

Mark	Size	No.	Length	Remarks
A1	#	32	9'-0"	See sketch
A2	#	32	12'-6"	"
A3	#	32	20'-4"	"
A4	#	20	24'-5"	Bent in place
A5	#	2	24'-5"	Straight
A6	#	4	28'-0"	"
A7	#	98	5'-0"	"
A8	#	12	1'-5"	"
W1	#	35	8'-0"	Sketch
W2	#	40	11'-5"	"
W3	#	12	13'-9"	"
W4	#	12	16'-6"	"
W5	#	12	19'-0"	"
W6	#	4	16'-5"	Bent in place
W7	#	24	16'-0"	"
W8	#	8	11'-5"	"
W9	#	8	5'-3"	"
W10	#	12	14'-0"	Straight
W11	#	100	5'-0"	"
W12	#	4	21'-0"	See sketch

ESTIMATED QUANTITIES		
	Concrete	Steel
Superstructure	891.6 yds	122.30 "
Abutments	128.5 "	26.30 "
Wearing Sur		4.8 Cu yds
Total	217.6 "	4.8 "

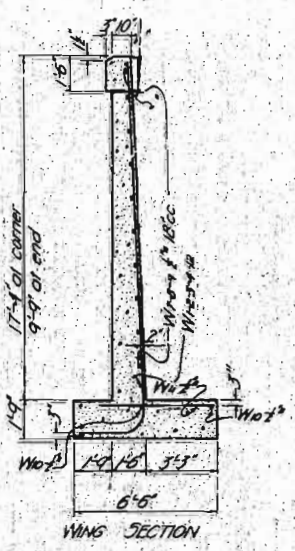
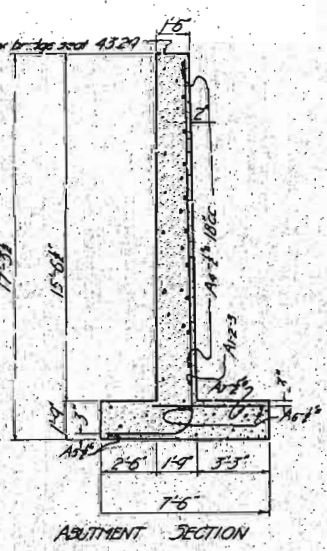
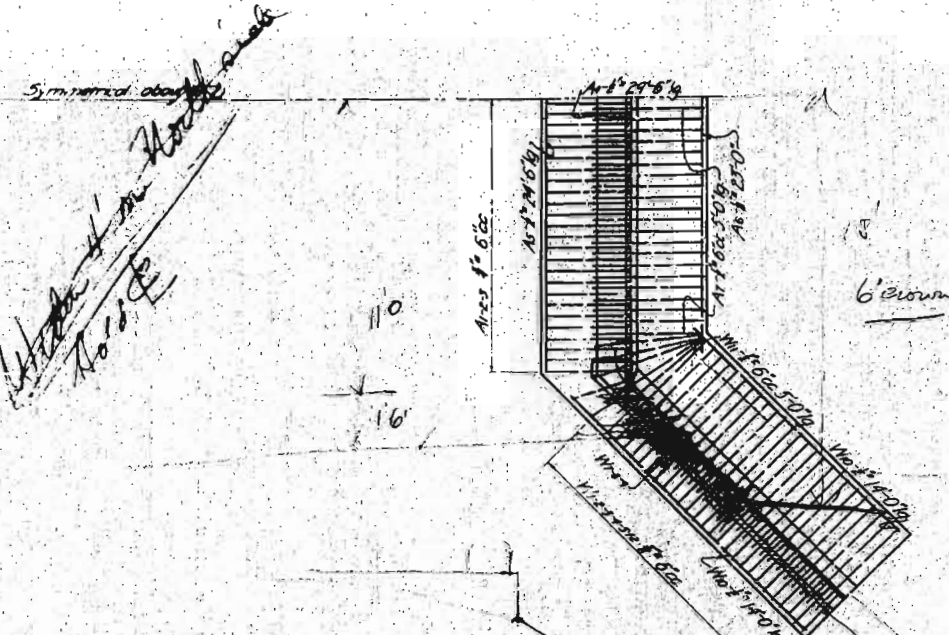
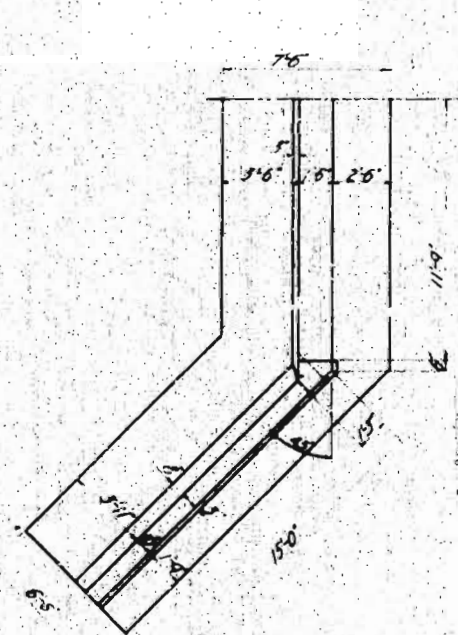
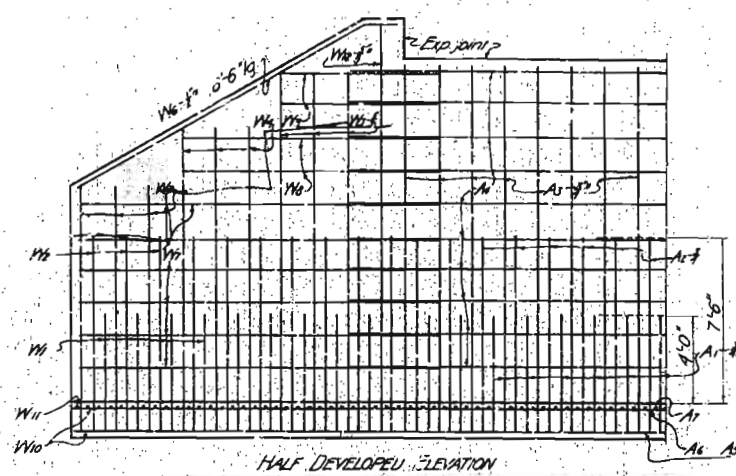
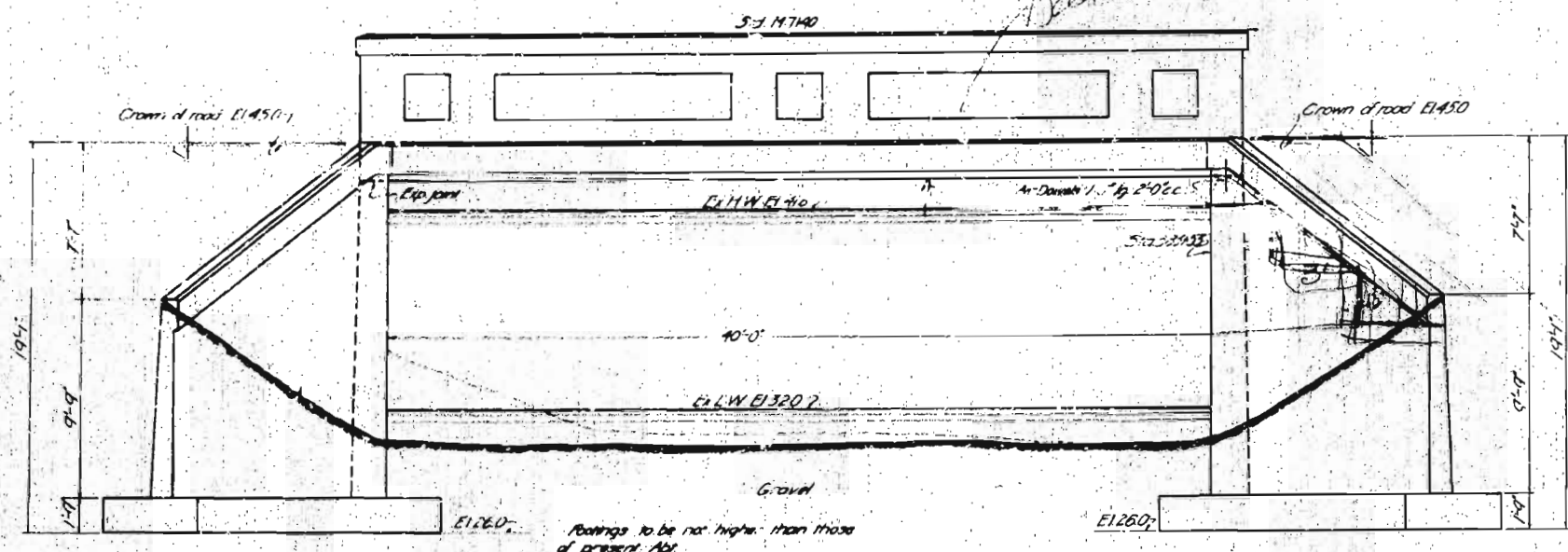
GENERAL NOTES
 All general notes on Std. 7140 to apply
 Use superstructure Std. 7140 with 2" concrete wearing surface (12.3 cu yds) to be cast within 30 min. of 3:55.

MISSOURI STATE HIGHWAY DEPARTMENT
BRIDGE OVER CENTER BR. GRAND GLAZE CR.
 STATE ROAD FROM ST. LOUIS TO FRANKLIN CO. (MANCHESTER RD)
 ABOUT 2 MI. FROM BARRETT STATION
 PROJECT No. 77 (R. 50) STA. 383+53
 ST. LOUIS COUNTY
 Submitted by *Charles O. Mann* BRIDGE ENGINEER
 Approved by *Wm. Brown* STATE HIGHWAY ENGINEER

Drawn Mar. 15, 1920 by C.F.H.
 Ch'd Apr. 21, 1920 by J.W.C.

M7140
 F102

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	77	1920	140	143



Bar	Size	No.	Length	Remarks
A1	#	32	9'-0"	See sketch
A2	#	32	12'-6"	"
A3	#	32	20'-0"	"
A4	#	20	29'-6"	Bent in place
A5	#	2	24'-6"	Straight
A6	#	4	23'-0"	"
A7	#	80	5'-0"	"
A8	#	12	1'-6"	"
W1	#	36	8'-0"	Sketch
W2	#	10	11'-6"	"
W3	#	12	13'-9"	"
W4	#	12	15'-6"	"
W5	#	12	17'-0"	"
W6	#	4	15'-6"	Bent in place
W7	#	24	15'-0"	"
W8	#	8	11'-6"	"
W9	#	8	5'-3"	"
W10	#	12	14'-0"	Straight
W11	#	108	5'-0"	"
W12	#	4	21'-0"	See sketch

ESTIMATED QUANTITIES	Concrete	Reinforcing Steel
Superstructure	841 Cu. yds	122,700 lbs
Abutments	128.5 "	66,800 "
Wearing Sur.		48 Cu. yds
Total	217.5 "	4.8 "

GENERAL NOTES
All general notes on Std 7140 to apply.
Use superstructure Std 7140 in 14" concrete
wearing surface (1" 3" min) to be cast within
10 min. of slab.

MISSOURI STATE HIGHWAY DEPARTMENT
BRIDGE OVER CENTER BR. GRAND GLAZE CR.
STATE ROAD FROM ST. LOUIS TO FRANKLIN CO. (MANCHESTER RD)
ABOUT 2 MI. FROM BARRETT STATION
PROJECT NO. 77 (RT. 50) STA. 585+35
ST. LOUIS COUNTY
Submitted by *Charles J. Mason*
Approved by *W. H. Brown*
BRIDGE ENGINEER
STATE HIGHWAY ENGINEER

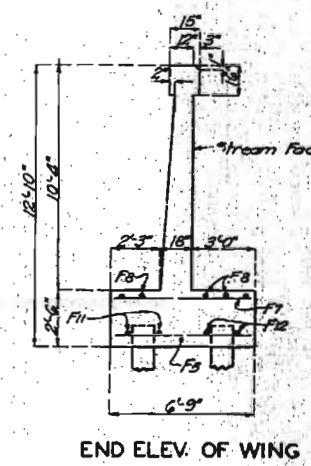
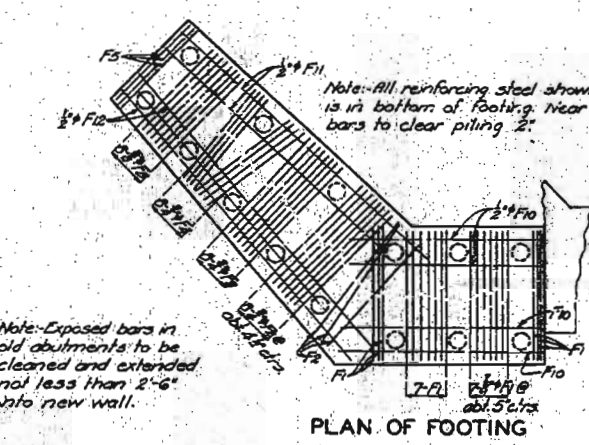
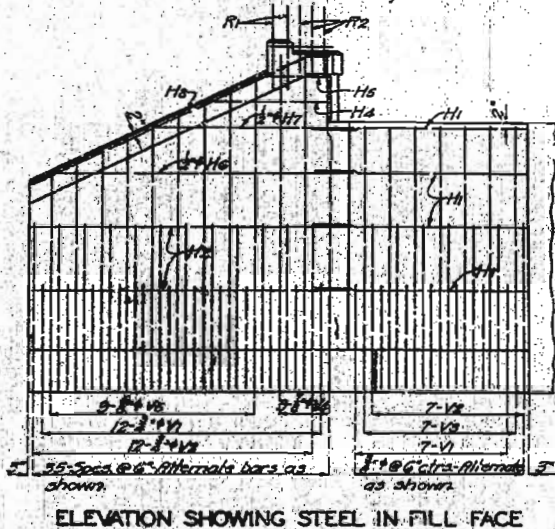
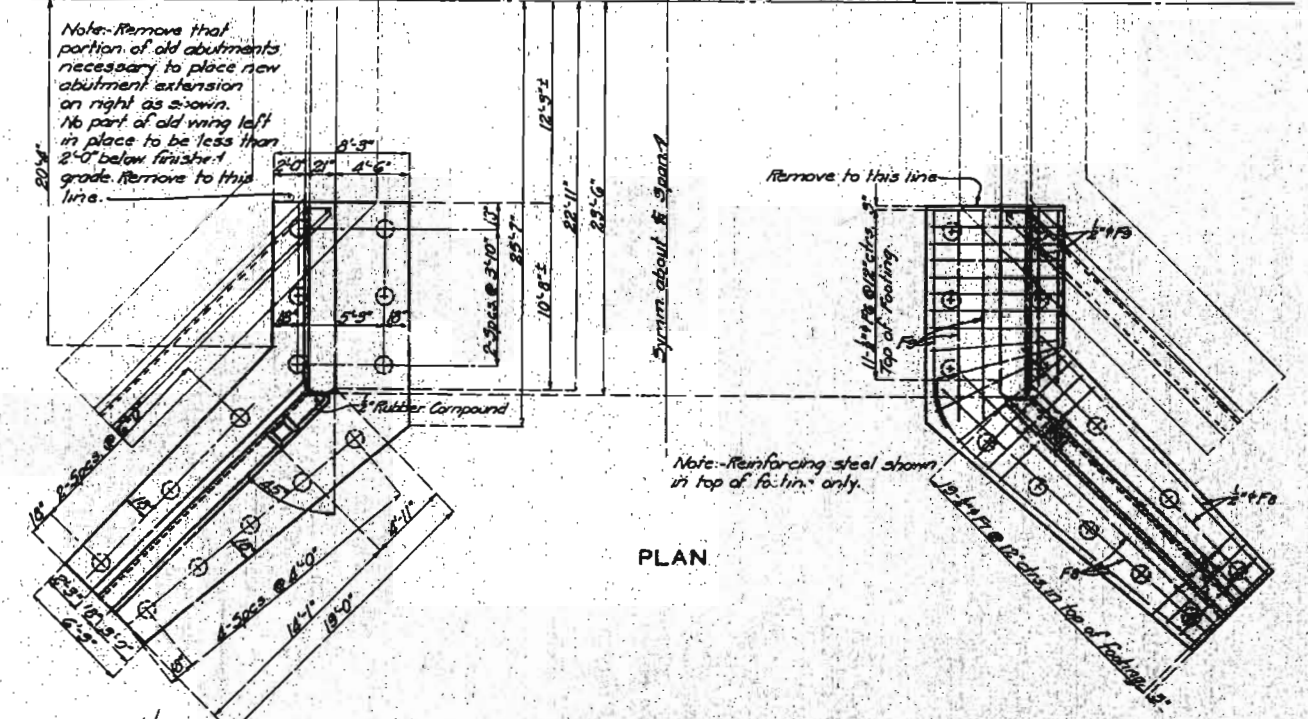
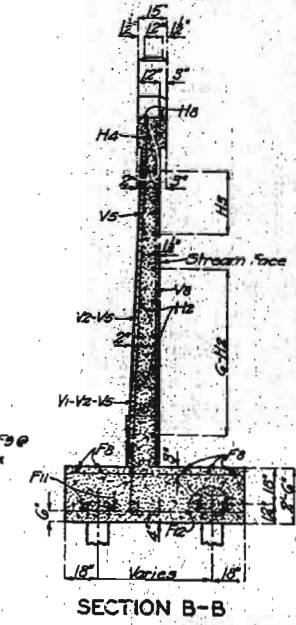
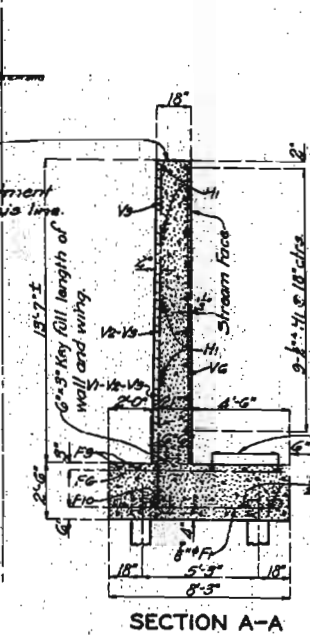
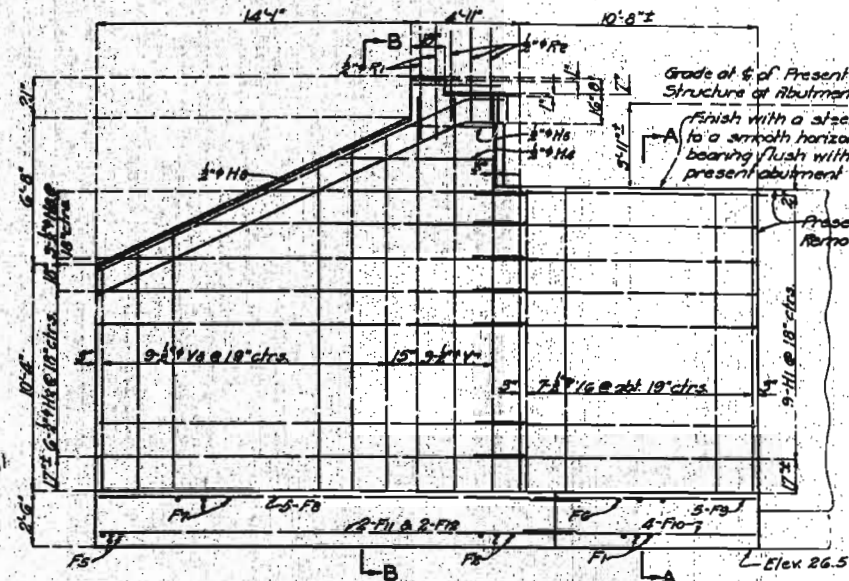
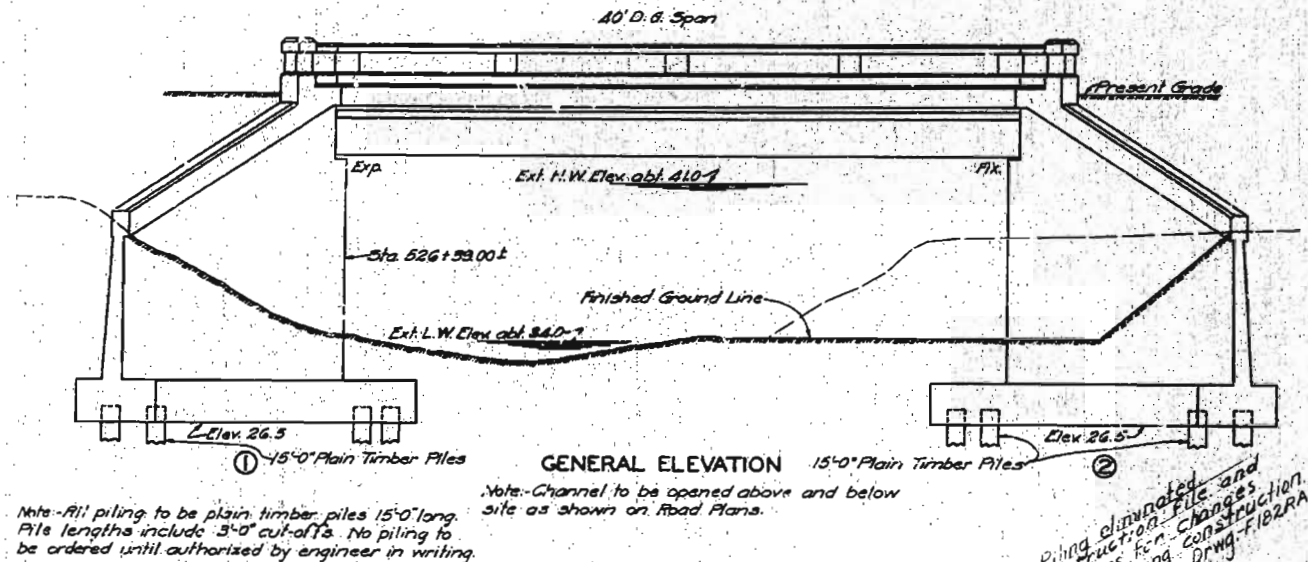
M7140
F102

132

Drawn *Max 10/10* by *CEH*
Check *Apr 11, 1920* by *W. H. B.*

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.
5	MO.	155-574	19	NO.



GENERAL NOTES:-

All concrete shall be proportioned by the weight proportioning method. See Special Provisions Design Specifications R.R.S.H.O. Loading H-15. R.R.S.H.O. One Lane. Reinforcing Steel Stress, 16,000 psi. Concrete, Class "A" 900 psi. Concrete, Class "B" 650 psi. Concrete, Class "X" 750 psi. Concrete in handrail to be Class "A". Concrete in slabs, curbs, and girders to be Class "B". All other concrete to be Class "B". Where rubber compound is specified on plans for use in partition joints, the pre-molded joint shall be securely attached to one face of concrete with copper wire. Bridge excavation in accordance with Section 1 of Standard Specifications issued April 1, 1930, except that quantities paid for will be computed from Ext. L.W. Elev. 340 where existing ground line is below this elevation. Only sufficient cement to be used in construction to insure against settlement below lines of present girders. Old surfaces to receive new concrete are to be roughened by bush-hammering and then painted with cement wash just before placing concrete. Metal plates on present rail to be carefully removed and placed on new rail. Cost of removing and placing name plates to be included in price bid for other items. Rub old concrete handrail. See Special Provisions. Piling to be driven to sustain a load of 20 tons per pile. Where concrete is to be brought to new lines the old concrete shall be removed as far as possible back to bring concrete to neat lines. Contractor shall verify all dimensions in field before ordering new steel. Bar cutting and spacing will be required for reinforcing steel in superstructure. See also Plans and Special Provisions.

Note: Light lines indicate old work. Heavy lines indicate new work.

Sheet No. 1 of 2.

ESTIMATED QUANTITIES				FINAL QUAN	
Excavation, Class 1	Cu. Yds.	115	115	93	
Excavation, Class 2	Cu. Yds.	215	215	215.5	
Concrete, Class "A"	Cu. Yds.	24	24	2.3	
Concrete, Class "B"	Cu. Yds.	648	648	187.7	
Concrete, Class "X"	Cu. Yds.	367	367	34.2	
Reinforcing Steel	Lbs.	7470	5970	12240	13710
Plain Timber Piles	Lin. Ft.	448	448	0	
Plain Timber Pile Cut-offs	Lin. Ft.	84	84	0	
Handrail, Wearing Surface	(Included in Roadway Quantities)				
Class 2 Exc. below 26.5	Cu. Yds.			113.0	

Bridge excavation above Elev. 340 will be paid for as Class 1 Bridge Excavation. Bridge excavation below Elev. 340 will be paid for as Class 2 Bridge Excavation. Estimated quantity of plain timber piling includes four linear feet per pile as allowance for metal shoes in accordance with specifications.

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

B.M. Elev. 490.6. Spike in top brace post of sign, read 490.6.

BRIDGE OVER GRAND GLAIZE CREEK

STATE ROAD FROM ROUTE 77 TO MANCHESTER

ABOUT 4.5 MILES NORTH OF VALLEY PARK

PROJECT NO. PWA 77-1550-574 STA. 526+37.5

ST. LOUIS COUNTY

SUBMITTED BY: *M. R. Day* DATE: 1/16/35

APPROVED BY: *J. H. Cutler* DATE: 1/16/35

STDC-110R

F-182RA

Drawn Dec. 1934 by F.C.L.

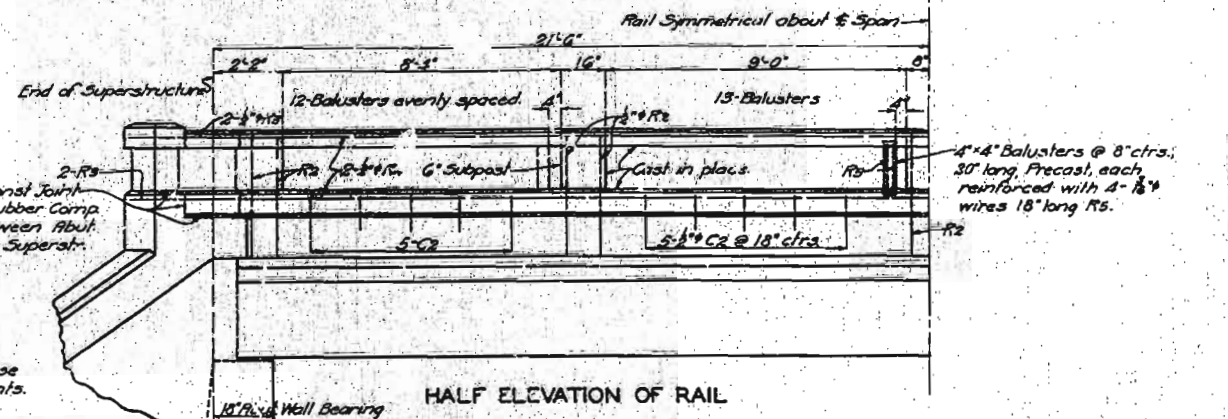
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Checked Dec. 1934 by J.K.

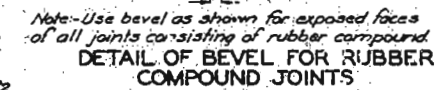
133

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	PH 18, 11350-379A19			

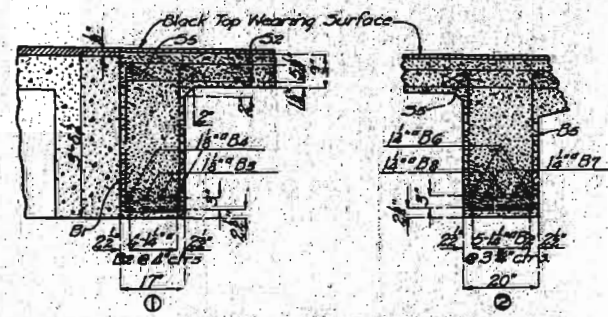
D-1001 # 2761



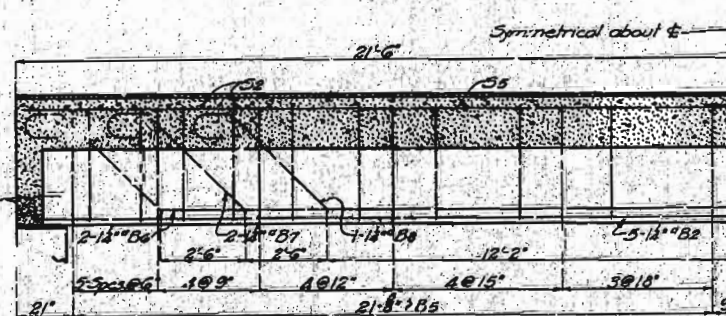
HALF ELEVATION OF RAIL



POST DETAILS



PART PLAN



DETAILS OF PILING SHOE

F-182RA

BILL OF REINFORCING STEEL

NO.	SIZE	LENGTH	MARK	LOCATION	BENDING SKETCH, T & G, & OTHER DIMENSIONS
SUBSTRUCTURE					
38	2" #	8'-9"	V1	About Wing	
38	2" #	8'-9"	V2	"	
14	2" #	16'-6"	V3	About Wall	
6	2" #	21'-0"	V4	Wing	
9	2" #	33'-3"	V5	"	
14	2" #	3'-5"	V6	About Wall	
6	2" #	17'-9"	V7	Wing	
9	2" #	26'-6"	V8	"	
26	2" #	12'-6"	H1	About Wall	
16	2" #	18'-9"	H2	Wing	
3	2" #	29'-6"	H3	"	
4	2" #	7'-0"	H4	"	
4	2" #	4'-0"	r15	"	
2	2" #	17'-6"	H6	"	
2	2" #	11'-6"	H7	"	
4	2" #	19'-6"	H8	"	
9	2" #	5'-0"	R1	Post Base	
6	2" #	7'-9"	R2	Rail Base	
40	2" #	10'-0"	F1	Footing	
22	2" #	8'-9"	F2	"	
16	2" #	7'-6"	F3	"	
16	2" #	7'-0"	F4	"	
22	2" #	6'-8"	F5	"	
22	2" #	8'-0"	F6	"	
19	2" #	14'-9"	F7	"	
10	2" #	21'-6"	F8	"	
10	2" #	12'-0"	F9	"	
8	2" #	13'-0"	F10	"	
4	2" #	19'-0"	F11	"	
4	2" #	21'-0"	F12	"	
8	2" #	3'-6"	R3	Abutment	
SUPERSTRUCTURE					
4	2" #	22'-9"	C1	Curb	
20	2" #	12'	C2	"	
86	2" #	11'-0"	S1	Slab	
43	2" #	13'-6"	S2	"	
4	2" #	24'-9"	S3	"	
6	2" #	6'-0"	S4	"	
16	2" #	22'-3"	S5	"	
42	2" #	9'-0"	S1	Girder	
9	1 1/2" #	45'-0"	B2	"	
2	1 1/2" #	47'-0"	B3	"	
2	1 1/2" #	42'-0"	B4	"	
42	2" #	8'-9"	B5	"	
2	1 1/2" #	47'-0"	B6	"	
2	1 1/2" #	42'-0"	B7	"	
1	1 1/2" #	37'-0"	B8	"	
2	2" #	12'-3"	W1	Int. Web	
4	2" #	14'-3"	W2	End Web	
10	2" #	7'-9"	R2	Subposts	
8	2" #	22'-5"	R4	Rail	
200	1 1/2" #	18"	R5	Bolsters	
3	2" #	7'-0"	S6	Slab	

Dimensions are given along \pm of bars and are for computed lengths. Reinforcing bars $\frac{1}{2}$ " or over in diameter, which are bent to an angle greater than 90° , shall be of structural grade.

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

Sheet No. 2 of 2

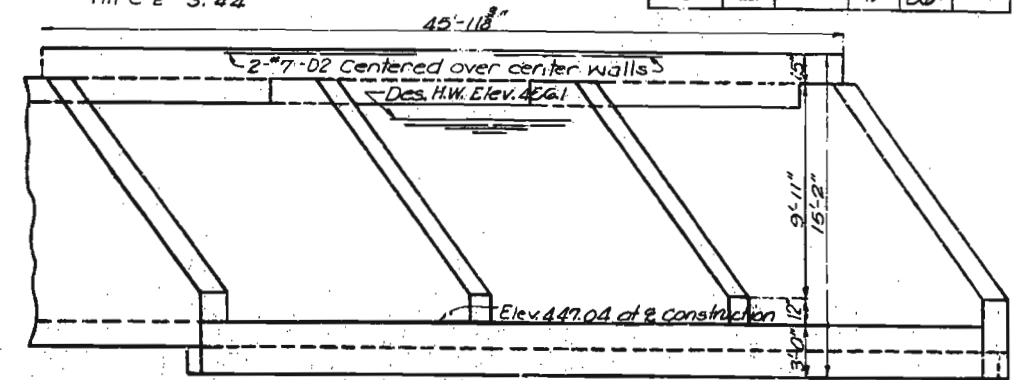
Drawn Dec. 1934 by F.C.L.
Traced Dec. 1934 by G.R.F.
Checked Dec. 1934 by A.T.K.

MISSOURI STATE HIGHWAY DEPARTMENT

E Sta. 836+80.0
E Grade Elev. 461.40
Fill @ E 3.44'

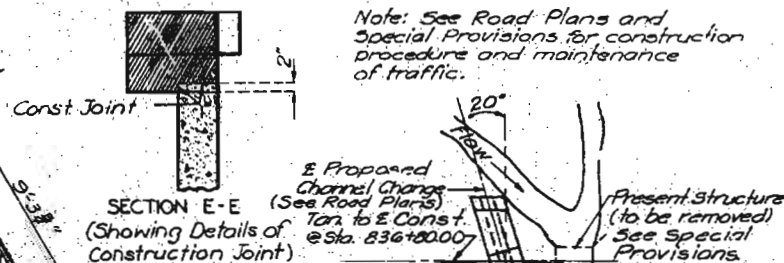
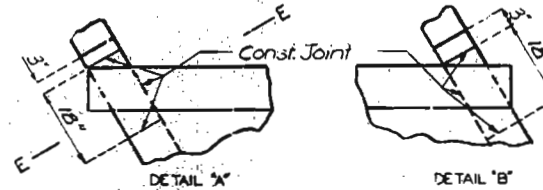
Ground Line 19597

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	36	



Note: Channel to be opened above and below site as shown on road plans.

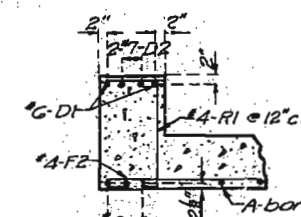
GENERAL NOTE:
Design Specifications: A.A.S.H.O. 1961
Loading: H20-44
Reinforcing Steel Stress: 20,000 psi
Concrete Class B Stress: 1200 psi
All concrete shall be Class B. (Air Entrained)
Bar supports and spacers required in top slab.
Where joint filler is specified on the plans it shall conform with the requirements of Section 137.2.5 of the Standard Specifications.



Sta. 836+57.22
Proposed Structure

CURVE DATA:
P.I. = 840+83.82
Δ = 2° 24' R.L.
D = 2° 24'
L = 150.00'
R = 2387.50'
SE = 0.061 ft
Lc = 991.67'
Ea = 70.32'
P = 0.39'
K = 7500' LOCATION SKETCH

Drainage Area
3.9 Sq. Mi. (Hilly)



SECTION C-C

COMPLETE BILL OF REINFORCING STEEL					Cutting Diagrams and Bending Sketches		
No.	Size	Length	Mark				
174	#6	42'-6"	A1		2'-9" 16 1/2"	2'-6" 22"	2'-1 1/2" 6"
29	#6	44'-0"	A2				
180	#6	42'-6"	A3				
22	#6	43'-6"	A4				
618	#5	11'-6"	B1		41'-3" 2'-9"	41'-0" 2'-6"	17'-10 1/2" 2'-1 1/2"
4	#6	4'-6"	D1		44'-0"	43'-6"	20'-0"
8	#7	7'-6"	D2				
12	#5	2'-9"	E1		29-A2 CUT 29	22-A4 CUT 22	30-F2 CUT 60
12	#5	3'-9"	E2				
496	#4	21'-3"	F1		5'-0" 2'-4"	2'-4 1/2" 7 1/2"	
60	#4	20'-0"	F2				
36	#4	22'-0"	F3		16'-1 1/2" 6'-0"	11'-1 1/2" 2'-4"	
84	#4	17'-3"	F4		22'-0"	19'-6"	
24	#4	7'-6"	F5		6-F3 CUT 36	15-G1 CUT 90	
24	#4	12'-6"	F6				
24	#4	17'-6"	F7				
24	#4	3'-0"	F8				
16	#4	8'-6"	F9				
16	#4	13'-6"	F10				
90	#5	15'-6"	G1				
108	#7	9'-3"	H1				
240	#7	6'-0"	H2				
482	#7	9'-0"	H3				
6	#7	45'-3"	H4				
28	#6	22'-0"	J1				
12	#6	6'-0"	J2				
268	#6	4'-9"	J3				
420	#6	3'-3"	J4				
50	#4	3'-3"	R1				

* Bend in field

B.M. #B1 Elev. 461.29 "a" on W. end N. railguard Br. over Branch of Grand Glaize Cr. 23 L. Sta. 837+35.0 (U.S.G.S. Datum)

BRIDGE OVER GLAIZE CREEK

STATE ROAD FROM WEST OF ELLISVILLE TO EAST OF MASON ROAD ABOUT 40 MILES N. OF VALLEY PARK

FINISHED PROJECT NO. F-100-K2) (RTE. 100) STA. 836+57.22

ST. LOUIS

COUNTY

ESTIMATED QUANTITIES

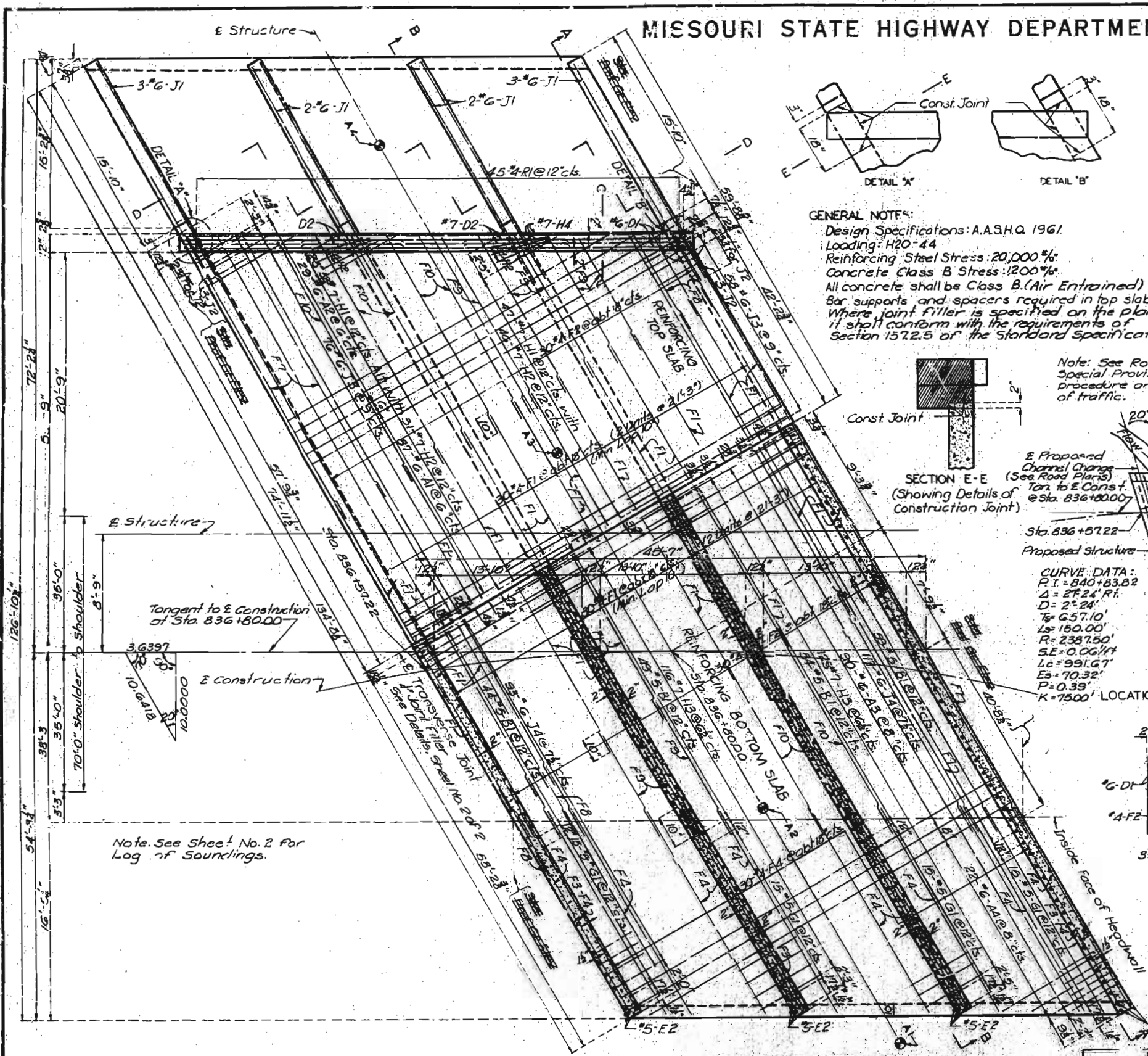
Class 3 Excavation for Structures	Cu Yds.	2720
Class B Concrete	Cu Yds.	5268
Reinforcing Steel	Lbs	72,390

SUBMITTED BY: D.B. [Signature] DATE: 6/15/62

APPROVED BY: J.J. [Signature] DATE: 6/15/62

STD. 54.00

F-182R1



HALF PLAN AND HALF HORIZONTAL SECTION

Drawn July 1961 by R.L.L. & J.R.W.
Checked July 1961 by W.W.B.

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

Sheet No. 1 of 2

SEE FINAL PLANS BROWN LINES

135-

P.D. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	87	



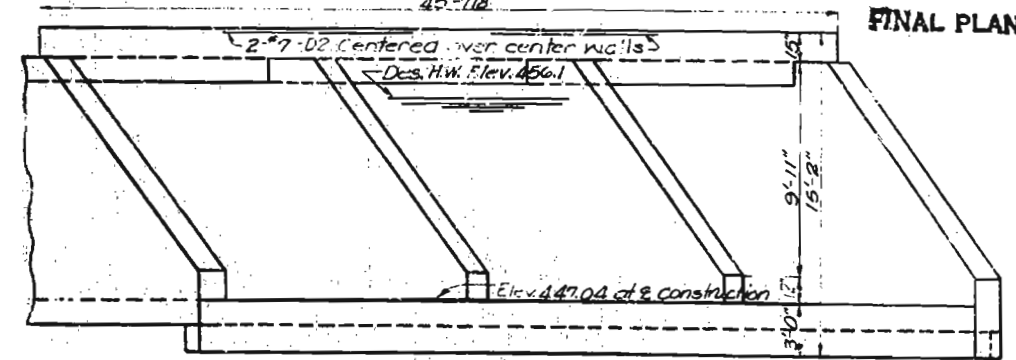
MISSOURI STATE HIGHWAY DEPARTMENT

Sta. 836+80.0
Grade Elev. 461.40
Fill @ 3.44'

Ground Line 1957

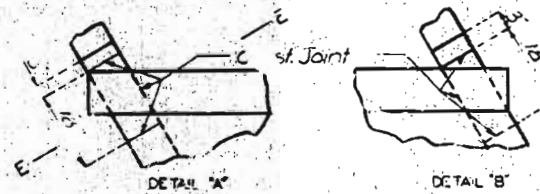
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	22	

FINAL PLANS



END ELEVATION

GENERAL NOTES:
Design Specifications: A.A.S.H.O. 1961
Loading: H20-44
Reinforcing Steel Stress: 20,000 psi
Concrete Class B Stress: 1200 psi
All concrete — Class B (Air Entrained)
Bar supports and spacers are in top slab
Where joint filler was specified on the plans
it conformed with the requirements of
Section 15.7.2.5 of the Standard Specifications.



SECTION E-E
(Showing Details of Construction Joint)

Tan. to E Const.
Sta. 836+80.00

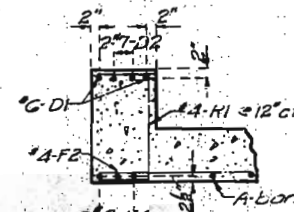
Sta. 836+57.22

Structure

Curve Data:
PI = 840+83.82
Δ = 27°34' R/L
D = 2°24'
L = 150.00'
R = 2387.50'
SE = 0.061/H
LC = 991.67'
Es = 70.32'
P = 0.39'
K = 7500'

Drainage Area
3.9 Sq. Mi. (Hilly)

LOCATION SKETCH



SECTION C-C

COMPLETE BILL OF REINFORCING STEEL									
No.	Length	Max.	Cutting Diagrams and Bending Sketches						
174	6	42'-6"	A1	2'-9" 163"	2'-6" 22"	2'-12" 64"			
29	6	44'-0"	A2						
180	6	42'-6"	A3						
22	6	43'-6"	A4						
618	5	11'-6"	B1	41'-3" 2'-9"	41'-0" 2'-6"	17'-0" 2'-12"			
1	6	45'-6"	D1	44'-0"	42'-6"	20'-0"			
8	7	7'-6"	D2	29-A2 CUT 29	22-A4 CUT 22	30-F2 CUT 60			
12	5	3'-9"	E1						
12	5	3'-9"	E2	2'-0" 2'-43"	2'-42" 72"				
426	4	21'-3"	F1						
60	4	20'-0"	F2						
36	4	22'-0"	F3	16'-18" 5'-08"	11'-12" 2'-42"				
84	4	17'-3"	F4	22'-0"	13'-6"				
24	4	7'-6"	F5	6-F3 CUT 36	15-G1 CUT 90				
24	4	12'-6"	F6						
24	4	17'-6"	F7						
24	4	3'-0"	F8						
16	4	8'-6"	F9						
16	4	13'-6"	F10						
90	5	13'-6"	G1						
198	7	9'-9"	H1						
210	7	6'-0"	H2						
482	7	9'-0"	H3						
6	7	45'-3"	H4						
28	6	22'-0"	J1						
12	6	6'-0"	J2						
268	6	14'-9"	J3						
420	6	6'-3"	J4						
90	4	3'-3"	R1						

B.M. — Elev. 459.30 6' in open on fireplug 70' Lt.
Sta. 835+82

BRIDGE OVER GLAIZE CREEK

STATE ROAD FROM WEST OF ELLISVILLE TO EAST OF MASON ROAD
ABOUT 4.0 MILES N. OF VALLEY PARK
PROJECT NO. F-100-K21 (RTE. 100) STA. 836+57.22

ST. LOUIS

COUNTY

FINISHED

FINAL QUANTITIES

Class 2 Excavation for Structures	Cu Yds.	2671
Class B Concrete	Cu Yds.	526.8
Reinforcing Steel	Lbs.	72,390

APPROVED BY:
DATE:
CHIEF ENGINEER

FINAL PLANS

STD. 54.0C
F-182R1

HALF PLAN AND HALF HORIZONTAL SECTION

FINAL PLANS

Drawn July 1961 by R.C.L. & J.R.W.
Checked July 1961 by WWB

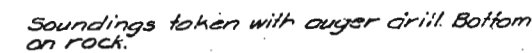
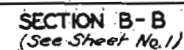
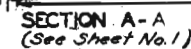
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 2

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FINAL PLANS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	87	



LOG OF SOUNDINGS

Note: See Sheet 1 of 2 for Location of Soundings.

DETAIL OF BEVEL FOR FILLED JOINTS

Beveled on the wide face of exposed faces of all joints

FINISHED

BRIDGE OVER GLAIZE CREEK

STATE ROAD FROM WEST OF ELLISVILLE TO EAST OF MASON ROAD

ABOUT 4.0 MILES N. OF VALLEY PARK

PROJECT NO. F-100-K2) (RTE. 100) STA. 838+57.22 FINISHED

FINISHED PROJECT NO.
ST. LOUIS

COUNTY

FINAL PLANS F-182 R1

TRIPLE- SKEW-WITH JOINT

Assembled July 1960 by R.C.L. & J.R.W.
Checked July 1961 by W.W.B.

Note: This drawing is not to scale. Follow dimensions

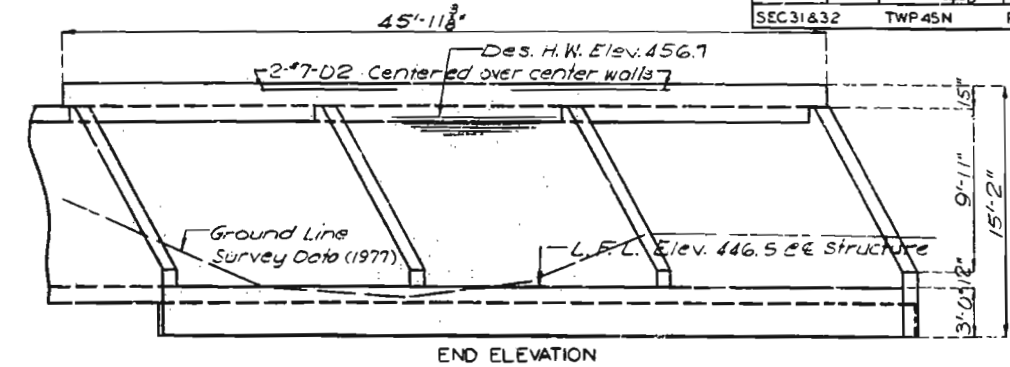
Sheet No. 2A of 2.

FINAL PLANS

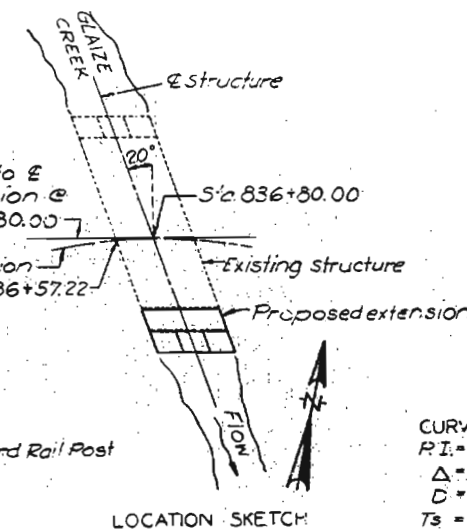
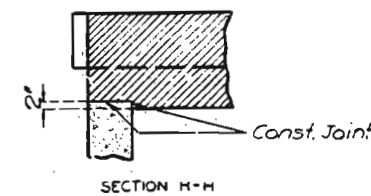
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	6-U-100-223B	23	25	
SEC 31 & 32	TWP 45N	RGE 5E			

Sta. 836+80.0
Gr. Elev. 461.39
Fill @ 3.44'



GENERAL NOTES:
Design Specifications: A.A.S.H.T.O. - 1973
Loading: HS 20-44
Earth 120', Equivalent Fluid Pressure 30"
Concrete Class B $f_c = 1,200$ psi
Reinforcing Steel $f_s = 20,000$ psi
Minimum clearance to reinforcing steel shall be $1\frac{1}{2}$ " unless otherwise noted.
Outline of old work is indicated by light dashed line. Heavy lines indicate new work.
Bars bonded in old concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars.
Bottom of top slab, top of bottom slab, and inside faces of walls to be built flush with old structure.



CURVE DATA
P.I. = 840+83.82
 $\Delta = 27^\circ-24'$
 $D = 2^\circ-24'$
 $T_s = 657.10'$
 $L_c = 991.67'$
 $E_s = 70.31'$
 $R_c = 2387.50'$
 $X_c = 149.99'$
 $Y_c = 1.57'$
 $\theta_s = 1.80'$
 $K = 75.00'$

ESTIMATED QUANTITIES			FINAL QUANTITIES
ITEM			
Class B Excavation	Cu. Yd.	115	
Class B Concrete	Cu. Yd.	106.8	
Reinforcing Steel, Grade 60 Lb.		14,660	

HYDROLOGIC DATA	
Drainage Area	2.9 Sq. Miles (Hilly)
Des. Discharge	10 cfs. (Urban Runoff)
Des. H.W. Elev.	456.7
Frequency	50 Yrs.
BASIC FLOOD DATA	
Q 100	6,600 cfs.
H.W. Elev.	457.4 (Urban Runoff)

BRIDGE OVER GLAZE CREEK

STATE ROAD FROM MANCHESTER TO DES PERES
ABOUT 0.7 MILE EAST OF MANCHESTER

PROJECT NO. STA. 836+57.22
JOB NO. 6-U-100-223B RTE. 100
ST. LOUIS COUNTY

STD. 703.60
STD. 706.30
F-182 R2

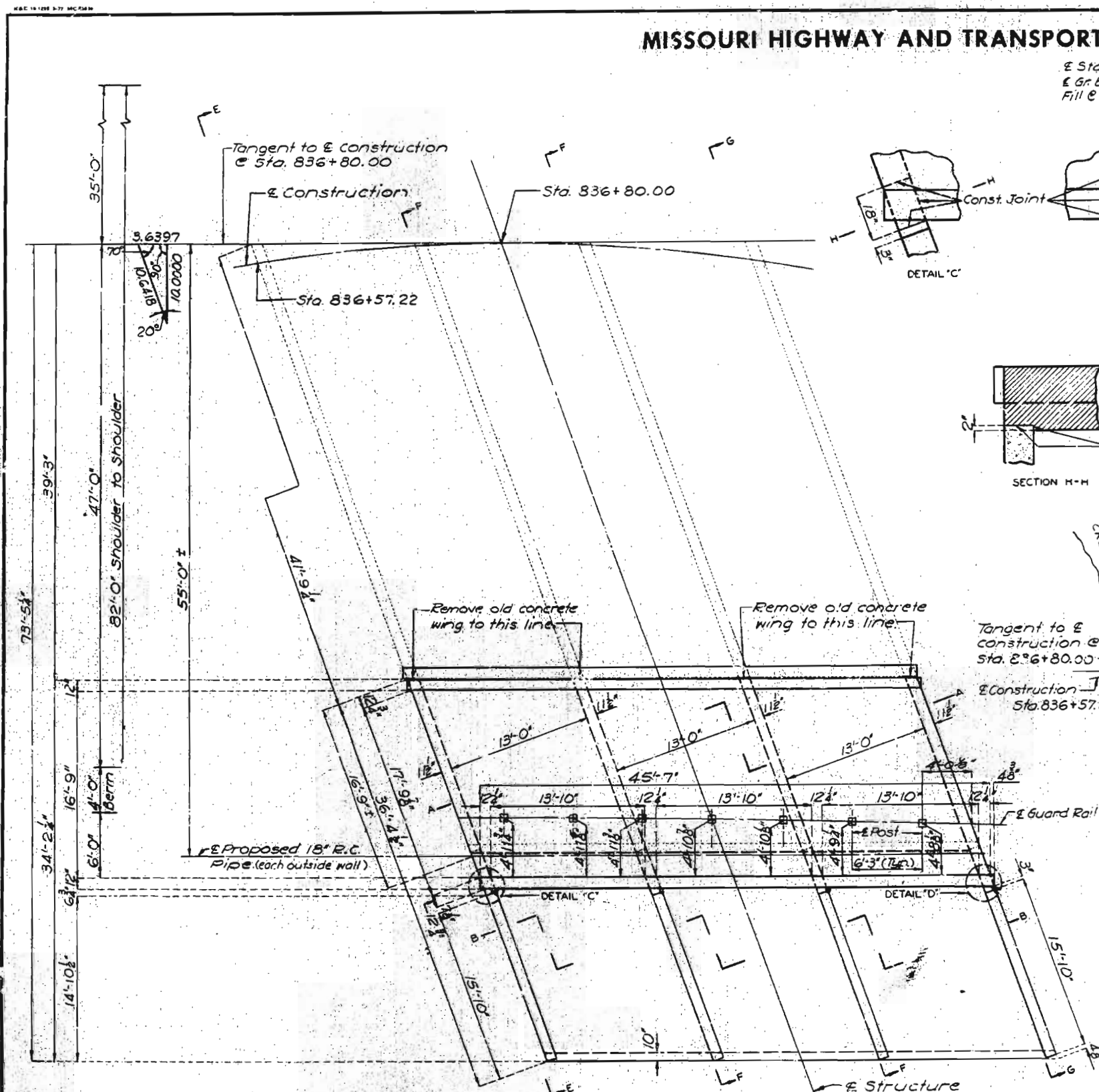
DATE 5/23/33

Sheet No. 1 of 4

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

PLAN

Note: For details of Guard Rail Post attachments see sheet No. 3

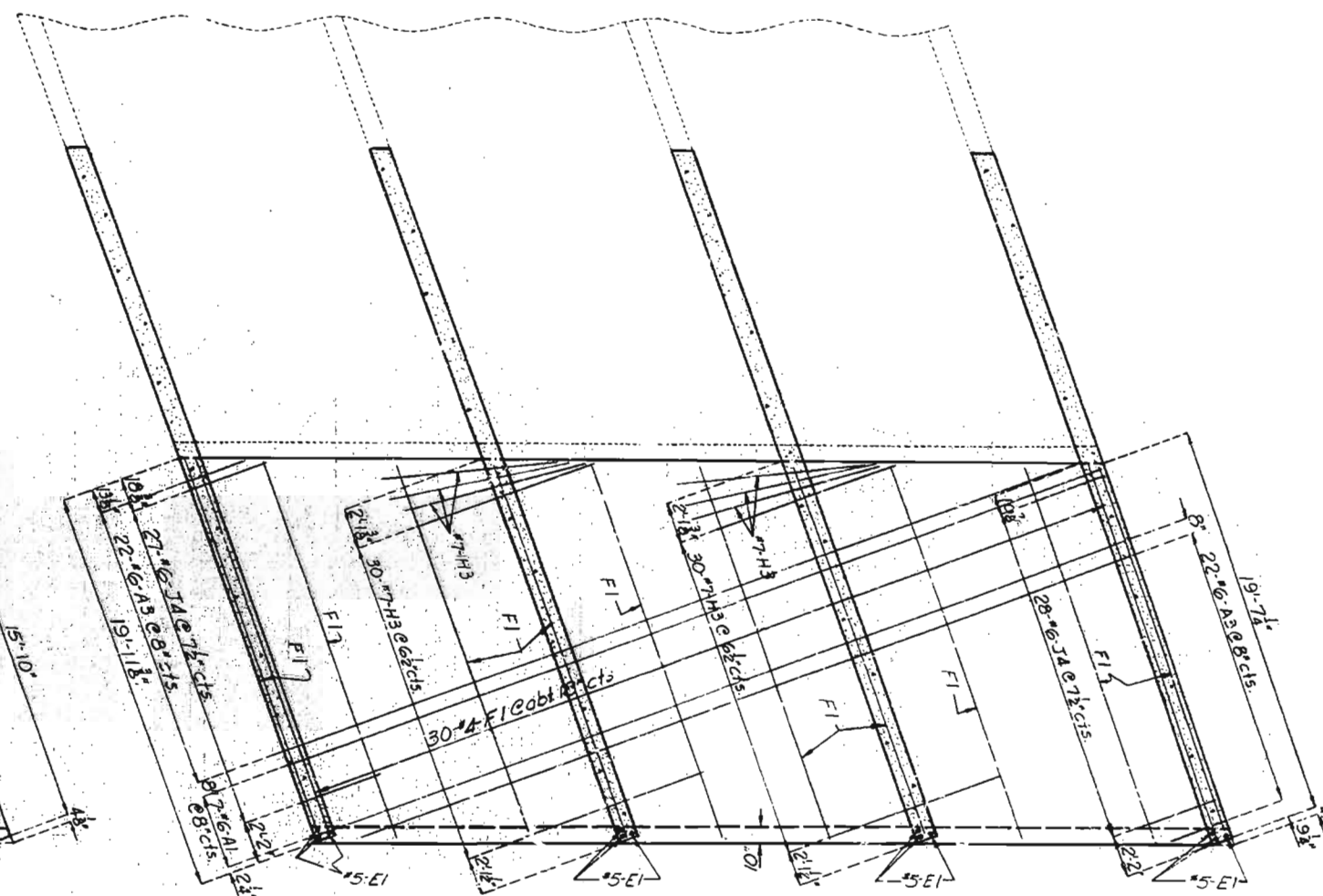
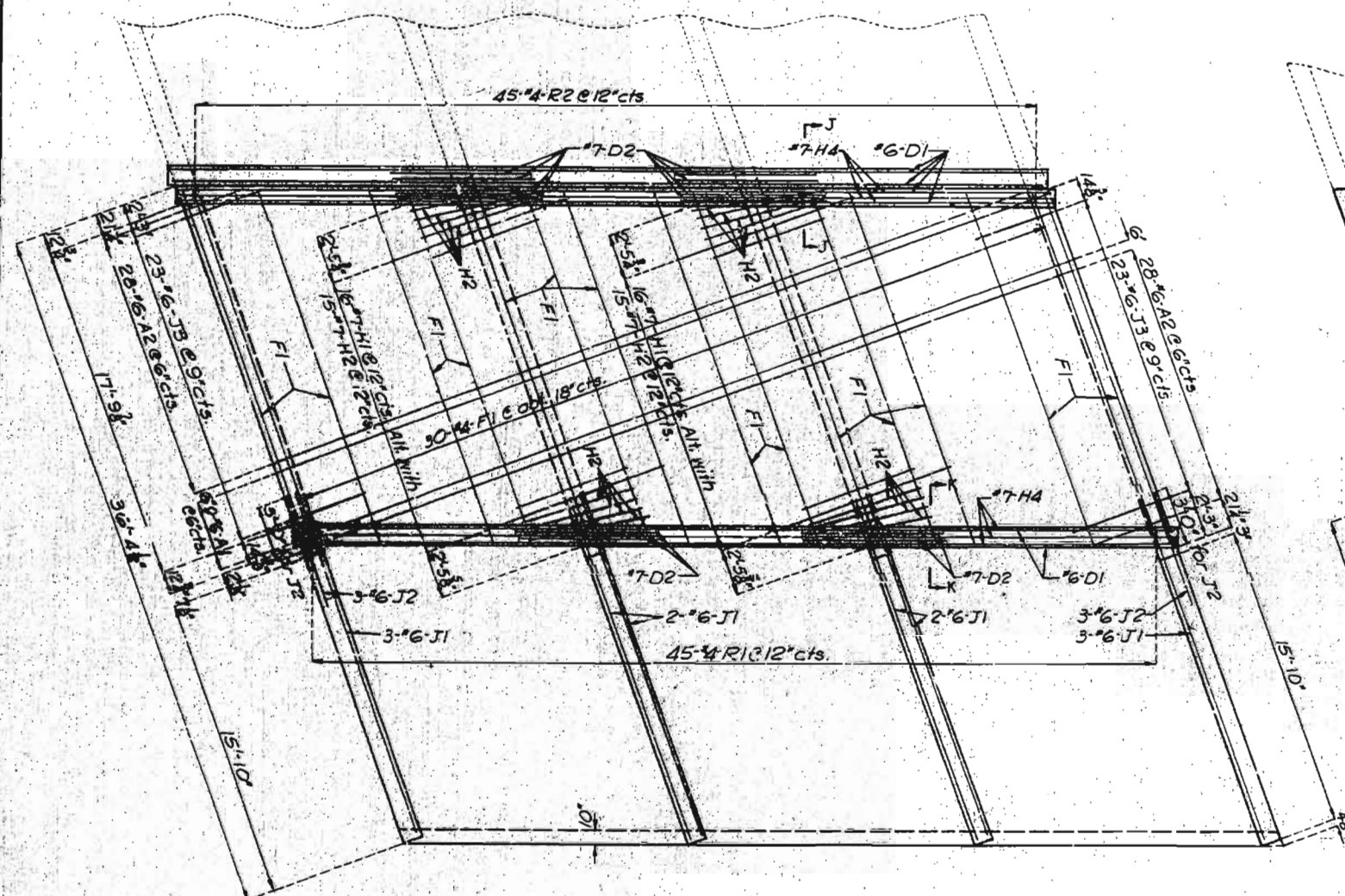


DESIGNED OCT. 1978
DRAFTED OCT. 1978
CHECKED NOV. 1978

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MISSOURI STATE HIGHWAY DEPARTMENT

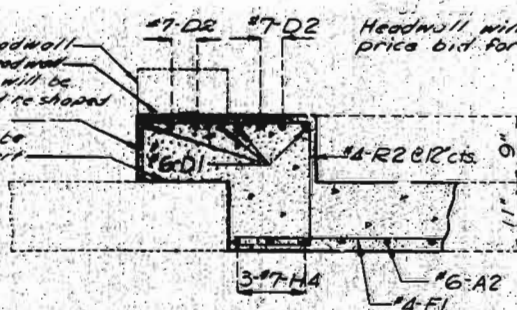
PED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	G-10-10- 2238	19	26	



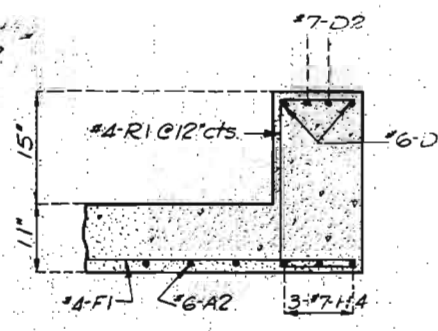
PLAN OF TOP SLAB

PLAN OF BOTTOM SLAB

Existing Headwall —
New Headwall —
The Existing #A R1 Bors will be
cleaned, stripped and re shaped
to match New R2 Bors —
Existing Headwall will be
Removed to top of culvert



SECTION J-J



SECTION K-K

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

DETAILED NOV. 1978
CHECKED NOV. 1978

Sheet No. 2 of 4

ST. LOUIS

COUNTY

F-182R2

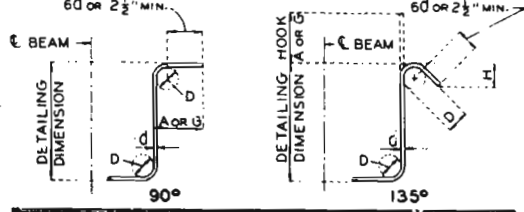
MISSOURI STATE HIGHWAY DEPARTMENT

COMPLETE BILL OF REINFORCING STEEL

COMPLETE BILL OF REINFORCING STEEL																								
NO. REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	VARIABLES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT		
								B		C		D		E		F		H					K	
								FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.
16	6A1	TOP & BOTT SLAB		20				42	7.000									42	7	42	7	1033		
56	6A2	TOP SLAB		20				4	4.500									4	5	4	5			
		INCR = 16.500 IN						47	5.000									41	5	81	5	4928		
44	6A3	BOTTOM SLAB		20				2	7.000									2	7	2	7			
		INCR = 22.000 IN						41	0.000									41	0	41	0	1440		
102	5B1	WALLS		20				10	8.000									10	8	10	8	1135		
32	5B2	WALLS		20				11	7.000									11	7	11	7	367		
3	6D1	HEADWALL		20				45	8.000									45	8	45	8	412		
12	7D2	HEADWALL		20				7	6.000									7	6	7	6	184		
12	5E1	APRON		20				3	9.000									3	9	3	9	47		
84	4F1	TOP & BOTT SLAB		20				19	8.000									19	8	19	8	1104		
48	4F2	WALLS & WINGS		20				23	4.000									23	4	23	4			
		INCR = 28.750 IN						39	4.000									35	4	35	4	941		
112	5G1	WINGS		20				2	9.000									2	9	2	9			
		INCR = 7.500 IN						10	11.000									10	11	10	11	798		
32	7H1	TOP SLAB		20				9	9.000									9	9	9	9	639		
46	7H2	TOP SLAB		20				6	0.000									6	0	6	0	564		
66	7H3	BOTTOM SLAB		20				9	0.000									9	0	9	0	1214		
6	7H4	TOP SLAB		20				45	3.000									45	3	45	3	555		
14	6J1	WING		20				22	8.000									22	8	22	8	463		
6	6J2	WING		20				6	0.000									6	0	6	0	54		
46	6J3	TOP SLAB		18				18	9.000	4	2.625							15	0	14	10	1025		
56	6J4	BOTT SLAB		18				2	8.625	3	9.000							6	6	6	6	533		
43	4R1	HEADWALL		18					9.000		23.000							3	5	3	3	98		
45	4R2	HEADWALL		11					9.000		17.000		21.000					3	11	3	9	113		
		END OF BAR LIST																						

Note: * Bend in field.

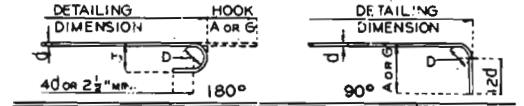
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	6-C-100-223B	19	28	



STIRRUP HOOK DIMENSIONS

BAR SIZE	D (IN.)	90° HOOK		135° HOOK	
		HOOK A OR G	APPROX. H	HOOK A OR G	APPROX. H
#3	1-1/2"	4"	2-1/2"	4"	2-1/2"
#4	2"	4-1/2"	3"	4-1/2"	3"
#5	2-1/2"	6"	3-3/4"	5-1/2"	3-3/4"
#6	4-1/2"	8"	4-1/2"	7"	4-1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



SIZE OF 180° HOOKS (GRADE 40 KSI)
D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18

SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)
D = 6d FOR #3 THRU #8
D = 5d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

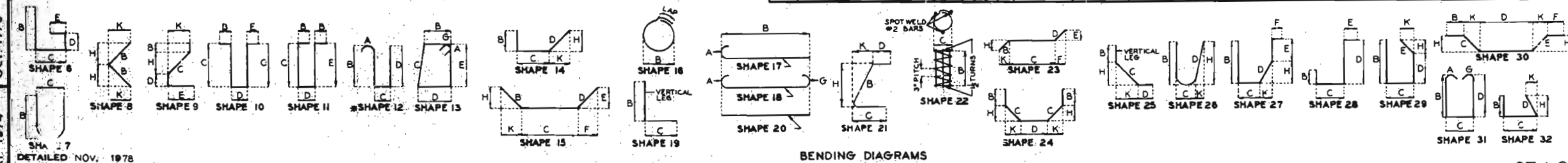
END HOOK DIMENSIONS

BAR SIZE	180° HOOKS				90° HOOKS	
	GRADE 40		GRADE 60		A OR G	A OR G
#3	5"	2-3/4"	5"	3"	6"	6"
#4	6"	3-1/2"	6"	4"	8"	8"
#5	7"	4-1/2"	7"	5"	10"	10"
#6	8"	5-1/4"	8"	6"	12"	12"
#7	9"	6-1/4"	10"	7"	14"	14"
#8	10"	7"	11"	8"	16"	16"
#9	12"	8"	15"	11-1/4"	19"	19"
#10	13"	9"	17"	12-3/4"	22"	22"
#11	14"	10"	19"	14-1/4"	21-0"	21-0"
#14	21-2"	20-1/2"	21-2"	20-1/2"	21-7"	21-7"
#18	21-11"	21-3"	21-11"	21-3"	31-5"	31-5"

NOTES: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E - EPOXY COATED REINFORCEMENT.
S - STIRRUP.
X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. - NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS - ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS - ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS

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BENDING DIAGRAMS

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

Sheet No. 4 of 4

ST. LOUIS

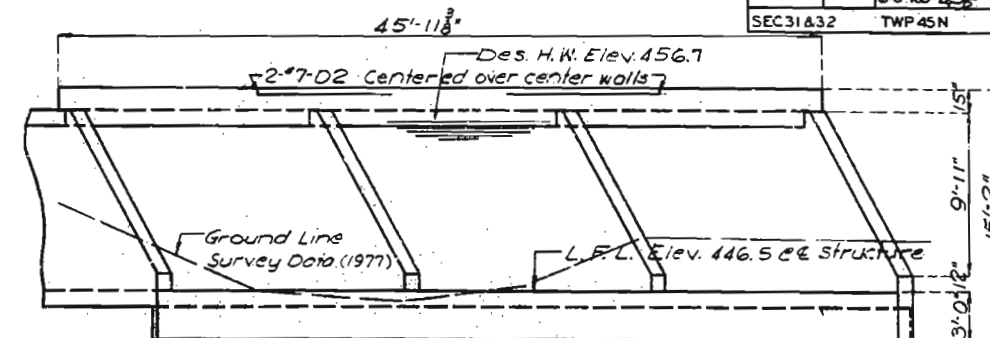
COUNTY

F-482 R2

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	6-U-100-223B	75	25	
SEC 31 & 32	TWP 45N	RGE 5E			

E Sta. 836+37.0
E Gr. Elev. 461.39
Fill @ E 3.44'



END ELEVATION

GENERAL NOTES:
Design Specifications: A. A. S. H. T. O. - 1973
Loading: H S 20-44
Earth 120#, Equivalent Fluid Pressure 30"
Concrete Class B $f_c = 1200$ psi
Reinforcing Steel $f_s = 20,000$ psi
Minimum clearance to reinforcing steel shall be $1\frac{1}{2}$ " unless otherwise noted.
Outline of old work is indicated by light dashed line. Heavy lines indicate new work.
Bars bonded in old concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars.
Bottom of top slab, top of bottom slab, and inside faces of walls to be built flush with old structure.

ESTIMATED QUANTITIES		FINAL QUANTITIES
ITEM		
Class B Excavation	Cu. Yd.	336
Class B concrete	Cu. Yd.	106.8
Reinforcing Steel, Grade 60 Lb.	Lb.	14,660

CURVE DATA
P.T. = 840+83.82
 $\Delta = 27^\circ-24'$
 $D = 2^\circ-24'$
 $T_s = 657.10'$
 $L_c = 991.67'$
 $E_s = 70.31'$
 $R_c = 2387.50'$
 $X_c = 149.99'$
 $Y_c = 1.57'$
 $\theta_s = 1.80'$
 $K = 75.00'$

LOCATION SKETCH

HYDROLOGIC DATA	
Drainage Area	3.9 Sq. Miles (Hilly)
Des. Discharge	5500 cfs (Urban Runoff)
Des. H.W. Elev.	456.7
Frequency	50 Yrs.
BASIC FLOOD DATA	
Q 100	6,600 cfs
H.W. Elev.	457.4 (Urban Runoff)

B.L. #8 Elev. 459.11 10' in open on fireplug 70' Rt. Sta. 835+82 of Rte. 100 & Dietrich Rd.

BRIDGE OVER GLAIZE CREEK

STATE ROAD FROM MANCHESTER TO DES PERES

ABOUT 0.7 MILE EAST OF MANCHESTER

PROJECT NO.

STA. 836+57.22

JOB NO. 6-U100-223B

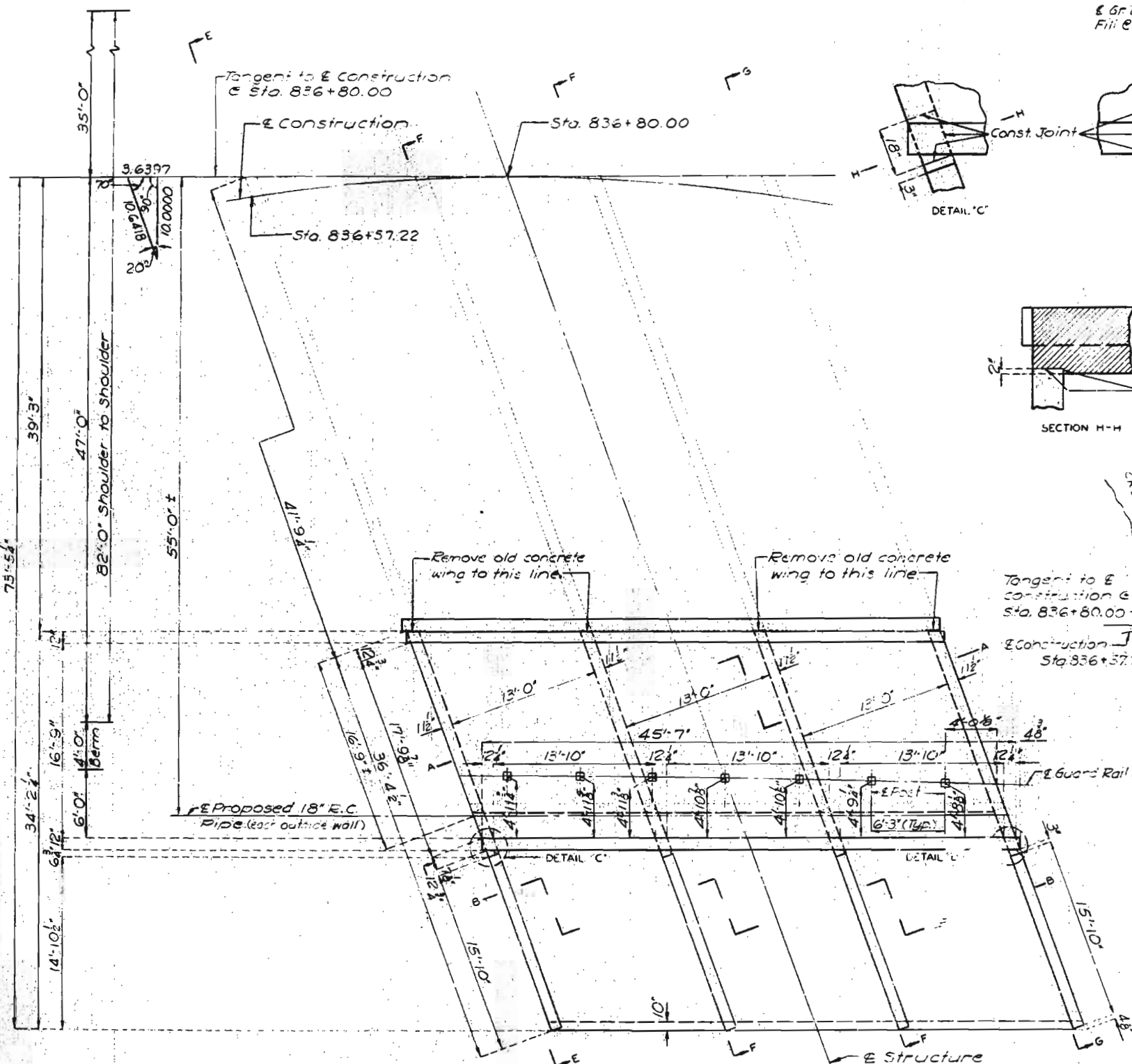
RTE. 100

ST. LOUIS

COUNTY

DATE 5/23/83

STD. 703.60
STD. 706.30
F-182 R2



PLAN

Note: For details of Guard Rail Post attachments see sheet No. 3

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

Sheet No. 1A of 4

DESIGNED OCT. 1978
DETAILED OCT. 1978
NOV. 1978

FINAL PLANS FINAL DESIGN