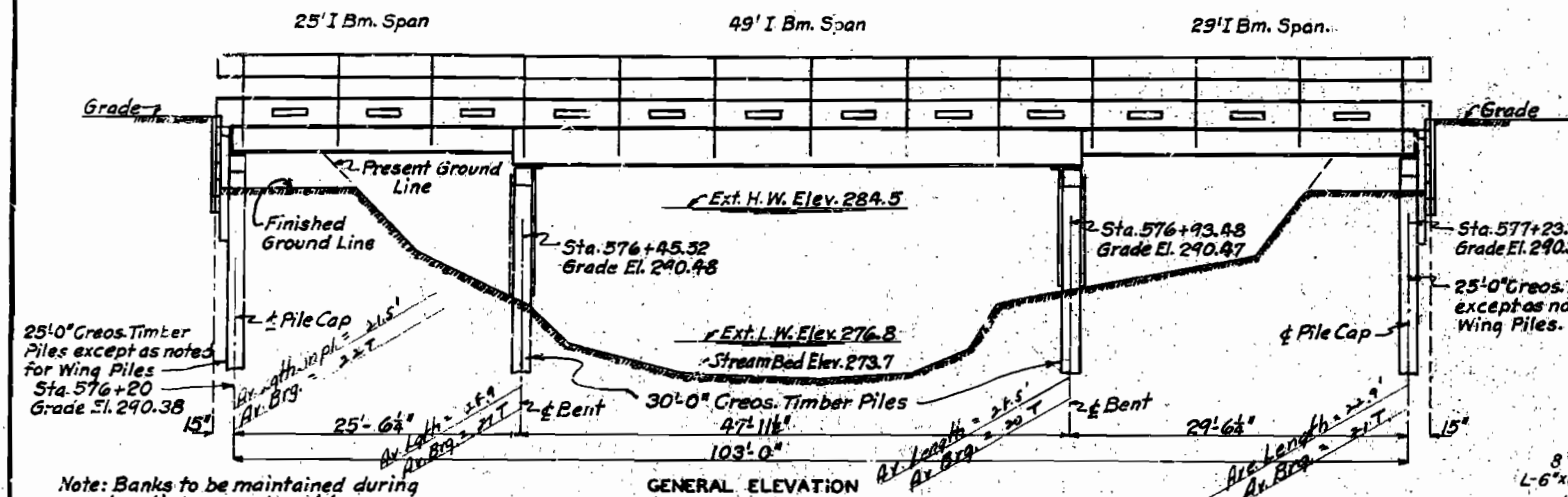
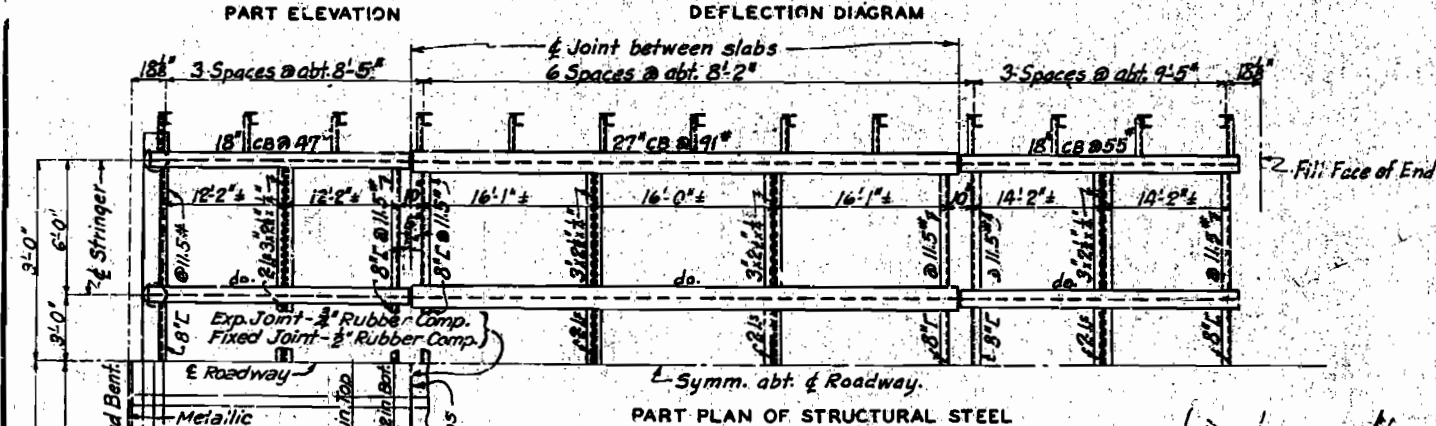
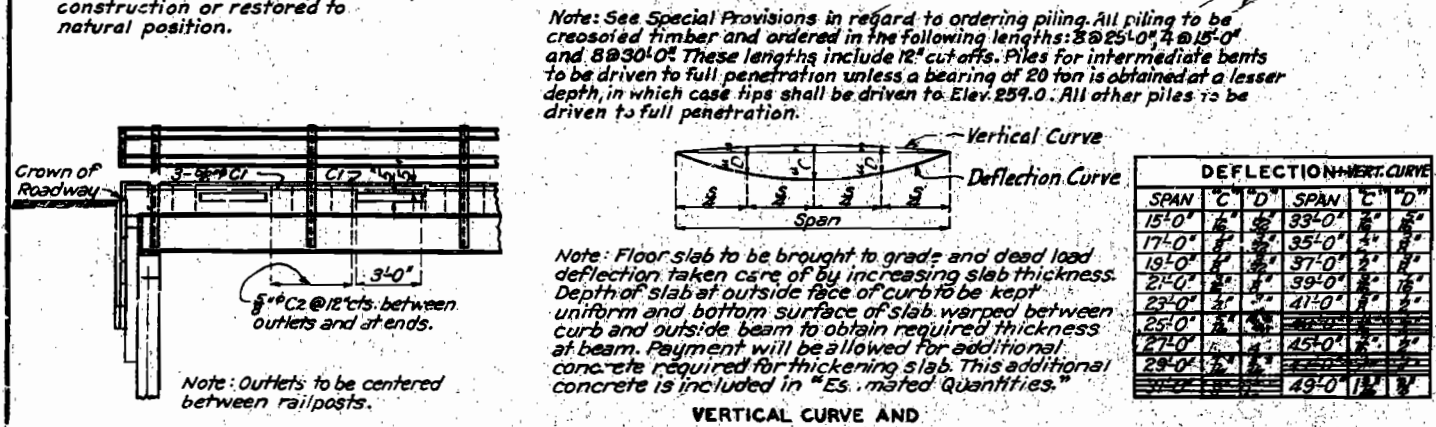
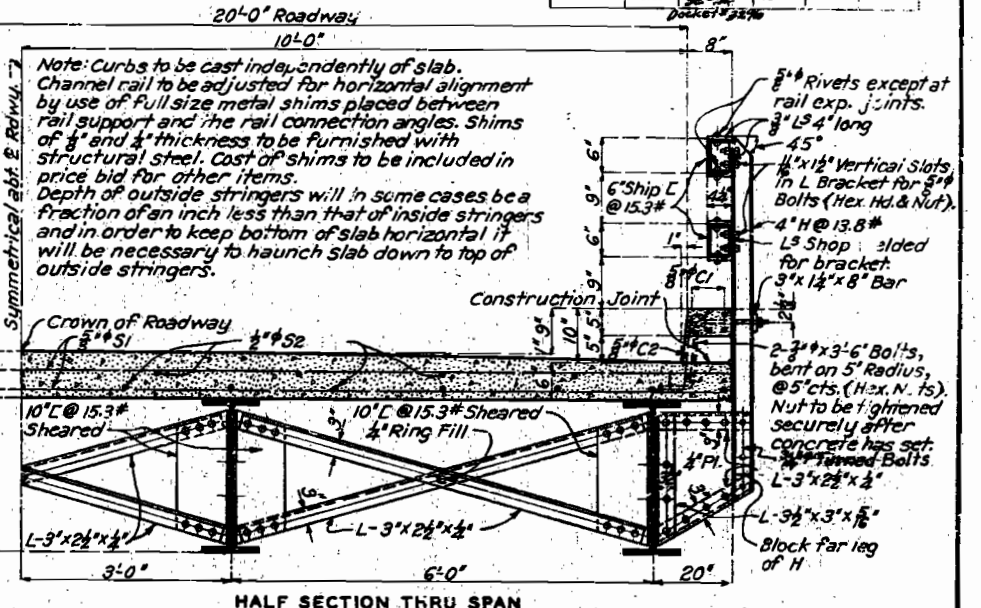
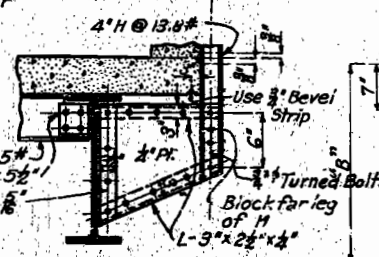


MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	10716	19	19	20



DIMENSION "B"			
SPAN	"B"	SPAN	"B"
15'-0"	20'-0"	33'-0"	2'-4"
17'-0"	21'-0"	35'-0"	2'-4"
19'-0"	22'-0"	37'-0"	2'-4"
21'-0"	23'-0"	39'-0"	2'-6"
23'-0"	23'-0"	41'-0"	2'-7"
25'-0"	24'-0"	43'-0"	2'-7"
27'-0"	24'-0"	45'-0"	2'-7"
29'-0"	24'-0"	47'-0"	2'-7"
31'-0"	24'-0"	49'-0"	2'-9"



Note: Top of channel separators at ends of each I-Beam span to be flush with bottom of floor slab as shown in Section Thru End Bent At E.

SPAN	PER PLAN		PERMISSIBLE SUBSTITUTIONS	
	CARNEGIE BEAMS	STANDARD I-BEAMS	BETHLEHEM BEAMS	
15'-0"	14" @ 30#	14" @ 30#	12" @ 40#	12" @ 35#
17'-0"	14" @ 30#	14" @ 30#	12" @ 40#	12" @ 35#
19'-0"	16" @ 36#	16" @ 36#	15" @ 42#	15" @ 36#
21'-0"	16" @ 36#	16" @ 36#	15" @ 42#	15" @ 36#
23'-0"	16" @ 40#	16" @ 40#	15" @ 45#	15" @ 40#
25'-0"	16" @ 40#	16" @ 40#	15" @ 45#	15" @ 40#
27'-0"	18" @ 47#	18" @ 47#	18" @ 54#	18" @ 47#
29'-0"	18" @ 47#	18" @ 47#	18" @ 54#	18" @ 47#
31'-0"	21" @ 59#	21" @ 59#	20" @ 65#	21" @ 59#
33'-0"	21" @ 59#	21" @ 59#	20" @ 65#	21" @ 59#
35'-0"	21" @ 59#	21" @ 59#	20" @ 65#	21" @ 59#
37'-0"	21" @ 73#	21" @ 73#	20" @ 81#	21" @ 73#
39'-0"	24" @ 87#	24" @ 87#	24" @ 93#	24" @ 87#
41'-0"	24" @ 87#	24" @ 87#	24" @ 93#	24" @ 87#
43'-0"	24" @ 87#	24" @ 87#	24" @ 93#	24" @ 87#
45'-0"	24" @ 87#	24" @ 87#	24" @ 93#	24" @ 87#
47'-0"	27" @ 91#	27" @ 91#	27" @ 99#	27" @ 91#
49'-0"	27" @ 91#	27" @ 91#	27" @ 99#	27" @ 91#

FINAL QUANT.	ESTIMATED QUANTITIES			
	ITEM	SUPERSTR.	SUBSTR.	TOTAL
12.2	Bridge Excavation Class 1 Cu. Yds.		120	120
	Bridge Excavation Class 2 Cu. Yds.			
	Concrete 1:2:4 mix "B" Cu. Yds.			
53.0	Concrete 1:2:3 1/2 mix "X" Cu. Yds.	53.0		53.0
	Fabricated Structural Steel Lbs.	43600		43600
	Reinforcing Steel Lbs.	13280		13280
48.2	Crossed Timber Piles Lin. Ft.		480	480
8.2	Crossed Timber Pile Cut-offs Lin. Ft.		20	20
24.2	Timber (See Special Provisions) F.B.M.		2625	2625
4.5	Class "A" Excavation (Rdwy) Cu. Yds.	50		50

Note: Bridge excavation will be allowed for all bents within horizontal limits shown and noted on these design plans, sheet # 2. This excavation will be computed from existing ground line to bottom end of 6" x 6" backing supports for and bents and to bottom of sway bracing for interior bents. All bridge excavation will be paid for as Class 1 Bridge Excavation. Straight banks under ends of bridge shall be excavated to a depth of 2'-0" below bottom of beams within the maximum horizontal limits of 4'-0" outside of curb lines or 4' will be paid for at unit price bid for roadway excavation. Bar supports and spacers will be required for reinforcing steel in superstructure. See Standard C-10R and Special Provisions.

GENERAL NOTES:
All concrete to be 1:2:3 1/2 mix, Class "X". Exposed edges to be beveled 3" where no other bevel is noted. All timber to be cross-grained Douglas Fir of the West Coast Region; Structural Square Edge and Sound Long Leaf Southern Yellow Pine; Dense Structural Square Edge and Sound Short Leaf Southern Yellow Pine; or untreated Prime Structural California Redwood. All 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. Payment will be based on quantities of material in finished structure. Field holes for drift pins shall be field bored 3/4". 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, clip angles, and cap plate at end bents with fastenings, will be paid for as structural steel. Cost of metallic edge moulding will be included in price bid for concrete. 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-moulded joint shall be securely stitched to one face of concrete with copper wire. Paint: Shop, none: Field, contact surfaces of 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. See Special Provisions in regard to permissible beam substitutions and basis of payment. Protection caps to be placed on heads of all piles of pile bents in accordance with Section 23-6 of Standard Specifications issued April 1, 1930. 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 5/8" button head bolts and for connection of rail to railposts shall be 5/8" bolts, holes 1/2". All other field connections shall be 3/4" machine bolts, 1/2" holes, except where 3/4" turned bolts are called for in connections of railposts to brackets and in beam connections. Holes for 3/4" turned bolts to be subpunched and reamed to driving fit. Dardet rivet bolts or equal may be substituted if desired for all button head, machine, or turned bolts in all bolted field connections. B.M. Elev. 291.61 N.R. 8' Jak 256 Lt. Sta. 576+80.

BRIDGE OVER LITTLE RIVER-D.D.NO.251

STATE ROAD FROM MOREHOUSE TO LILBOURN
ABOUT 5.0 MILES S.E. OF CANALOU
PROJECT NO. PWA76 SE-54 STA. 571+20
R.T.E.

NEW MADRID COUNTY
SUBMITTED BY: [Signature] DATE: 8/11/34
APPROVED BY: [Signature] DATE: 8/11/34
CHIEF ENGINEER

STD. CHGR
T-254

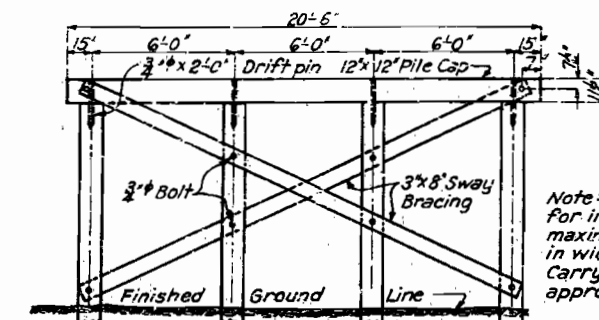
Drawn July 1933 By R.J.G.
Traced July 1933 By R.J.G.
Checked Aug. 1933 By M.W.R.
Assembled Aug. 1934 By T.A.M.
Checked Aug. 1934 By M.W.R.

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

Sheet No. 1 of 2.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	1017-22	19	19	20



Note: Excavation will be allowed for interior bents within the maximum horizontal limits of 4'-9" in width and 20'-6" in length. Carry sway bracing down to approximately Elev. 279.0

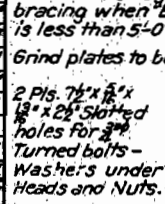
DETAIL OF INTERIOR BENTS

Note: Any irregularity in alignment of piling in end bents to be corrected by facing one surface of the 6"x6" backing support so as to place the surface of the backing in a true plane and eliminate any strain on the backing plank. Splice in backing plank to be made at center of 6"x6" backing support and to be alternated on the two intermediate supports.

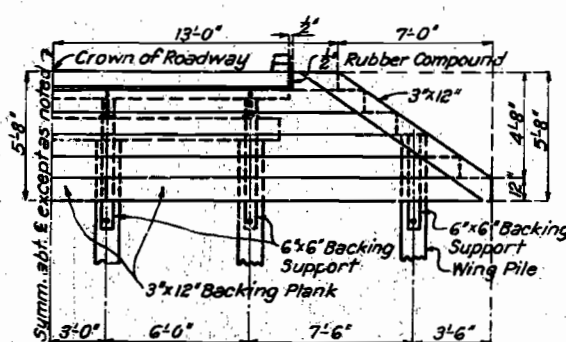
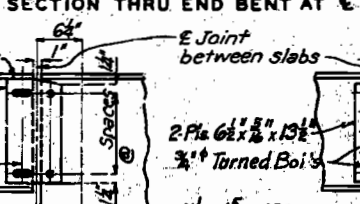
DIMENSIONS

SPAN	"G"	"H"
15'-0"	21'-0"	21'-0"
17'-0"	21'-0"	22'-0"
19'-0"	23'-0"	23'-0"
21'-0"	23'-0"	24'-0"
23'-0"	23'-0"	24'-0"
25'-0"	23'-0"	24'-0"
27'-0"	23'-0"	24'-0"
29'-0"	23'-0"	24'-0"
31'-0"	23'-0"	24'-0"
33'-0"	23'-0"	24'-0"
35'-0"	23'-0"	24'-0"
37'-0"	23'-0"	24'-0"
39'-0"	23'-0"	24'-0"
41'-0"	23'-0"	24'-0"
43'-0"	23'-0"	24'-0"
45'-0"	23'-0"	24'-0"
47'-0"	23'-0"	24'-0"
49'-0"	23'-0"	24'-0"

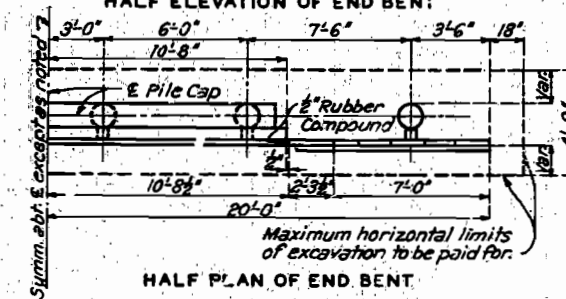
SECTION THRU END BENT AT E



SECTION THRU END BENT AT E



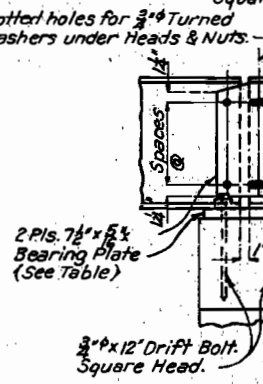
HALF ELEVATION OF END BENT



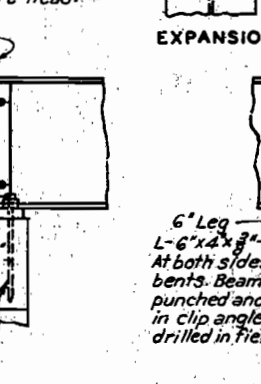
HALF PLAN OF END BENT

TABLE OF BEARING PLATES										
SPAN	NO. PLATES	STRINGER	AT END BENTS				AT INT. BENTS			
			THICK	"E"	"G"	"H"	THICK	"E"	"G"	"H"
15'-0"	4	All	3"	10"	11"	12"	3"	10"	11"	12"
17'-0"	4	"	3"	10"	11"	12"	3"	10"	11"	12"
19'-0"	4	"	3"	10"	12"	13"	3"	10"	12"	13"
21'-0"	4	"	3"	10"	12"	13"	3"	10"	12"	13"
23'-0"	4	"	3"	10"	12"	13"	3"	10"	12"	13"
25'-0"	4	"	3"	10"	12"	14"	3"	10"	12"	14"
27'-0"	4	"	3"	10"	12"	14"	3"	10"	12"	14"
29'-0"	4	"	3"	10"	12"	15"	3"	10"	12"	15"
31'-0"	4	"	3"	10"	13"	15"	3"	10"	14"	15"
33'-0"	4	"	3"	11"	13"	15"	3"	11"	14"	15"
35'-0"	4	"	3"	11"	13"	16"	3"	11"	15"	16"
37'-0"	4	"	3"	11"	13"	16"	3"	11"	15"	16"
39'-0"	4	"	3"	11"	13"	16"	3"	11"	15"	16"
41'-0"	4	"	3"	11"	13"	16"	3"	11"	15"	16"
43'-0"	2	Outside	3"	11"	14"	15"	3"	11"	15"	16"
43'-0"	2	Inside	3"	11"	14"	15"	3"	11"	15"	16"
45'-0"	4	All	3"	11"	14"	15"	3"	11"	16"	17"
47'-0"	4	"	3"	11"	14"	15"	3"	11"	16"	17"
49'-0"	4	"	3"	11"	14"	15"	3"	11"	16"	17"

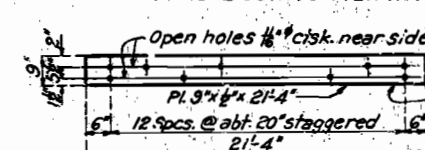
EXPANSION



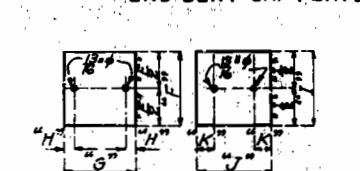
FIXED



TYPICAL JOINTS OVER INT. BENTS



END BENT CAP PLATE



FOR END BENTS FOR INT. BENTS

FOR STD. & BETH BEAMS



FOR CARNEGIE DEAMS



PLAN OF BEARING PLATES



DETAILS OF FLANGE CLAMPS

Note: Cast iron clamps used on bearing plates to have 1/8" clearance at flange of beam to allow for expansion. All clamps to have 3/4" bored holes. Use two clamps only on each I-Beam at pile caps on end bents.

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

Sheet No. 2 of 2

BILL OF REINFORCING STEEL															
NO.	SIZE	LENGTH	MARK	LOCATION	BENDING SKETCH										
"A"	3"	8'	C1	Curb											
"B"	3"	8'	C2	"											
"C"	3"	8'	C3	"											
"D"	3"	8'	C4	"											
"E"	3"	8'	C5	"											
SINGLE SPAN															
SPAN	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"
15'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
17'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
19'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
21'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
23'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
25'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
27'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
29'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
31'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
33'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
35'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
37'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
39'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
41'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
43'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
45'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
47'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26
49'-0"	8	16	26	75	26	16	8	16	26	75	26	16	8	16	26

Note: Reinforcing bars in each span to be billed and tagged separately.

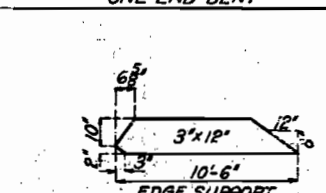
SUBSTRUCTURE TIMBER BILLS

PIECE	NO.	SIZE	LENGTH	REMARKS
Backing Plank	1	3"x12"	23'-6"	Cut to length.
"	"	3"x12"	17'-6"	"
"	"	3"x12"	22'-0"	"
"	"	3"x12"	16'-0"	"
"	"	3"x12"	20'-6"	"
"	"	3"x12"	14'-6"	"
"	"	3"x12"	19'-0"	"
"	"	3"x12"	13'-0"	"
"	"	3"x12"	17'-6"	"
"	"	3"x12"	11'-6"	"
Shoulder Plank	2	3"x8"	2'-0"	"
Edge Support	2	3"x12"	10'-6"	Cut to length & shape.
Backing Support	4	6"x6"	6'-0"	"
Backing Support	4	6"x6"	6'-0"	"
Backing Support	4	6"x6"	6'-0"	"
Backing Support	4	6"x6"	6'-0"	"
Back Support Cap	1	6"x6"	21'-4"	Cut to length.
Pile Cap	1	12"x12"	20'-6"	"
Pile Cap	2	12"x12"	20'-6"	Cut to length.
Bracing	4	3"x8"	21'-0"	"

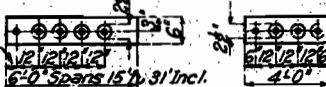
Note: Pile caps to be classified as beams and stringers. All other timber to be classified as joist and plank. * S2S to exact depth of 1 1/2".

TIMBER FRAMING DIAGRAMS

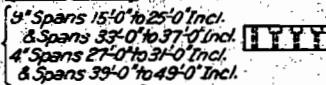
ONE END BENT



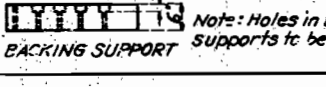
EDGE SUPPORT



BACKING SUPPORT



BACKING SUPPORT



Note: Holes in backing supports to be 3/4".

DETAILS OF BEVEL FOR RUBBER COMPOUND JOINTS



Note: Use bevel as shown for exposed faces of all joints consisting of rubber compound except at top surface of roadway slab. Use edging tool with 1/4" radius at top surface of roadway slab each side of rubber compound joint.

BRIDGE OVER LITTLE RIVER-D.D. NO. 251

STATE ROAD FROM MOREHOUSE TO LILBOURN

ABOUT 5.0 MILES S.E. OF CANALOU

PROJECT NO. PWA 70 SE-34 STA. 576+20

NEW MADRID COUNTY

T-254

T 6

3-9-34