing adjacent to bridge ends shall match new bridge slab surface. (Roadway item)

All concrete repairs shall be in accordance with Sec 704, unless noted otherwise.

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Longitudinal dimensions are based on original plans.

Contractor shall verify all dimensions in field before ordering new material.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

MBS refers to mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 or 710.

Traffic Handling:

Traffic to be maintained on structure during construction. See roadway plans for traffic control.

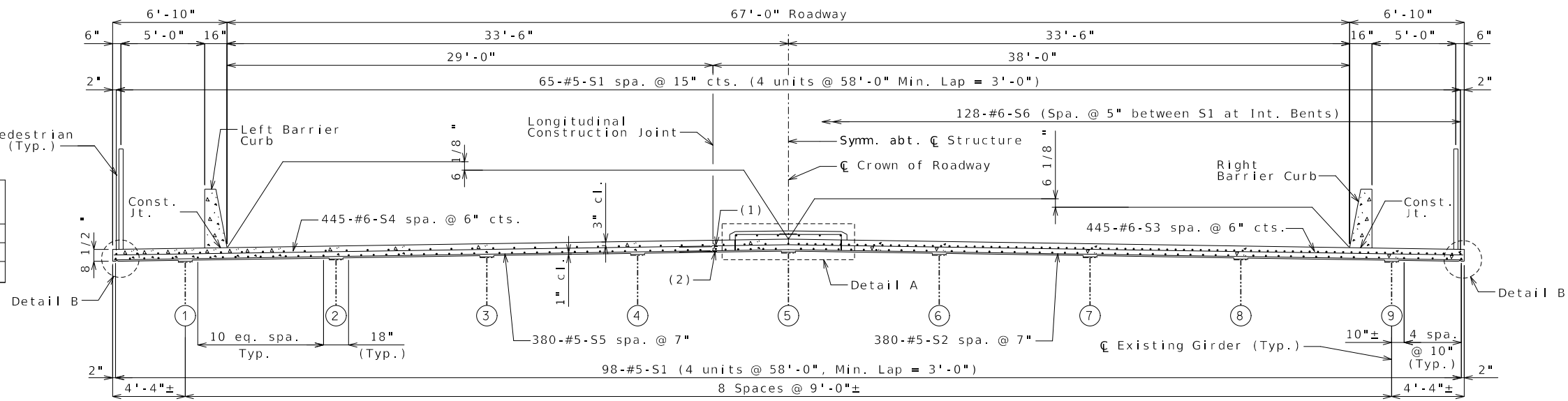
Resin Anchor Systems:

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

The minimum embedment depth in concrete with $f'c = 4,000$ psi for the resin anchor systems shall be that required to meet the minimum ultimate pull out strength in accordance with Sec 1039 but shall not be less than 5".

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Raised Median Barrier.

An epoxy coated #4 Grade 60 reinforcing bar 4'-5" long shall be substituted for the 1/2"Ø threaded rod.

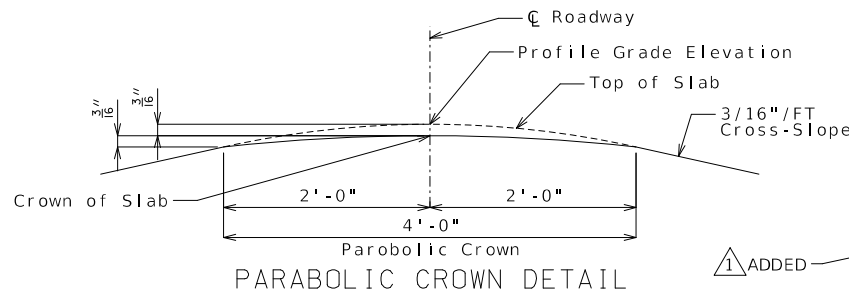


HALF SECTION NEAR MIDSPAN

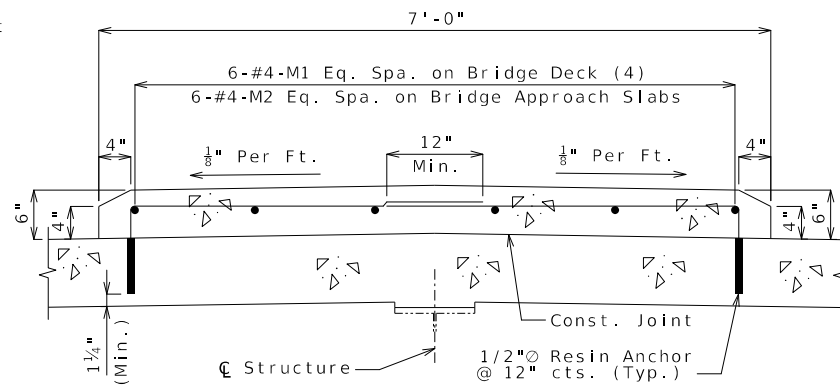
HALF SECTION NEAR INT. BENT

TYPICAL SECTION THRU SLAB
(Looking Ahead Station, Slab Drains Not Shown)

- MBS = Mechanical Bar Splice
(1) 445-#6-MBS S3-S4, 4-#6-MBS H106-H107 & 4-#6-MBS H400-H401
(2) 380-#5-MBS S2-S5



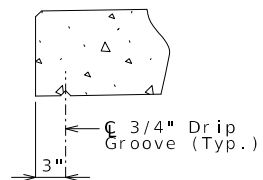
PARABOLIC CROWN DETAIL



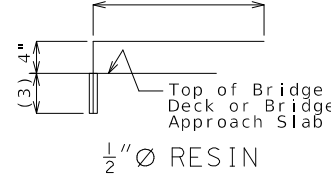
Mountable Class Median

DETAIL A

- (4) 6 units @ 38'-9", Min. Lap = 23"
The cost of the M1 and M2 bars, complete in place, will be considered completely covered by the contract unit price for Raised Median Barrier.



DETAIL B



ANCHOR DETAIL

(526 required, epoxy coated)

- (3) Manufacturer's recommended embedment length (5" Min.)

Estimated Quantities		
Item		Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot	20
Temporary Shoring	lump sum	1
Removal of Existing Bridge Deck	sq. foot	18,516
Repair Existing Approach Haunch	linear foot	36
Remove and Replace Approach Haunch	linear foot	36
Bridge Approach Slab (Major)	sq. yard	359
(72 in.) Pedestrian Fence - Black Vinyl Coated	linear foot	525
Slab on Steel	sq. yard	1,993
Type D Barrier	linear foot	525
Raised Median Barrier	sq. foot	1,836
Substructure Repair (Unformed)	sq. foot	50
Mechanical Bar Splice	each	849
Strengthening Existing Beams	lump sum	1
Slab Drain	each	40
Surface Preparation for Overcoating Structural Steel (System G)	sq. foot	2,800
Intermediate Field Coat (System G)	sq. foot	2,800
Finish Field Coat (System G)	sq. foot	2,800
Vertical Drain at End Bents	each	2
Open Cell Foam Joint Seal	linear foot	81

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

Estimated Quantities for Slab on Steel		
Item		Total
Class B-2 Concrete	cu. yard	1,405
Reinforcing Steel (Epoxy Coated)	pound	147,860

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

REPAIRS TO BRIDGE:
ROUTE 67 OVER COLDWATER CREEK

ROUTE 67 FROM ROUTE AC TO ROUTE 367
ABOUT 0.5 MILE NORTHEAST OF ROUTE AC
BEGINNING STATION 251+00.90± (MATCH EXISTING)

REVISED

Detailed Sep. 2024
Checked Sep. 2024

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 16



RODNEY D. RILEY
LICENSED PROFESSIONAL ENGINEER
E-26267

DATE PREPARED

31-Oct-2024

ROUTE 67 STATE MO

DISTRICT BR SHEET NO. 1

COUNTY ST LOUIS

JOB NO. J6S3669

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A10742

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

JACOBS ENGINEERING GROUP

1001 HIGHLANDS PLAZA DR. WEST, SUITE 400

ST. LOUIS, MISSOURI 63110

PHONE: (314) 385-4000

FAX: (314) 385-4000

CERTIFICATE NO. #00704

REVISIONS

09:09:10-DEC-2024