

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	SE-53	19		

BILL OF REINFORCING STEEL					
No.	Size	Length	Mark	Location	Bending Sketch and Cutting Diagrams.
16	3/8"	24'-9"	C1	Curb	
68	3/8"	21'-0"	C2	"	
182	5/8"	20'-9"	S1	Slab	
52	5/8"	24'-6"	S2	"	
22	5/8"	22'-3"	S3	"	
4	5/8"	21'-3"	S4	"	

Note: Dimensions given are along center line of bars and are for computed lengths.

Note: See Special Provisions in regard to ordering piling. All piling to be creosoted timber and ordered to the following lengths: 8 @ 30'-0" and 4 @ 15'-0". These lengths include 12" cut-offs. All piles to be driven to full penetration or to practical refusal, on solid rock, boulders, or cemented gravel.

REVISIONS REQUIRED
SEE SHEET NO. 3 OF 3 FOR THE FOLLOWING ITEMS
(1) Type of Handrail
(2) Width of Curb
(3) Type of Diaphragms.
Note: Details on any other sheet conflicting with those shown on Sheet No. 3 are VOID.

GENERAL NOTES:

Loading: One 10 Ton Truck, 80% of weight on rear axle, 30% impact, 14'-0" wheel base, 6'-0" gage, 10" tire.
All concrete to be 1:2:3 1/2 mix "X".
Exposed edges to be beveled 3/4" where no other bevel is noted.
All timber to be creosoted Douglas Fir of the West Coast Region, Close-grained Structural Grade; creosoted Southern Yellow Pine, Dense Structural Square Edge and Sound Grade; or untreated California Redwood, Prime Structural Grade. Timber rough full-sawn except as noted in timber bill for pile caps. Slight variations in sawing to be in accordance with grading rules. All treated timber to be cut to lengths, shaped and bored as shown before treating. Backing plank are all billed 6' long and are to be fitted and cut in the field.
Field holes for drift pins shall be field bored 3/8". Unless otherwise noted all other field holes in timber shall be field bored 3/4".
When bolts with countersunk heads are indicated on plans cut washers shall be used under heads, O.G. washers shall be used under heads of all other bolts and under nuts of all bolts.
Cost of substructure hardware to be included in price bid for timber in place.
I-Beams with fastenings, spacers, handrail, handrail posts with fastenings, and cap plate on end bent with fastenings, will be paid for as structural steel. Cost of metallic edge moulding will be included in unit bid price for concrete.
Rivets 3/4" holes 1/2", except in handrail where rivets shall be 5/8" holes 1/2". Field connections for handrail channels shall be 3/8" button head bolts and for connections of rail to railposts shall be 3/4" bolts, holes 1/2". All other field connections shall be 3/4" machine bolts, 1/2" holes, except where 3/8" turned bolts are called for in connections of railposts to brackets and in beam connections. Holes for 3/8" turned bolts to be subpunched and reamed to driving fit. Detail shop drawings shall be submitted to the State Highway Department in duplicate and shall be approved before steel is fabricated.
Where rubber compound is specified on plans for use in partition and expansion joints, the pre-mould joint shall be securely stitched to one face of concrete with copper wire. See Special Provisions in regard to permissible substitutions of beams, and basis of payment.
Bridge excavation will be allowed for all bents within horizontal limits shown and noted on sheet #2. This excavation will be computed from existing ground line to bottom end of 6"x6" backing supports for end bents.
Paint: Shop: none; Field, contact surfaces with bolted field connections one coat red lead, and surfaces inaccessible after erection three coats of red lead. No other paint to be applied by contractor. Red lead required shall be furnished by the contractor. See Special Provisions.

BRIDGE OVER PANTHER CREEK

STATE ROAD FROM CAMDEN TO CLAY CO. LINE

ABOUT 2 1/2 MILES WEST OF CAMDEN

PROJECT NO. SE-53

STA 461+23

RAY COUNTY

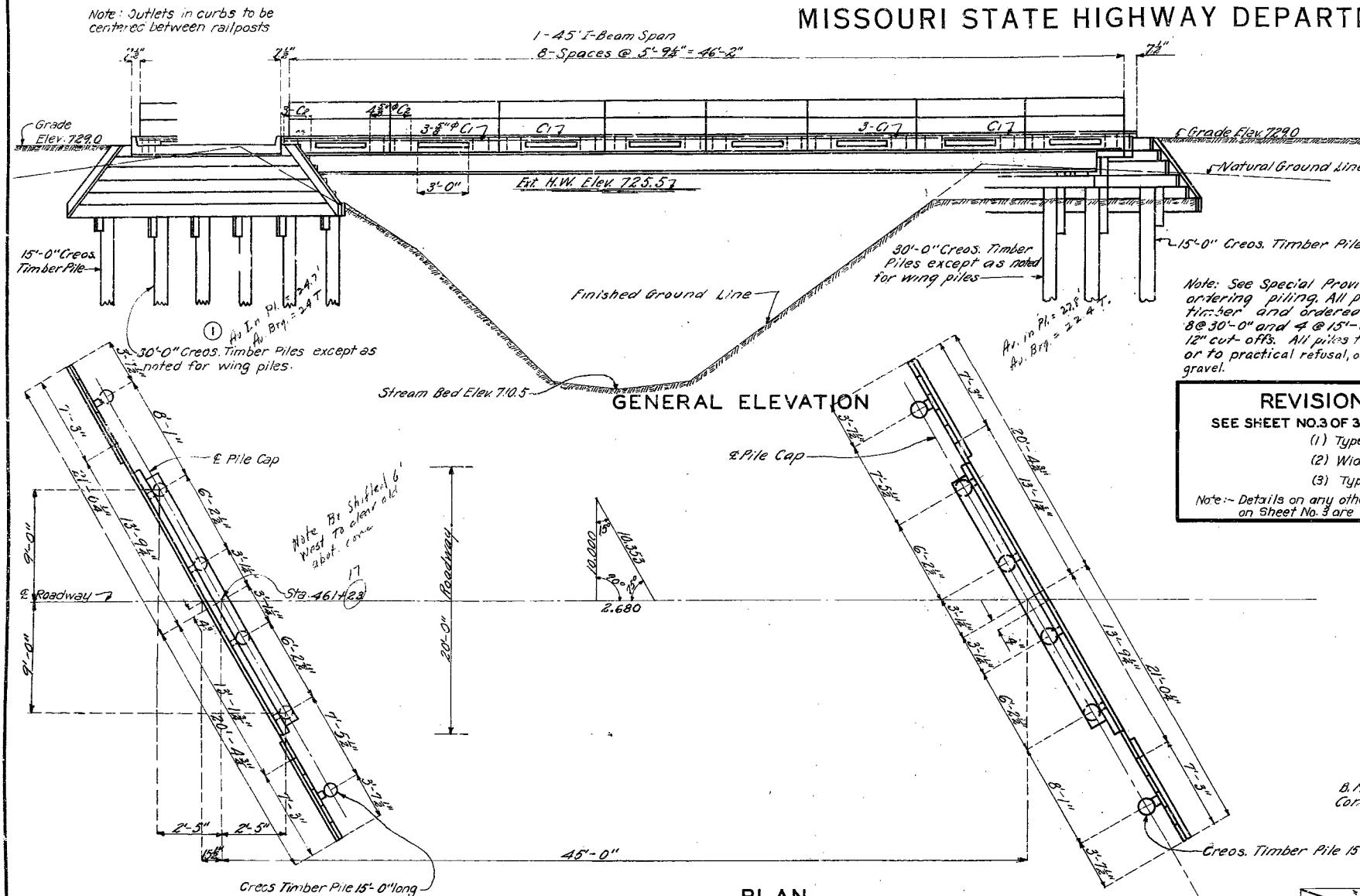
SUBMITTED BY N. R. Ray DATE: 12/12/33

APPROVED BY J. H. Cutler DATE: 12/12/33

CHIEF ENGINEER

S-700

Sheet No. 1 of 3.



PLAN

SUBSTRUCTURE TIMBER BILL

PIECE	NO. PCS.	SIZE	LENGTH	REMARKS	SHAPING AND BORING SKETCHES
Backing Plank	2	3"x12"	17'-9 1/2"	Cut to length.	
"	2	3"x12"	24'-7 1/2"	" " " "	
"	2	3"x12"	22'-5 1/2"	Cut to length & shape.	
"	2	3"x12"	16'-10 1/2"	" " " "	
"	2	3"x12"	14'-8 1/2"	" " " "	
"	2	3"x12"	21'-6 1/2"	" " " "	
"	2	3"x12"	19'-4"	" " " "	
"	2	3"x12"	13'-9"	" " " "	
"	2	3"x12"	11'-7"	" " " "	
"	2	3"x12"	18'-5"	" " " "	
Edge Support	4	3"x12"	10'-8 1/2"	" " " "	
Shoulder Plank	2	3"x8"	23 1/2"	" " " "	
"	2	3"x8"	23 1/2"	" " " "	
Backing Support	8	6"x6"	6'-6"	" " " "	
"	4	6"x6"	4'-0"	" " " "	
Backing Support Cap	2	6"x6"	23'-2 1/2"	Cut to length.	
Pile Cap	2	12"x12"	21'-1 1/2"	Cut to length. *	

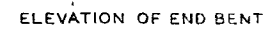
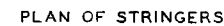
* 525 to exactly 1 1/2" depth.

Note: Pile caps to be classified as "Beams and Stringers." All other timber to be classified as "Joists and Plank."

LOCATION SKETCH

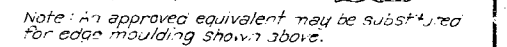
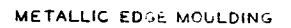
Drawn Jan. 1931 By R.J.G.
Traced Feb. 1931 By R.J.G.
Checked Feb. 1931 By J.H.V.
Assembled Jan. 1933 By J.E.B.
Checked Jan. 1933 By G.F.K.

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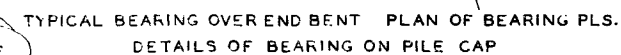
NAILING SCHEDULE:

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



Note: Depth of outside stringers will, in some cases be a fraction of an inch less than that of inside stringers and in order to keep bottom of slab horizontal it will be necessary to haunch slab down to top of outside stringers.

Note: See Special Provisions in regard to permissible beam substitutions and basis of payment.



PLAN OF END BENT



FOR STD. & BETH. BEAMS
DETAILS OF FLANGE CLAMPS

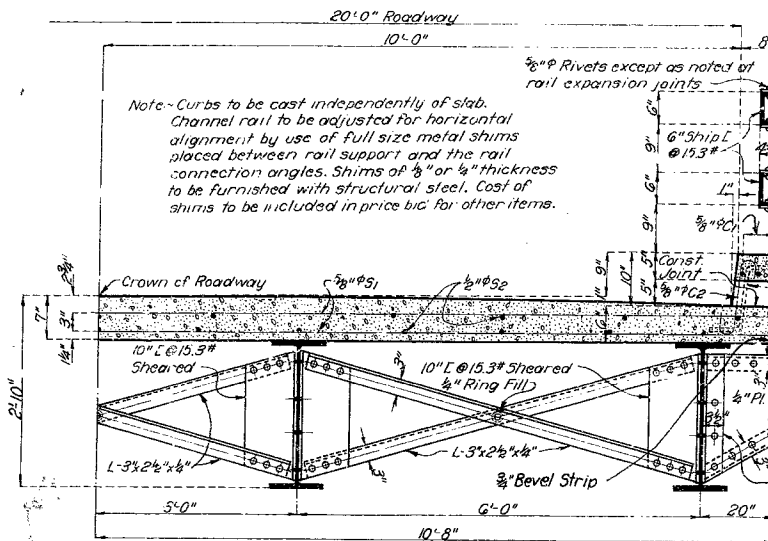
BRIDGE OVER PANTHER CREEK

PROJECT NO. **SE-S3** STA **461+23**

COUNTY

MISSOURI STATE HIGHWAY DEPARTMENT

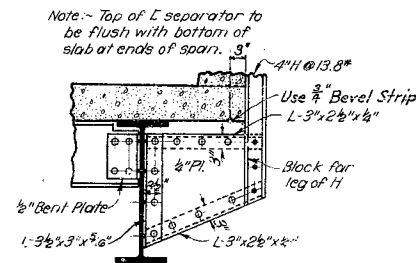
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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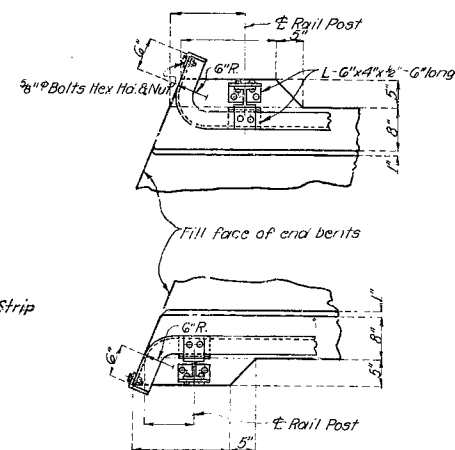
HALF CROSS SECTION THRU SPAN

Note: Depth of outside stringers will in some cases be a fraction of an inch less than that of inside stringers & in order to keep bottom of slab horizontal it will be necessary to haunch slab down to top of outside stringers.

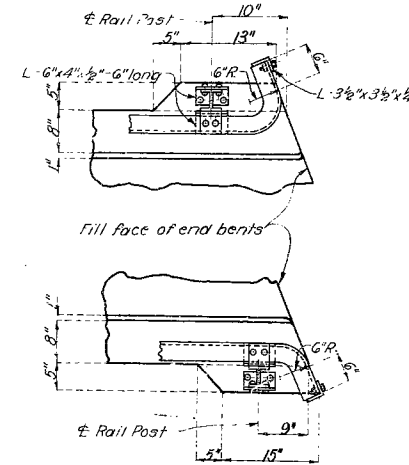
Note: Top of L separator to be flush with bottom of slab at ends of span.



DETAIL OF RAIL BRACKETS AT ENDS OF SPAN

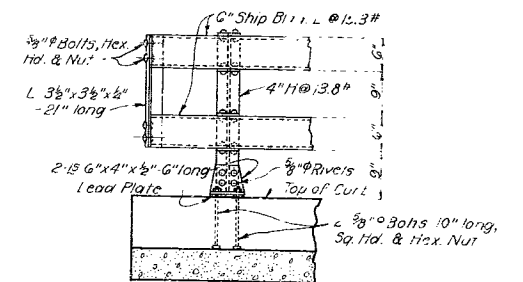


LEFT ADVANCE



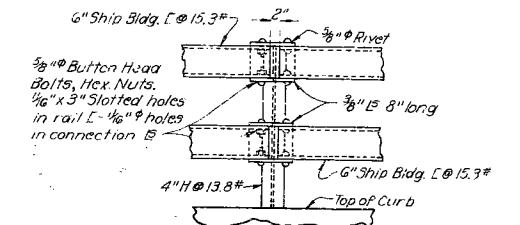
RIGHT ADVANCE

PLAN OF RAIL AT END BENTS FOR-SKEWS



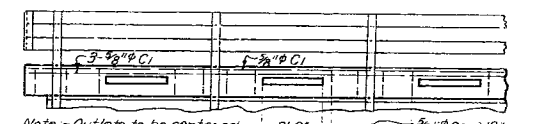
SECTION THRU SLAB AT END BENTS

Note: Top of curbs under end posts shall be finished to smooth surface parallel to grade. Not less than one nor more than four soft lead plates of $\frac{1}{8}$ " thickness shall be used under angles of each end rail post for aligning rail to correct elevation. Plates shall be 8x6" and shall be punched $\frac{3}{8}$ " on same gauge as angles. No grouting permitted. Cost of lead plates to be included in price bid for other items.

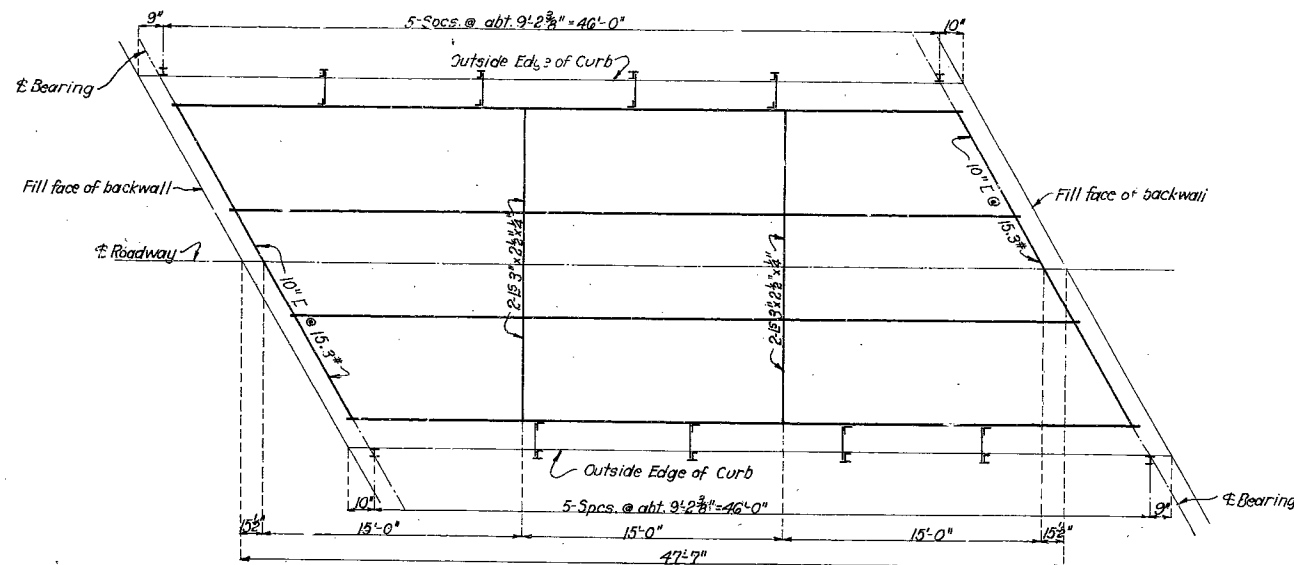


DETAILS OF RAIL EXPANSION JOINT

Note: Use similar detail at rail splices. Omit slotted holes and 2" exp. gap.



PART ELEVATION OF HANDRAIL & CURB



PLAN OF RAIL POST SPACING

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

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STATE ROAD FROM CAMDEN TO CLAY CO. LINE

ABOUT 2.2 MILES WEST OF CAMDEN

PROJECT NO. S.E.-53

STA. 461+23

RAY

COUNTY

Drawn July 1933 By H.E.C.
Traced July 1933 By H.E.C.
Checked July 1933 By N.W.R.

Assembled Nov. 1933 By H.E.C.
Checked Nov. 1933 By A.F.K.

Sheet No. 3 of 3

S-700