

BUTLER COUNTY

CROSS-SECTIONS 1 IN. = 5 CT.



COMMISSIONER
PUBLIC ROADS ADMINISTRATIVE
FEDERAL WORKS AGENCY

LOCATION JUNCTION RTE 14 SOUTH TOWARD NEELYVILLE

TYPE 40' RC CULVERTS, BRIDGES, 22' R.C.C. PAVEMENT

MISSOURI STATE HIGHWAY COMMISSION

FINAL SUMMARY OF QUANTITIES

FED. ROAD DIST. NO.	STATE	PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	FA 58-3(3)		202	24
DIV. NO.	COUNTY	ROUTE	SEC. NO.		
10	BUTLER		67		

EXCAVATION										STANDARD R.C. BOX CULVERTS										GENERAL SUMMARY										
Station	Loc. Elev.	Bottom	Fill	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	Station	Loc. Elev.	Bottom	Fill	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	Item No.	Description	Unit	Total Units	Net Units	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	20' (10' x 10')	
521+00										521+00										1	Clearing	Acres	3.7							
521+01	162.3		139.5							521+01										2	Excavation	Acres	3.7							
521+02	139.8		139.8							521+02										3	Grass	Acres	3.7							
521+03	139.8		139.8							521+03										4	Grass	Acres	3.7							
521+04	139.8		139.8							521+04										5	Grass	Acres	3.7							
521+05	139.8		139.8							521+05										6	Grass	Acres	3.7							
521+06	139.8		139.8							521+06										7	Grass	Acres	3.7							
521+07	139.8		139.8							521+07										8	Grass	Acres	3.7							
521+08	139.8		139.8							521+08										9	Grass	Acres	3.7							
521+09	139.8		139.8							521+09										10	Grass	Acres	3.7							
521+10	139.8		139.8							521+10										11	Grass	Acres	3.7							
521+11	139.8		139.8							521+11										12	Grass	Acres	3.7							
521+12	139.8		139.8							521+12										13	Grass	Acres	3.7							
521+13	139.8		139.8							521+13										14	Grass	Acres	3.7							
521+14	139.8		139.8							521+14										15	Grass	Acres	3.7							
521+15	139.8		139.8							521+15										16	Grass	Acres	3.7							
521+16	139.8		139.8							521+16										17	Grass	Acres	3.7							
521+17	139.8		139.8							521+17										18	Grass	Acres	3.7							
521+18	139.8		139.8							521+18										19	Grass	Acres	3.7							
521+19	139.8		139.8							521+19										20	Grass	Acres	3.7							
521+20	139.8		139.8							521+20										21	Grass	Acres	3.7							
521+21	139.8		139.8							521+21										22	Grass	Acres	3.7							
521+22	139.8		139.8							521+22										23	Grass	Acres	3.7							
521+23	139.8		139.8							521+23										24	Grass	Acres	3.7							
521+24	139.8		139.8							521+24										25	Grass	Acres	3.7							
521+25	139.8		139.8							521+25										26	Grass	Acres	3.7							
521+26	139.8		139.8							521+26										27	Grass	Acres	3.7							
521+27	139.8		139.8							521+27										28	Grass	Acres	3.7							
521+28	139.8		139.8							521+28										29	Grass	Acres	3.7							
521+29	139.8		139.8							521+29										30	Grass	Acres	3.7							
521+30	139.8		139.8							521+30										31	Grass	Acres	3.7							
521+31	139.8		139.8							521+31										32	Grass	Acres	3.7							
521+32	139.8		139.8							521+32										33	Grass	Acres	3.7							
521+33	139.8		139.8							521+33										34	Grass	Acres	3.7							
521+34	139.8		139.8							521+34										35	Grass	Acres	3.7							
521+35	139.8		139.8							521+35										36	Grass	Acres	3.7							
521+36	139.8		139.8							521+36										37	Grass	Acres	3.7							
521+37	139.8		139.8							521+37										38	Grass	Acres	3.7							
521+38	139.8		139.8							521+38										39	Grass	Acres	3.7							
521+39	139.8		139.8							521+39										40	Grass	Acres	3.7							
521+40	139.8		139.8							521+40										41	Grass	Acres	3.7							
521+41	139.8		139.8							521+41										42	Grass	Acres	3.7							
521+42	139.8		139.8							521+42										43	Grass	Acres	3.7							
521+43	139.8		139.8							521+43										44	Grass	Acres	3.7							
521+44	139.8		139.8							521+44										45	Grass	Acres	3.7							
521+45	139.8		139.8							521+45										46	Grass	Acres	3.7							
521+46	139.8		139.8							521+46										47	Grass	Acres	3.7							
521+47	139.8		139.8							521+47										48	Grass	Acres	3.7							
521+48	139.8		139.8							521+48										49	Grass	Acres	3.7							
521+49	139.8		139.8							521+49										50	Grass	Acres	3.7							
521+50	139.8		139.8							521+50										51	Grass	Acres	3.7							
521+51	139.8		139.8							521+51										52	Grass	Acres	3.7							
521+52	139.8		139.8							521+52										53	Grass	Acres	3.7							
521+53	139.8		139.8							521+53										54	Grass	Acres	3.7							
521+54	139.8		139.8							521+54										55	Grass	Acres	3.7							
521+55	139.8		139.8							521+55										56	Grass	Acres	3.7							
521+56	139.8		139.8							521+56										57	Grass	Acres	3.7							
521+57	139.8		139.8							521+57										58	Grass	Acres	3.7							
521+58	139.8		139.8							521+58										59	Grass	Acres	3.7							
521+59	139.8		139.8							521+59										60	Grass	Acres	3.7							
521+60	139.8		139.8							521+60	</																			

NW 1/4 - NW 1/4
Sec 10

CONCRETE STEPS				
Station	Side	Width	Height	Notes
527.170	W	3.0	2.7	18

SEEDING				
Station	Side	Width	Height	Notes
527.170	W	3.0	2.7	18

T 23 N

SW 1/4 - NW 1/4
Sec 10

NW 1/4 - SW 1/4
Sec 10

Dist	State	Proj. No.	Sheet No.	Total Sheets
5	MO.	58-B(3)	5	10
Div. No.	County	Route	Sec. No.	
10	BUTLER	67		

THOMAS WILSON

8 RM MARKERS 25

FINAL PLANS

MATTIE WILSON

No 526.100
Relocated Corridor on 6

No 526.100
Cor 526.06.10



0.000
0.000
1.000
0.000
No Super

8 SURF. DRAIN BASINS AND SUMMIT DRAIN				
Station	No.	Area	Notes	
527.170	1	1.0	1.0	
528.170	2	1.0	1.0	
529.170	3	1.0	1.0	
530.170	4	1.0	1.0	
531.170	5	1.0	1.0	
532.170	6	1.0	1.0	
533.170	7	1.0	1.0	
534.170	8	1.0	1.0	
535.170	9	1.0	1.0	
536.170	10	1.0	1.0	

RELIED PIPE		
Station	Side	Notes
527.170	W	18"
528.170	W	18"
529.170	W	18"
530.170	W	18"
531.170	W	18"
532.170	W	18"
533.170	W	18"
534.170	W	18"
535.170	W	18"
536.170	W	18"

30" CONC. CURB & GUTTER		
Station	Location	Notes
527.170	W	18"
528.170	W	18"
529.170	W	18"
530.170	W	18"
531.170	W	18"
532.170	W	18"
533.170	W	18"
534.170	W	18"
535.170	W	18"
536.170	W	18"

ENTRANCE APPROACHES				
Station	Side	Exc.	Fill	Remarks
527.170	W	18"	18"	18"
528.170	W	18"	18"	18"
529.170	W	18"	18"	18"
530.170	W	18"	18"	18"
531.170	W	18"	18"	18"
532.170	W	18"	18"	18"
533.170	W	18"	18"	18"
534.170	W	18"	18"	18"
535.170	W	18"	18"	18"
536.170	W	18"	18"	18"

DRAINAGE STRUCTURES				
Station	Side	Size	Notes	Remarks
527.170	W	18"	18"	18"
528.170	W	18"	18"	18"
529.170	W	18"	18"	18"
530.170	W	18"	18"	18"
531.170	W	18"	18"	18"
532.170	W	18"	18"	18"
533.170	W	18"	18"	18"
534.170	W	18"	18"	18"
535.170	W	18"	18"	18"
536.170	W	18"	18"	18"

SIDE ROAD APPROACHES				
Station	Side	Exc.	Fill	Remarks
527.170	W	18"	18"	18"
528.170	W	18"	18"	18"
529.170	W	18"	18"	18"
530.170	W	18"	18"	18"
531.170	W	18"	18"	18"
532.170	W	18"	18"	18"
533.170	W	18"	18"	18"
534.170	W	18"	18"	18"
535.170	W	18"	18"	18"
536.170	W	18"	18"	18"

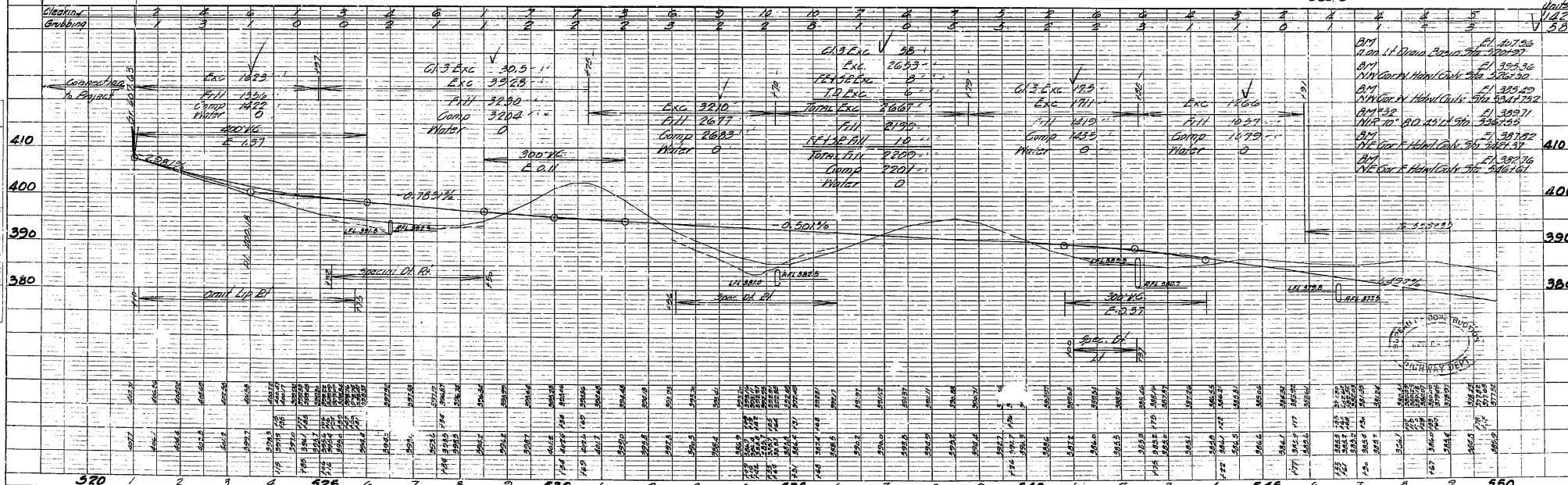


PLATE 1 - PLAN - PROFILE OF F. C. S. STANDARDS
ADAPTED & MODIFIED BY NEW YORK

NW 1/4 - SW 1/4
Sec. 10

THOMAS WILSON

SW 1/4 - SW 1/4
Sec. 10

T 23 N

NW 1/4 - NW 1/4
Sec. 15

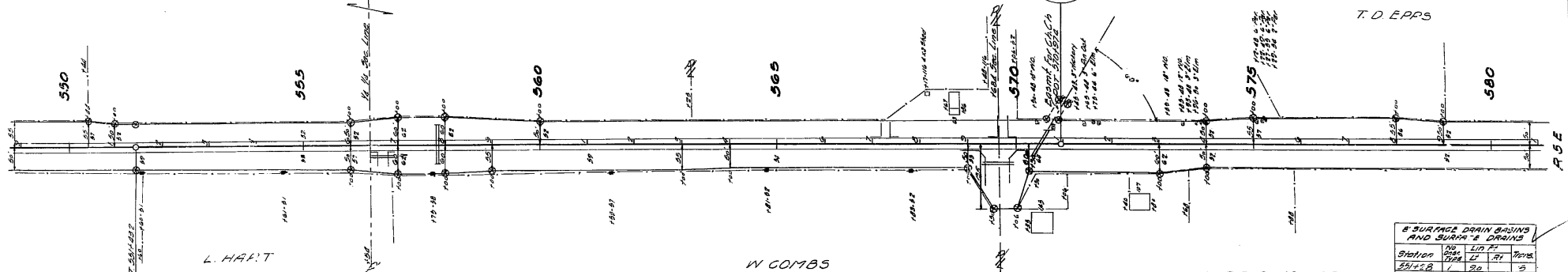
26 R/W MARKERS 26

FED. ROAD DIST. NO.	STATE	FED. AID	SHIFT NO.	TOTAL SHEETS
5	MO.	58-50	2	2
DIV. NO.	COUNTY	ROUTE	SEC. NO.	
10	BUTLER	27		

FINAL PLANS

EMMA COMBS

T.D. EPPS



NE 1/4 - SE 1/4
Sec. 9

SE 1/4 - SE 1/4
Sec. 9

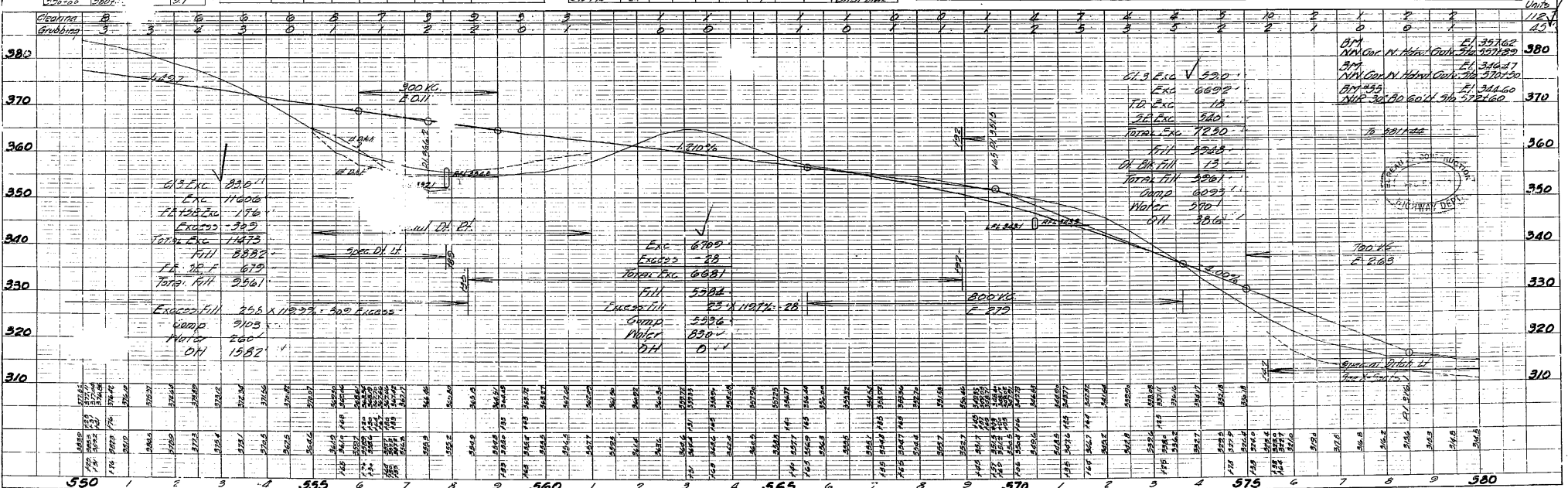
NE 1/4 - NE 1/4
Sec. 16

Station	Stand	Size	Shed	Lph	Drain	Exc.	Remarks
556.172							Removal of
557.190							Excavation
558.180							Removal of
559.126							C. 300 EX. Haul

Station	Side	18"	Exc.	Fill	Exc.	Remarks
556.172	RI					
557.190	RI					
558.180	RI					
559.126	RI					

Station	Side	18"	Exc.	Fill	Exc.	Remarks
556.172	RI					
557.190	RI					
558.180	RI					
559.126	RI					

Station	Exc.	Fill	Exc.	Remarks
556.172				
557.190				
558.180				
559.126				



SW 1/4 - SW 1/4
Sec. 15

T 23 N

NW 1/4 - NW 1/4
Sec. 22

RAIN MARKERS 4

PLAT NO.	STATE	TR. NO.	SHEET NO.	TOTAL SHEETS
5	MO.	35-30	5	
DIV. NO.	COUNTY	ROUTE	SEC. NO.	
10	JUTLER	37		

FINAL PLANS

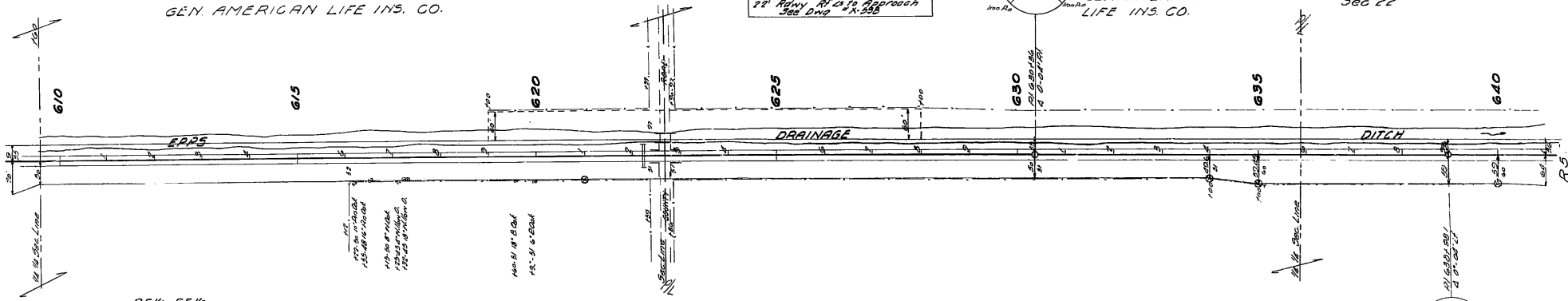
GEN. AMERICAN LIFE INS. CO.

310.622166 LI (2725) Bridge
1-17 1/2 Room 3000, Cigna Life Center
22 Hwy. 10, 1012 Research
3rd Dng. - K-555

310.622166 LI (2725) Bridge
1-17 1/2 Room 3000, Cigna Life Center
22 Hwy. 10, 1012 Research
3rd Dng. - K-555

GEN. AMERICAN
LIFE INS. CO.

SW 1/4 - NW 1/4
Sec. 22



SE 1/4 - SE 1/4
Sec. 16

JACOB GRAY

NE 1/4 - NE 1/4
Sec. 21

F. F. DODSON

SE 1/4 - NE 1/4
Sec. 21

SIDE ROAD APPROACHES						
Station	Side	Exc.	Fill	C13 Exc.	C13 Fill	Remarks
622166	EL	No Pops	Ind. Intake	9	32	
622166	LI	2nd Pops	-	-	0	32

DRAINAGE STRUCTURES						
Station	Stand	Size	Stem	Lgth	C13 Exc.	Remarks
622166	622222	312	40	435	610	

(PREPARATION FOR) SEEDING			
Station	Station	Seed	Area
610100	640100	6	46

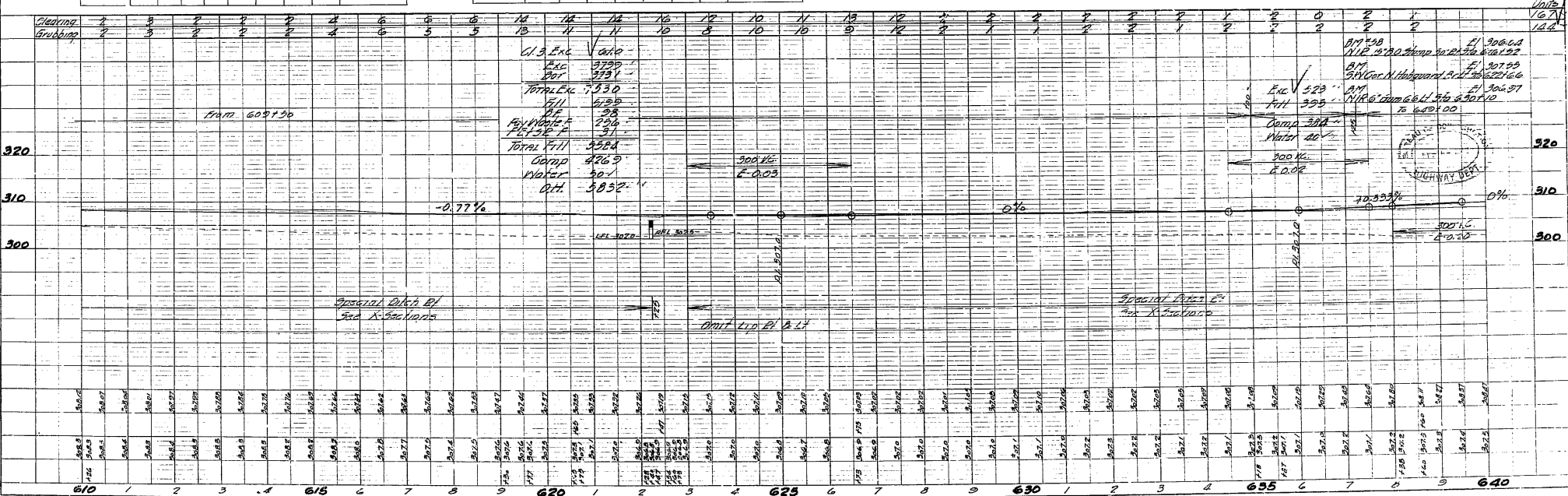


PLATE 1 - PLAN - PROFILE OF DRAINAGE STRUCTURE
KUTLER & SUGAR CO. NEW YORK

SW 1/4 - NW 1/4
Sec. 22

346 610 11 15 13 W
14 Co. Sec. 21 S 22

NW 1/4 - SW 1/4
Sec. 22

T 22 N

9 R/W MARKERS 11

SW 1/4 - SW 1/4
Sec. 22

PER. ROAD DIST. NO. STATE PROJECT NO. SHEET NO. TOTAL SHEETS
5 MO. 347 123 7
DIV. NO. COUNTY ROUTE SEC. NO.
10 BUTLER 87
FINAL PLANS

A DOBLAUVEN

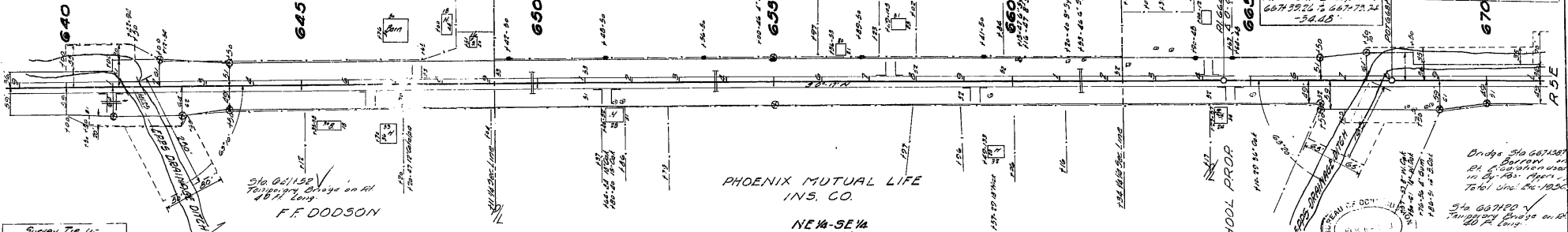
Permitted Elevation
of Bridge Sills
900.00 ±
Additional P.C.P. 1655.5X

CATHERINE MORROW

G.C. PETTY

Permitted Elevation
of Bridge Sills
667.73 ±
Additional P.C.P. 1655.5X

Permitted Elevation
of Bridge Sills
667.73 ±
Additional P.C.P. 1655.5X



Survey To Loc.
346 610 11 15 13 W
346 714 13 14 23 S 22

SE 1/4 - NE 1/4
Sec. 21

NE 1/4 - SE 1/4
Sec. 21

SE 1/4 - SE 1/4
Sec. 21

DRAINAGE STRUCTURES									
Station	Span	Size	Span	Depth	Area	Exc.	Remarks		
640+00	R.C.P.	24"	16	20"	3.14	0.830	Exc. 1.00	Preparation for	
641+00	R.C.P.	18"	14	16"	1.76	0.830	Exc. 1.00	SEEDING	
641+40	R.C.P.	24"	16	20"	3.14	0.830	Exc. 1.00		

ENTRANCE APPROACHES									
Station	Side	Exc.	Fill	Exc.	Fill	Exc.	Fill	Exc.	Fill
641+00	EL	0	0	0	0	0	0	0	0
641+20	EL	0	0	0	0	0	0	0	0
641+40	EL	0	0	0	0	0	0	0	0
641+60	EL	0	0	0	0	0	0	0	0
641+80	EL	0	0	0	0	0	0	0	0
642+00	EL	0	0	0	0	0	0	0	0
642+20	EL	0	0	0	0	0	0	0	0
642+40	EL	0	0	0	0	0	0	0	0
642+60	EL	0	0	0	0	0	0	0	0
642+80	EL	0	0	0	0	0	0	0	0
643+00	EL	0	0	0	0	0	0	0	0

BY-PASS APPROACHES									
Station	Side	Exc.	Fill	Exc.	Fill	Exc.	Fill	Exc.	Fill
641+00	EL	0	0	0	0	0	0	0	0
641+20	EL	0	0	0	0	0	0	0	0
641+40	EL	0	0	0	0	0	0	0	0
641+60	EL	0	0	0	0	0	0	0	0
641+80	EL	0	0	0	0	0	0	0	0
642+00	EL	0	0	0	0	0	0	0	0
642+20	EL	0	0	0	0	0	0	0	0
642+40	EL	0	0	0	0	0	0	0	0
642+60	EL	0	0	0	0	0	0	0	0
642+80	EL	0	0	0	0	0	0	0	0
643+00	EL	0	0	0	0	0	0	0	0

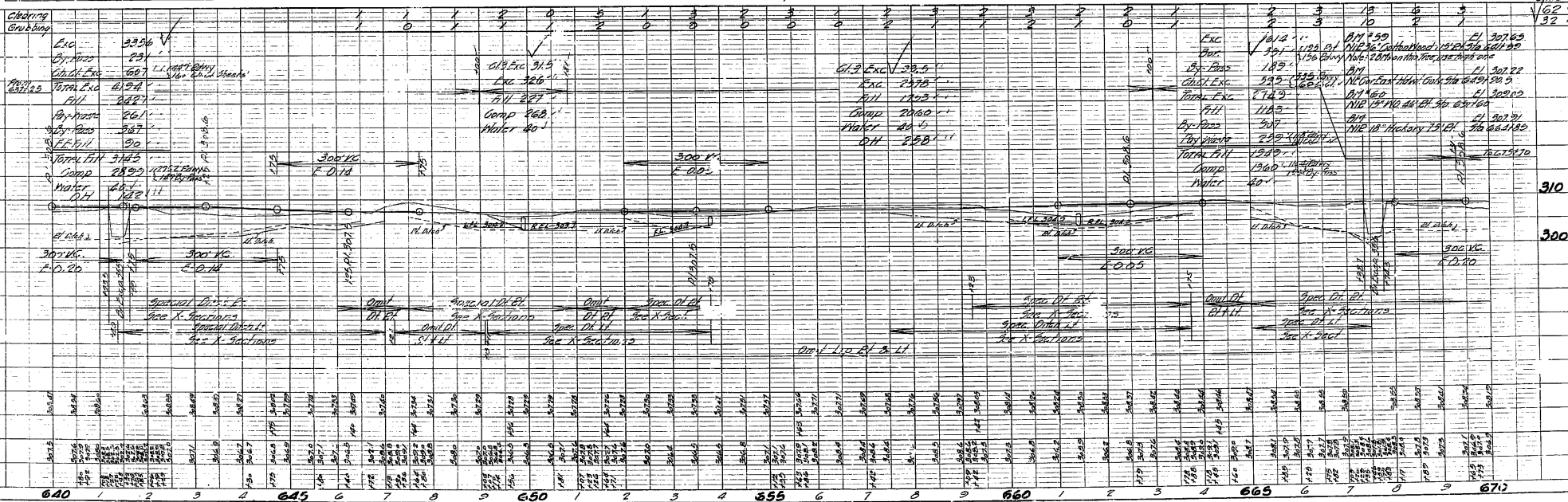


PLATE 1 - PLAN - PROFILE OF R.W. & E. STANDARD
KEEFE & CO. INC. NEW YORK

2012

NEW YORK

SW 1/4 - SW 1/4
Sec. 22

SW 1/4 - SW 1/4
Sec. 22

NW 1/4 - NW 1/4
Sec. 27

T 23 N

SW 1/4 - NW 1/4
Sec. 27

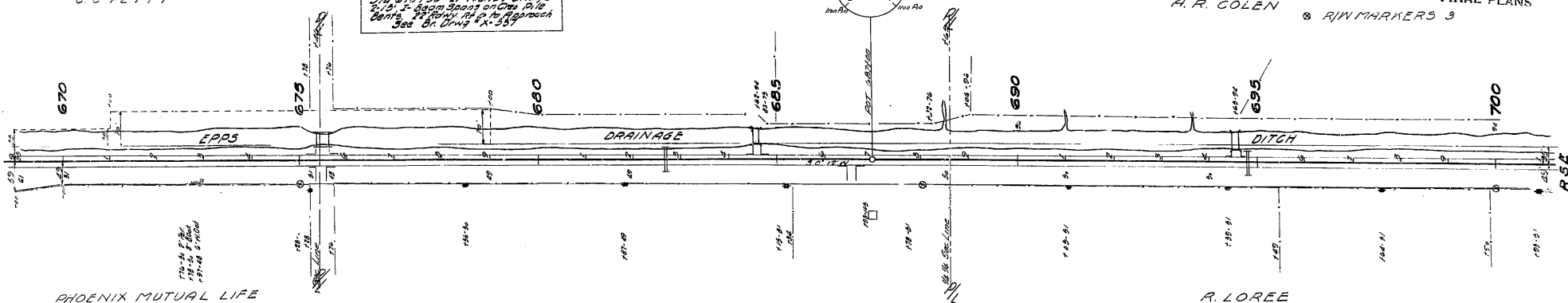
FED. ROAD DIST. NO. 5 STATE MO. PROJECT NO. 35-2(5) SHEET NO. 3 OF 3
DIV. NO. 10 COUNTY BUTLER ROUTE 67
FINAL PLANS

C. C. PETTY

O. R. REEVES

A. R. COLEN

R/W MARKERS 3



PHOENIX MUTUAL LIFE
INS. CO

H. F. KIRKLEY

A. LOREE

SE 1/4 - SE 1/4
Sec. 21

NE 1/4 - NE 1/4
Sec. 23

SE 1/4 - NE 1/4
Sec. 23

ENTRANCE APPROACHES					
Station	Side	St.	Exc.	Fill	Remarks
670+00	L	0	0	0	0
670+00	R	0	0	0	0
670+00	L	0	0	0	0
670+00	R	0	0	0	0

SEEDING			
Station	Station	St.	Remarks
670+00	670+00	0	0
670+00	670+00	0	0

SIDE ROAD APPROACHES					
Station	Side	St.	Exc.	Fill	Remarks
670+00	L	0	0	0	0
670+00	R	0	0	0	0
670+00	L	0	0	0	0
670+00	R	0	0	0	0

DRAINAGE STRUCTURES					
Station	Side	St.	Exc.	Fill	Remarks
670+00	L	0	0	0	0
670+00	R	0	0	0	0
670+00	L	0	0	0	0
670+00	R	0	0	0	0

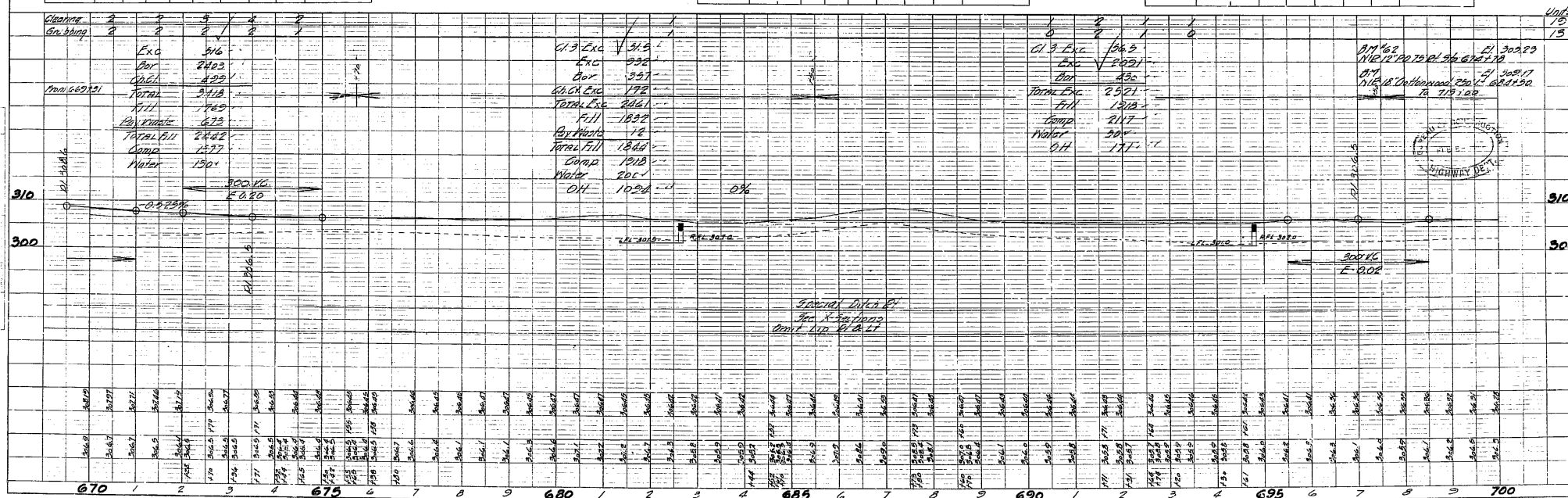


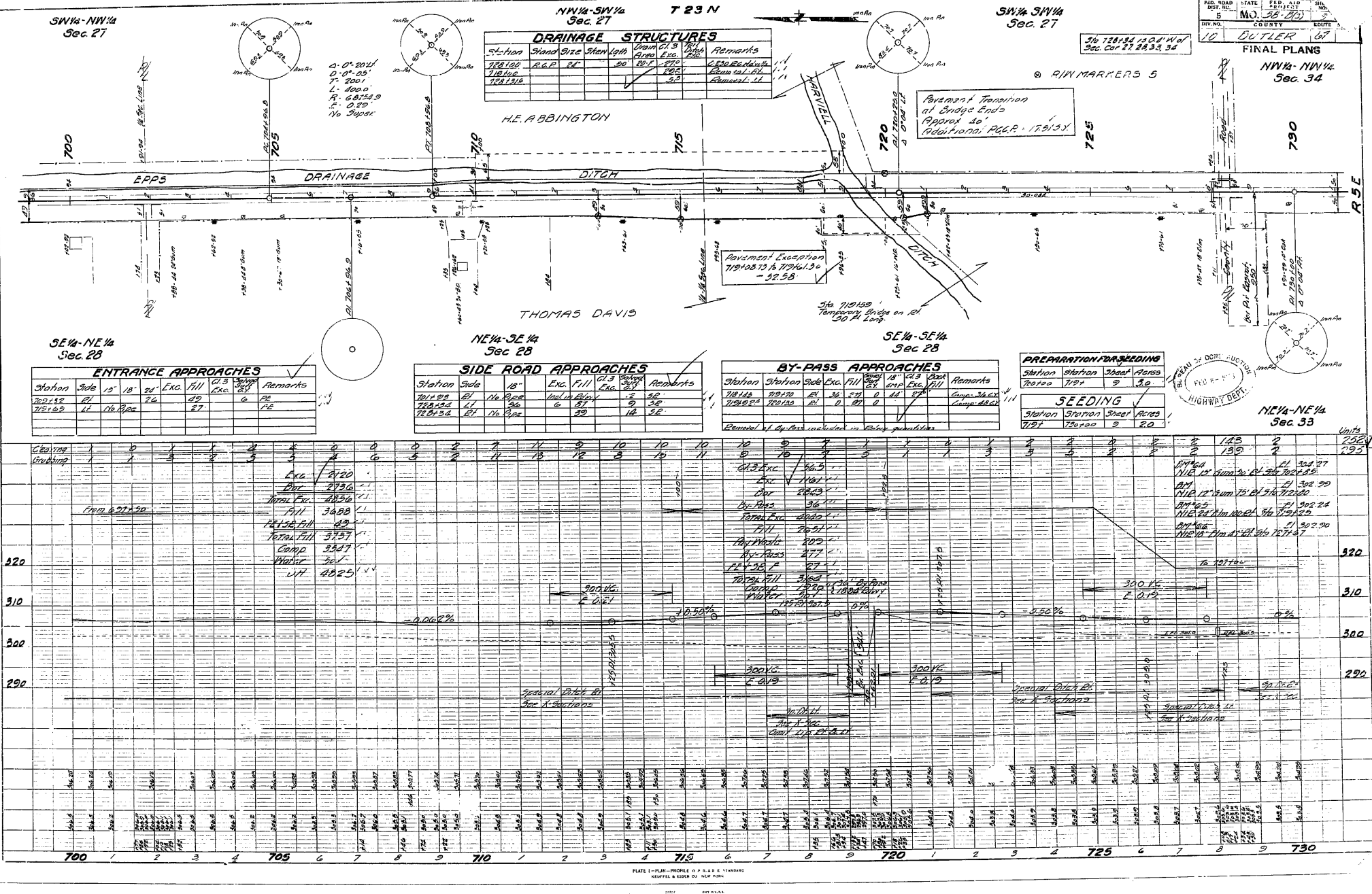
PLATE 1 - PLAN PROFILE OF ROAD & STANDARD
SECTION & DRAINAGE

DRAINAGE STRUCTURES							
St-Name	Stand Size	Span	Lgth	Drain Area	Gr. S	Sp. Hg. Hdg.	Remarks
7281101	R.G.P	24"	20	28' 1"	28.5		2330 Radan
7281102					28.5		2330 rad. AL
7281312					2.5		Removal: 11

510 728+34 130 d'W of
9cc. Cor 27, 28, 33, 34

FINAL PLANS

NW 1/4 - NW 1/4
Sec. 34



NE 1/4 - NW 1/4
Sec. 34
R MOSS

SW 1/4 - NW 1/4
Sec. 34

T 23 N

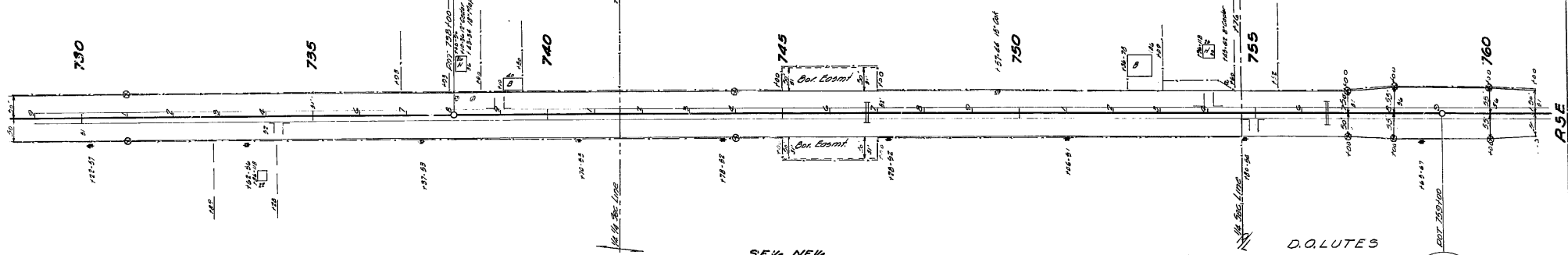
NNW - SW 1/4
Sec. 34

C. DELANEY

STATE	MO.	PROJECT	NO.	10
COUNTY	BUTLER	ROUTE	67	
FINAL PLANS				



8 A/W MARKERS 10

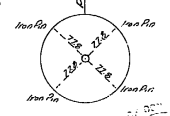


NE 1/4 - NE 1/4
Sec. 33

SE 1/4 - NE 1/4
Sec. 33

A. MEHLE - C.T. BLOODWORTH

NE 1/4 - SE 1/4
Sec. 33

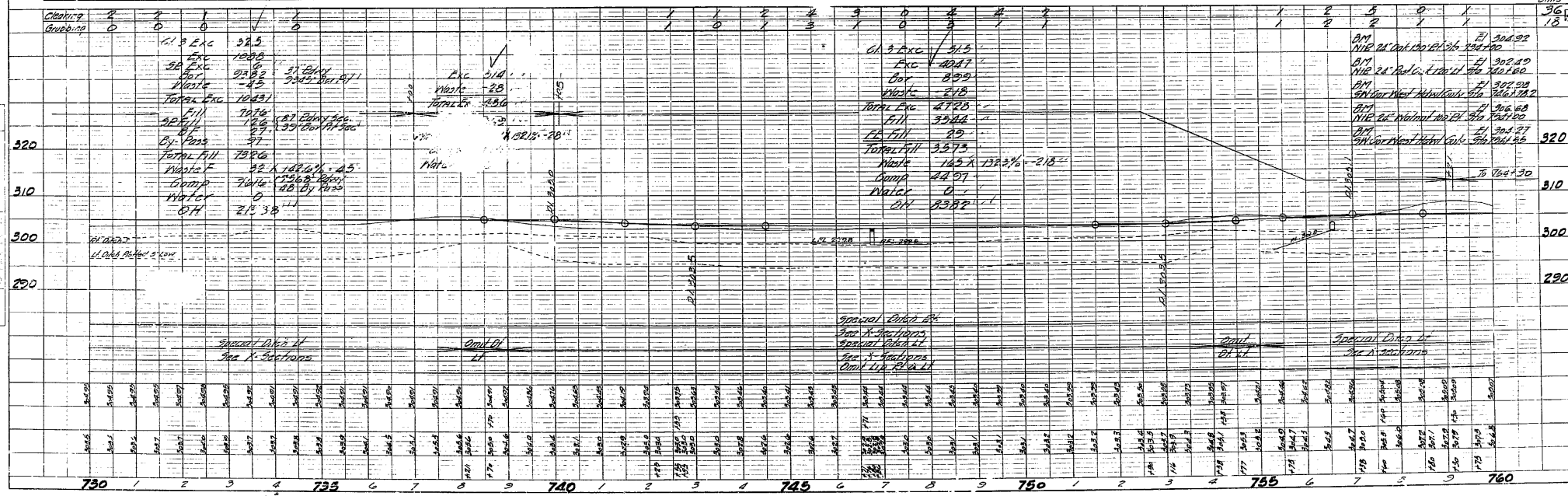


RECEIVED
HIGHWAY DEPT.

Station	Stood	Stem	Stem	Stem	Remarks
730.185	6.00	1.00	1.00	1.00	6.00
730.582	6.00	1.00	1.00	1.00	6.00

Station	Station	Station	Station
730.185	730.582	730.979	731.376

Station	Side	Exc.	Fill	Exc.	Fill	Remarks
730.185	EL	No. 20	No. 20	No. 20	No. 20	
730.582	EL	No. 20	No. 20	No. 20	No. 20	



NEW 3W4
Sec 34

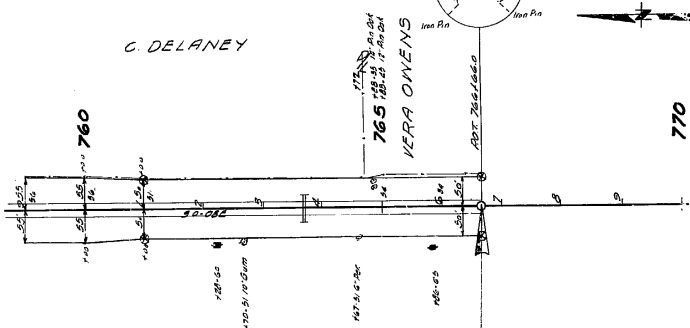
T 23 N

8 R/W MARKERS 4

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
5	MO.	50-28	11	
DIV. NO.	COUNTY	ROUTE	SEC. NO.	
10	BUTLER	67		

FINAL PLANS

C. DELANEY



D.O. LUTES

END RT 67
FA 58 B(1)

BEGIN RT 67
FA 58 C(12)

NEW 3W4
Sec. 33

Station	Stand	Size	Shov	Lght	Area	Exc	Remarks
763.17E	CR2000	3.0			40.1	0.72	

Station	Station	Shov	Area
760.00	760.00	11	1.3

Station	Side	Exc	Fill	Exc	Fill	Remarks
761.10	RT	76		25		FE

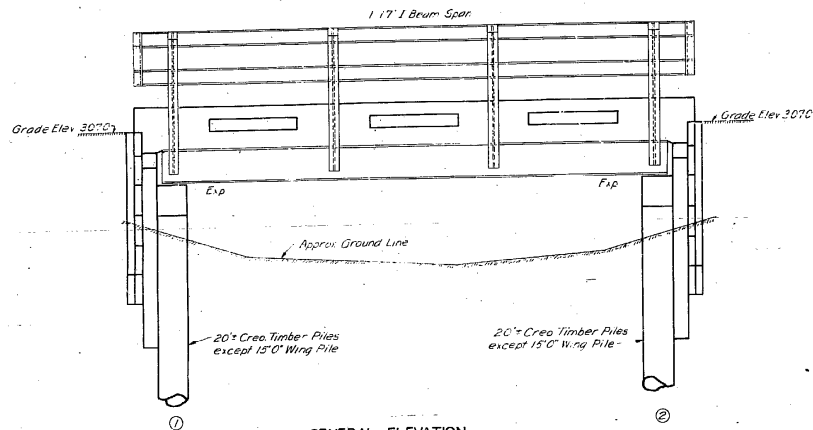


Cleaning	3	8	7	7	7	4	38
Grubbing	3	8	9	8	9	5	43
Exc	28.5						
Exc	10.79						
Waste	92						
TOTAL Exc	158.1						
Fill	11.82						
FE Fill	25						
TOTAL Fill	12.87						
Waste	70 K 12.87						
Comp	1380						
Water	0						
RT 67							
LT 67							
Special Dikes RT & LT							
Exc 258							
Comp 0.00							
Water 0							

RT 67
3W 4 Cor N. H. H. 246 763.17E

MISSOURI STATE HIGHWAY DEPARTMENT

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	15-5	1940	19	1



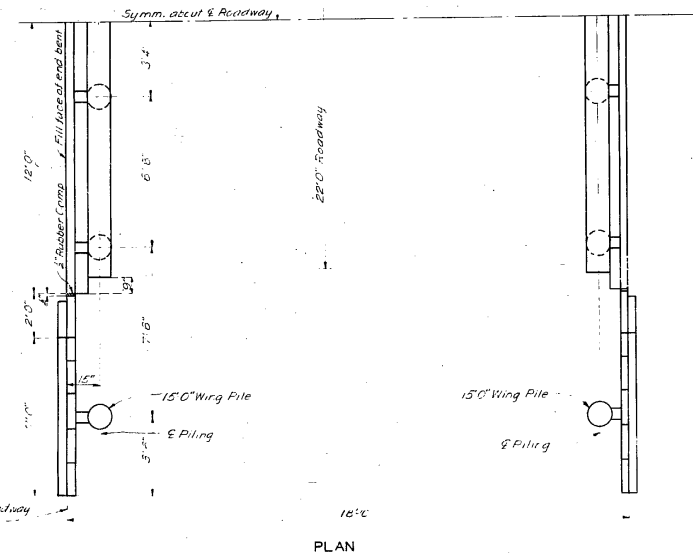
GENERAL ELEVATION

Note: Bunks shall be maintained during construction or restored to natural position.

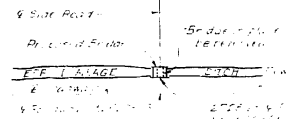
Note: All piling shall be Creosoted Timber. Estimated quantities shown on plans are based on the following lengths: 4 @ 15'0" and 8 @ 20'0". These indicated lengths are approximate only. Proper lengths to give required bearing and for penetration to be determined by Contractor. All wing piles shall be driven to full penetration at lengths given on plans. All other piles shall be driven to sustain a load of at least 12 tons per pile and with tips to at least Elev. 290.0.

GENERAL NOTES:-

Design Specifications AASHTO 1935
Loading HIC AASHTO
Structural Steel Stress 18,000 psi
Reinforcing Steel Stress 18,000 psi
Concrete Class B
Creosoted Timber 100%
All concrete shall be Class B.
All timber shall be creosoted. All timber shall be rough full sawn except as noted in timber bill. All timber shall be cut to the lengths or dimensions and shall be bared as shown before treating. All baring shall be done at elev. 6' and shall be to be cut and fitted in the field.
Field holes for drift air shall be field bored 8" or less otherwise noted. All other field holes in timber shall be field bored 16".
Qualification of welding operator and electrodes for welding shown on plans will not be required.
Rivets 3/4" except as noted. All fire corrections shall be riveted except as noted. Use 3/4" washers under heads and nuts of all 3/4" rivets.
Paint Shop, rep. Reels, surface surfaces of bridge field connections and feet of end beam and surfaces accessible after erection. For these coats of red lead. No other paint to be applied by Contractor. Payment for painting and sanding such surfaces will be included in unit price bid for structural steel.



PLAN



LOCATION SKETCH

ESTIMATED QUANTITIES				
	Substr.	Superstr.	Total	
CREOSOTED TIMBER FOR STRUCTURES	110	20	130	
CREOSOTED CLASS B	110	20	130	
REINFORCING STEEL	2510	2510		
STRUCTURAL STEEL	2510	2510		
CREOSOTED TIMBER	2510	2510		
CREOSOTED CLASS B	2510	2510		

BM No. 56. Elev. 302.01 - NIA 15'5" Cor. 30'11" Sta. 615+52

BRIDGE OVER EPPS DRAINAGE DITCH

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH

ABOUT 4.5 MILES SW OF HARVEILL

PROJECT NO. FA 58-B (3) (U.S. 67) STA. 622+66-2725+17

BUTLER

COUNTY

7/1/40
CWB
8/1/40

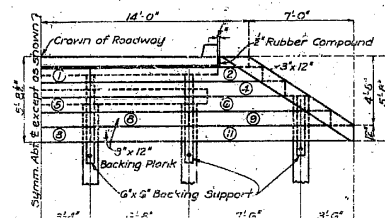
STD. C-110R2

X-538

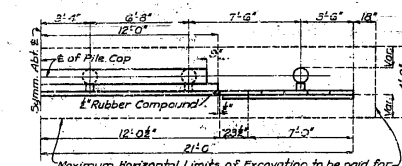
Drawn June 1940 by C.S.A.
Traced June 1940 by C.S.A.
Checked July 1940 by A.M.R.

Note: This drawing is for construction purposes only.

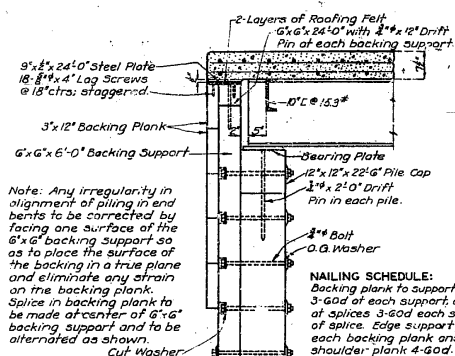
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	66-01-101567	78		



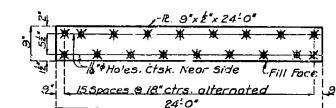
HALF ELEVATION OF END BENT



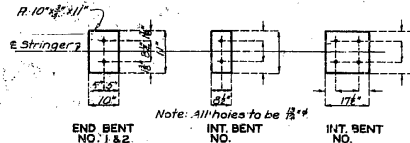
HALF PLAN OF END BENT



SECTION THRU END BENT AT E. ROADWAY



CAP PLATE AT END BENT



DETAILS OF BEARING PLATES

Note: All bearing plates shall be straightened to plane surfaces
Required: 8-Brg. Pl. 10"x $\frac{1}{2}$ "x11"

SUBSTRUCTURE TIMBER BILL

Shaping and Boring Sketches

Sketch of a timber piece with dimensions: 3' x 12', 10'-6", 6".

EDGE SUPPORT

Sketches of timber pieces for Edge Support, Backing Support, and Backing Support.

BACKING SUPPORT

Sketch of a timber piece for Backing Support with dimensions: 18' Square 16' 0" x 10' 0", 15' Square 16' 0" x 10' 0".

BACKING SUPPORT

Sketch of a timber piece for Backing Support with dimensions: 18' 0", 2'-6", 2'-6", 11'-8", 11'-8", 11'-8", 11'-8", 11'-8", 11'-8".

PILE CAP-INTERIOR BENT

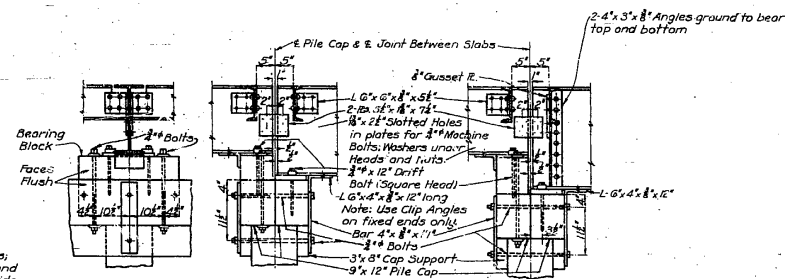
Sketch of a timber piece for Pile Cap-Interior Bent with dimensions: 18' 0", 2'-6", 2'-6", 11'-8", 11'-8", 11'-8", 11'-8", 11'-8", 11'-8".

ONE END BENT

-INT BENT

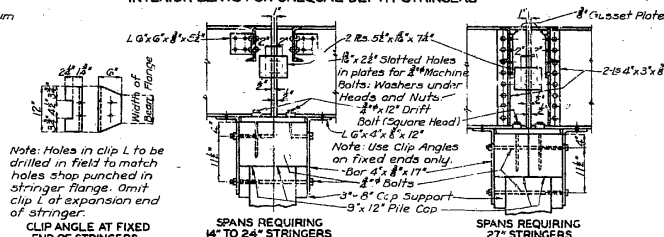
Piece	No.	Size	Length	Remarks
Backing Plank	①	3 1/2" x 12"	18' 10"	Cut to length
"	②	3 1/2" x 12"	23' 2"	"
"	③	3 1/2" x 12"	13' 8"	"
"	④	3 1/2" x 12"	20' 4"	"
"	⑤	3 1/2" x 12"	21' 10"	"
"	⑥	3 1/2" x 12"	12' 2"	"
"	⑦	3 1/2" x 12"	16' 8"	"
"	⑧	3 1/2" x 12"	13' 10"	"
"	⑨	3 1/2" x 12"	10' 0"	"
"	⑩	3 1/2" x 12"	11' 6"	"
"	⑪	3 1/2" x 12"	16' 8"	"
Shoulder Plank		2 1/2" x 8"	23' 8"	"
Edge Support		2 1/2" x 8"	10' 6"	Cut to length & shape
Backing Support		2 1/2" x 8"	10' 6"	Cut to length & shape
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Backing Support		2 1/2" x 8"	10' 6"	Cut to length & shape
Backing Support		2 1/2" x 8"	10' 6"	Cut to length & shape

Notes: Pile caps to be classified as "Brams and Stringers"
All other timber to be classified as "Joists and Plank."
* S25 to exact depth of 11"



SPANS REQUIRING 14" TO 24" STRINGERS

INTERIOR BENTS FOR UNEQUAL DEPTH STRINGERS



SPANS REQUIRING
14" TO 24" STRINGERS

INTERIOR BENTS FOR EQUAL DEPTH STRINGERS

Note: Pile caps 12"x 18" may be substituted for 2'-9"x 12" pile caps shown.

BRIDGE OVER EPPS DRAINAGE DITCH

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH
ABOUT 4.5 MILES SW. OF HARVIELL
PROJECT NO. FA 585(3) (US67) STA. 622 +65-2225 LT.
BUTLER COUNTY

PILE CUT-OFF ELEVATIONS			
BENT No.	CUT-OFF ELEV.	BENT No.	CUT-OFF ELEV.
1 (Bearing Piles)	304.17		
1 (Wing Piles)	304.25		
2 (Bearing Piles)	304.17		
2 (Wing Piles)	304.25		

Drawn Dec. 1938 by T.H.M.
Traced Dec. 1938 by G.V. Assembled June 1949 by C.S.A.
Checked Mar. 1939 by N.Y.R. Checked Jan. 1940 by N.Y.R.

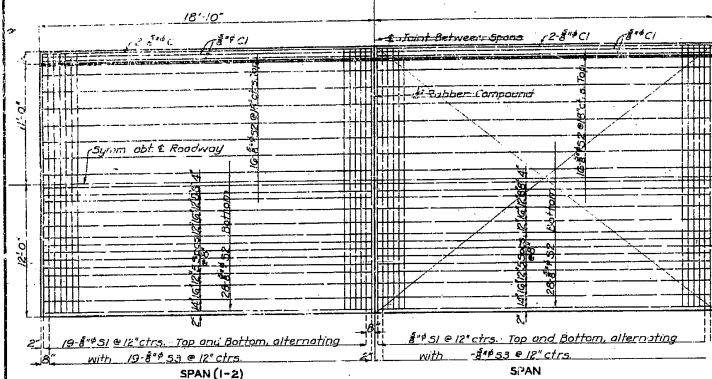
Note: This drawing is not to scale. Follow dimensions

Sheet No. 2 of

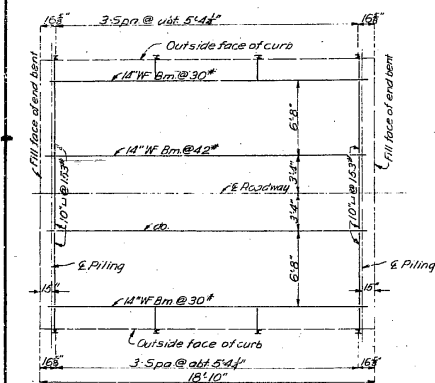
X-538

MISSOURI STATE HIGHWAY DEPARTMENT

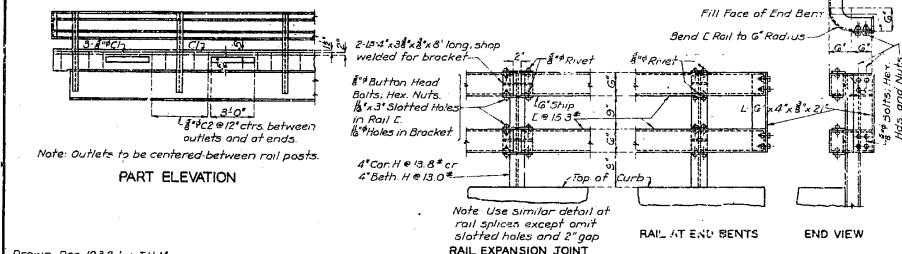
Note: Space channel bars C2 at approximately 12" on center in curbs. Where outlets are at ends



PLAN OF SLAB SHOWING REINFORCING

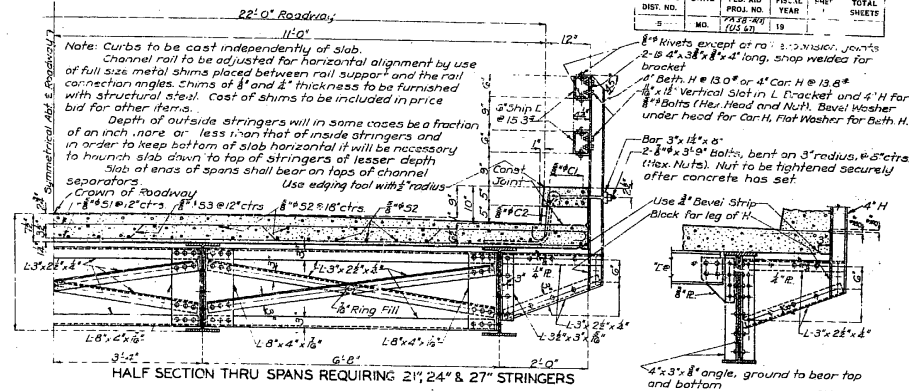


PLAN OF STRUCTURAL STEEL

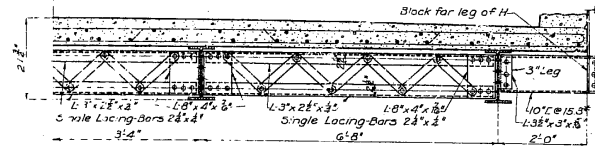


DETAILS OF RUBBER COMPOUND JOINTS

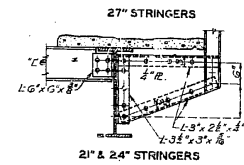
Note: This drawing is not to scale. See also drawing 15-10-1-1.



HALF SECTION THRU SPANS REQUIRING 21, 24 & 27" STRINGERS



HALF SECTION THRU SPANS REQUIRING 14, 16 & 18" STRINGERS



SECTIONS AT ENDS OF SPANS

BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE									
No.	Size	Length	Mark	Location	Bending Sketches				
1	1/2"	11'	C1	Curb					
2	1/2"	23'	C2	Slab					
3	1/2"	23'	S1	Slab					
4	1/2"	23'	S2	Slab					
5	1/2"	23'	S3	Slab					
6	1/2"	23'	S4	Slab					
7	1/2"	23'	S5	Slab					
8	1/2"	23'	S6	Slab					
Data for Bars Required					Span Groups				
1	1/2"	11'	24	36	44	72	Span (1-2)		

Note: Dimensions given are along centerline of bars and are for computed lengths. Bars in "Span Groups" shown above to be billed and tagged separately.

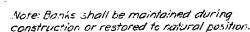
BRIDGE OVER EPPS DRAINAGE DITCH

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH
ABOUT 4.5 MILES S.W. OF HARVEILL
PROJECT NO FA 58-B(3) (US 67) STA. 622+66-2725+17.

BUTLER COUNTY

X-538

FED ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET #	TOTAL SHEET
5	MO	FA-8-7) (US 67)	19		



GENERAL ELEVATION

Note: All piling shall be Creosoted Timber. Estimated quantities shown on plans are based on the following lengths: 4 @ 15'0", 8 @ 20'0" and 4 @ 25'0". These indicated lengths are approximate only. Proper lengths to give required bearing and/or penetration to be determined by Contractor.

All wing pile shall be driven to full penetration of lengths given on plans. All other piles shall be driven to sustain a load of at least 15 ton per pile and with tips to at least Elev. 290.0.

GENERAL NOTES:-

GENERAL NOTES:-
Design Specifications A.A.S.H.C-1935

Design Specifications
Loading HIC AA.5H.O

Structural Steel Stress 19000%.

Reinforcing Steel Stress 12000 psi

Concrete Class 'B' 900 $\frac{1}{2}$ in.

Creosoted Timber 1600¹/₂°.

All concrete shall be Class "B".

All timber shall be creosoted. All timber shall be rough full sawn except as noted in timber bill. All timber shall be cut in billed lengths and shapes and shall be bored as shown before treating. All backing plank are billed about 6" long and are to be recut and fitted in the field.

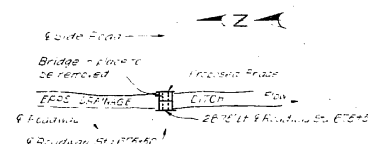
Field holes for drift pins shall be field bored $\frac{1}{8}$ "^ø. Unless otherwise noted all other field holes in timber shall be field bored $\frac{1}{16}$ "^ø.

Qualification of welding operators and electrodes for welding shown on plans will not be required.

Rivets $\frac{3}{8}$ " except as noted. All field connections shall be riveted except as noted. Use $\frac{1}{2}$ " washers under heads and nuts of all $\frac{3}{4}$ " bolts.

Paint: Shop, none; Field, contact surfaces of bolted field connections one coat of red lead and surfaces inaccessible after erecting three coats of

one coat of red lead and surfaces inaccessible after erection three coats of red lead. No other paint to be applied by Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for structural steel.



LOCATION SKETCH

ESTIMATED QUANTITIES				
Item	Substr.	Superstr.	Total	
Excavation for Structures	Cutd	95	95	
Concrete Class 2	Cutd	16.9	16.9	
Reinforcing Steel	LS	426C	426C	
Reinforced Structural Steel	LS	1071C	1071C	
Grouted Timber	FSH	258C	258C	
Grout Timber Piles - 14' deep	Lin. Fr.	32C	32C	

6A' 1/2 C'-E2.36523-1.0 12"OC 75'Ft Sto E74.78

BRIDGE OVER EPPS DRAINAGE DITCH

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH

ABOUT 5.75 MILES S.W. OF HARVIEL.

PROJECT NO FA 58-B(3) (4567) STA. 675 + 50 - 28.75' LT.

BUTLER COUNTY

77K Sack 8/1/40
CUTBrow 8/1/40

STD.C-110R2

X-537

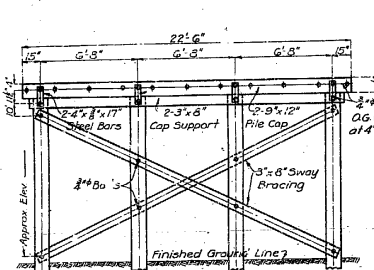
Drawn June 1940 by C.S.A.
Traced June 1940 by C.S.A.
Checked Jan 1940 by N.M.E.

Note: This drawing is not to scale. Fictional name is used.

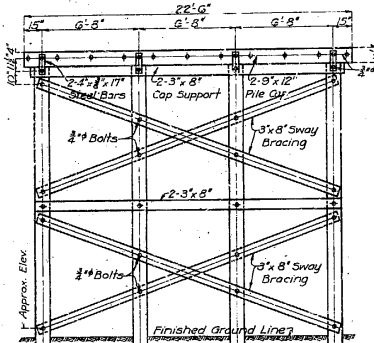
Ref No 143

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	PA 18-819	1939	1	1



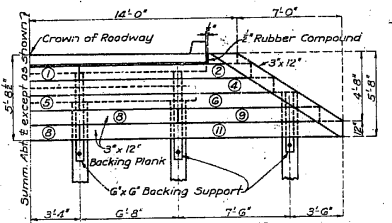
Note: Omit sway bracing when distance from bottom of pile cap to ground is less than 5'-0".
DETAIL OF INTERIOR BENT NO. REQUIRING SINGLE BRACING



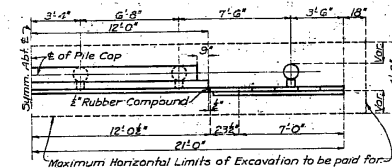
DETAIL OF INTERIOR BENT REQUIRING DOUBLE BRACING

Note: Excavation will be allowed to bents within the maximum horizontal limits of 4'-9" in width and 22'-6" in length. All 4'x11' bars required for attaching pile cap to pile cap supports are to be considered substructure hardware and will be included in price bid for timber in place.

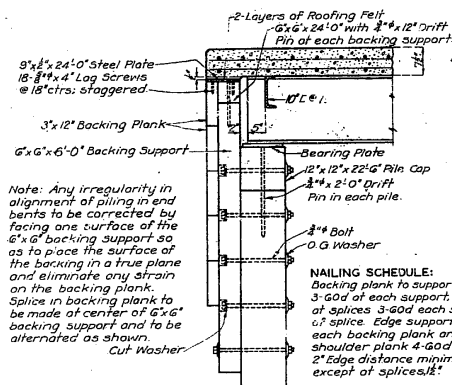
PILE CUT-OFF ELEVATIONS			
Bent No.	Cut-Off Elev.	Bent No.	Cut-Off Elev.
1 (Bearing Pile)	302.94		
1 (Wing Pile)	304.20		
2 (Bearing Pile)	303.92		
3 (Bearing Pile)	303.94		
3 (Wing Pile)	304.00		



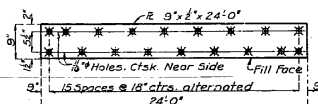
HALF ELEVATION OF END BENT



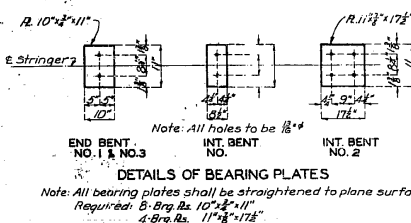
HALF PLAN OF END BENT



SECTION THRU END BENT AT ROADWAY



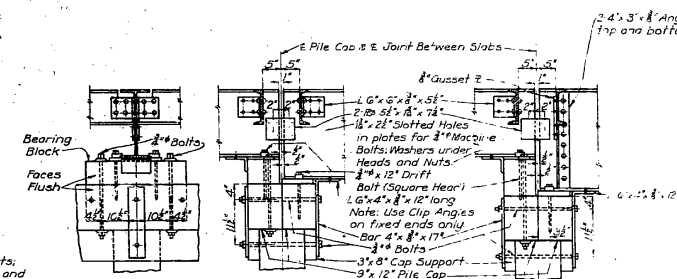
CAP PLATE AT END BENT



DETAILS OF BEARING PLATES
 Note: All bearing plates shall be straightened to plane surfaces.
 Required: 8-Brg. 12'x11' 4-Brg. 11'x17'2"

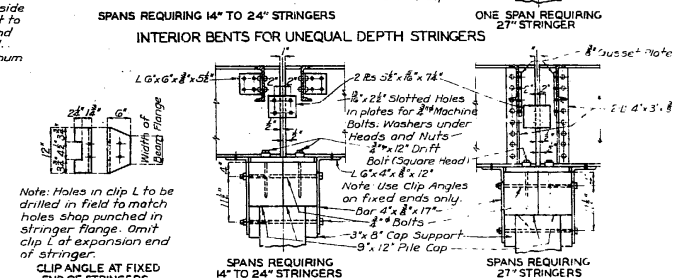
SUBSTRUCTURE TIMBER BILL					
Piece	No.	Size	Length	Remarks	Shaping and Boring Sketches
Backing Plank	1	3x12	18'10"	Cut to length	
Edge Support	2	3x12	12'2"	Cut to length	
Edge Support	3	3x12	13'8"	Cut to length	
Edge Support	4	3x12	10'0"	Cut to length	
Edge Support	5	3x12	11'6"	Cut to length	
Edge Support	6	3x12	18'2"	Cut to length	
Edge Support	7	3x12	18'10"	Cut to length	
Edge Support	8	3x12	10'0"	Cut to length	
Edge Support	9	3x12	11'6"	Cut to length	
Edge Support	10	3x12	18'2"	Cut to length	
Shoulder Plank	1	3x6	24'	Cut to length	
Edge Support	2	3x12	18'10"	Cut to length	
Backing Support	3	6x6	8'0"	Cut to length	
Spans 15' to 27' incl.	4	6x6	6'6"	Cut to length	
Spans 27' to 39' incl.	5	6x6	3'0"	Cut to length	
Backing Support	6	6x6	3'0"	Cut to length	
Backing Support	7	6x6	25'0"	Cut to length	
Backing Support	8	6x6	22'6"	Cut to length	
Pile Cap	9	2x12	22'6"	Cut to length	
Pile Cap	10	2x12	22'6"	Cut to length	

Note: Pile caps to be classified as "Beams and Stringers".
 All other timber to be classified as "Joists and Plank".
 * S2S to exact depth of 11'2"



Note: Cast iron clamps used on bearing plates to have 1/2" clearance of flange of beam to allow for expansion. All clamps to have 3/4" clearance holes. Use two clamps only on each I-beam at end bents.

DETAILS OF FLANGE CLAMP



CLIP ANGLE AT FIXED END OF STRINGERS
 Note: Clip angles against bearing blocks not requiring 42" cuts to be made to width of beam flanges.

CLIP ANGLE AT FIXED END OF STRINGERS
 Note: Pile caps 12'x18" may be substituted for 2'-9"x12" pile caps shown

BRIDGE OVER EPPS DRAINAGE DITCH

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH
 ABOUT 5.75 MILES S.W. OF HARVILL
 PROJECT NO. FA 56-9(3) (U.S. 67) STA. 675+50-28.75+LT.

BUTLER COUNTY

X-537

Drawn Dec. 1938 by T.H.M.
 Traced Dec. 1938 by G.W.
 Checked Mar. 1939 by N.W.R. Checked July 1940 by N.W.R.

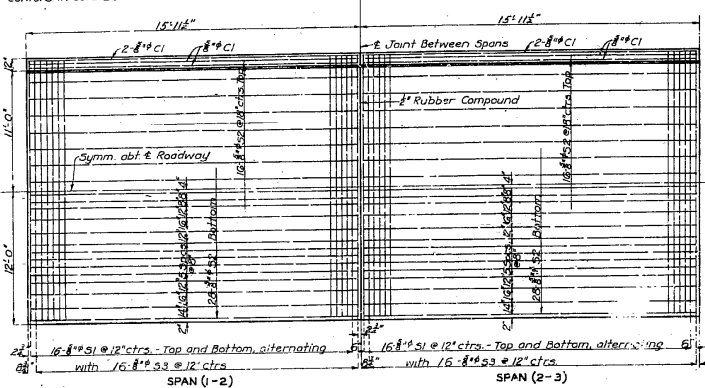
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 3

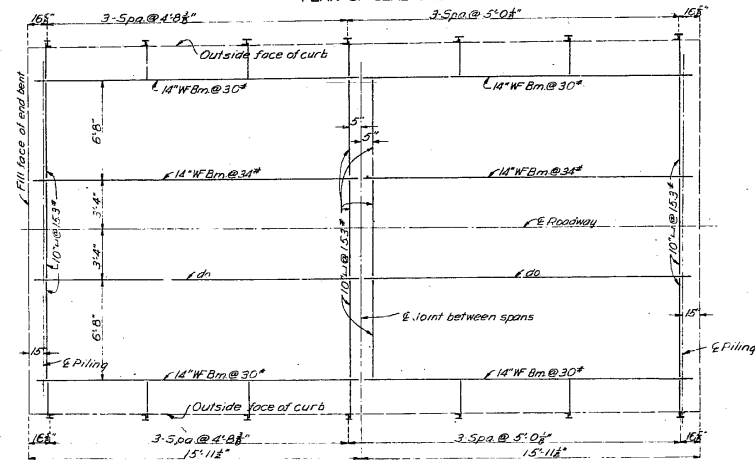
53.1-23-110

MISSOURI STATE HIGHWAY DEPARTMENT

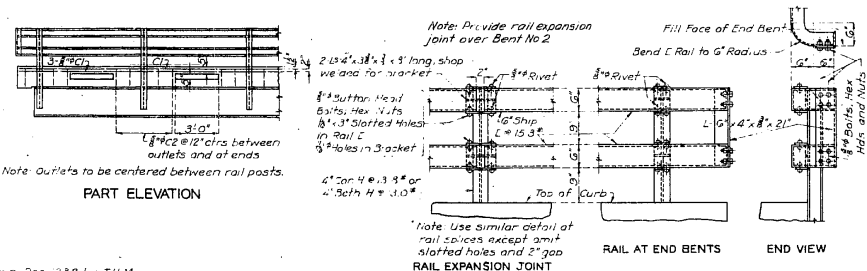
Note: Space dowel bars C2 of approximately 12" centers in curb between outlets and at ends.



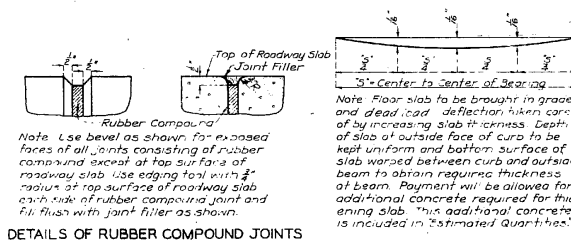
PLAN OF SLAB SHOWING REINFORCING



PLAN OF STRUCTURAL STEEL

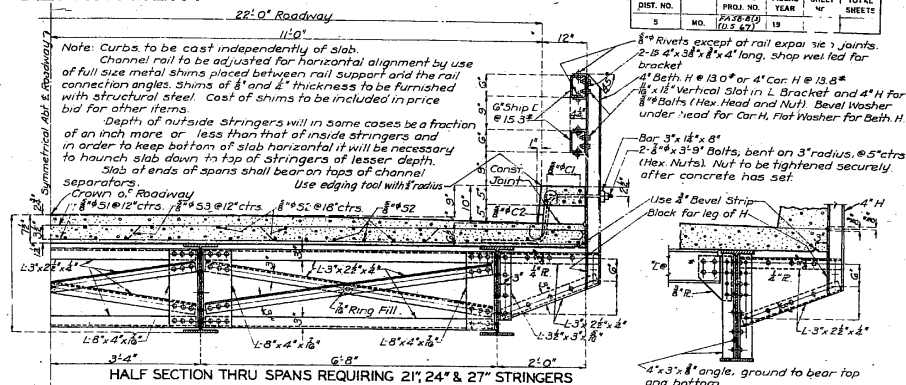


DETAILS OF RAIL

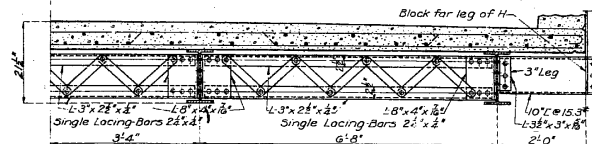


DETAILS OF RUBBER COMPOUND JOINTS

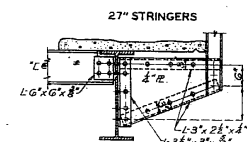
DEFLECTION DIAGRAM



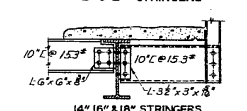
HALF SECTION THRU SPANS REQUIRING 21', 24' & 27' STRINGERS



HALF SECTION THRU SPANS REQUIRING 14', 16' & 18' STRINGERS



27' STRINGERS



21' & 24' STRINGERS

SECTIONS AT ENDS OF SPANS

BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE					
No.	Size	Length	Mark	Location	Bending Sketches
1	#5	1'	C1	Curb	
2	#5	2'-0"	C2		
3	#5	2'-0"	S1	Slab	
4	#5	3'	S2		
5	#5	2'-0"	S3		
					S3
					C2
Data for Bars Required					
1"	3"	4"	5"	6"	Span Groups
16	156	42	64	88	32
Spans (1-2) & (2-3)					

Note: Dimensions given are along centerline of bars and are for computed lengths.
Bars in Span Groups shown above to be billed and tagged separately.

BRIDGE OVER EPPS DRAINAGE DITCH

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH
ABOUT 5.75 MILES SW. OF HARVEILL
PROJECT NO. FA 58-B(3) (US. 67) STA. 715+10-78.75 L.T.
BUTLER COUNTY

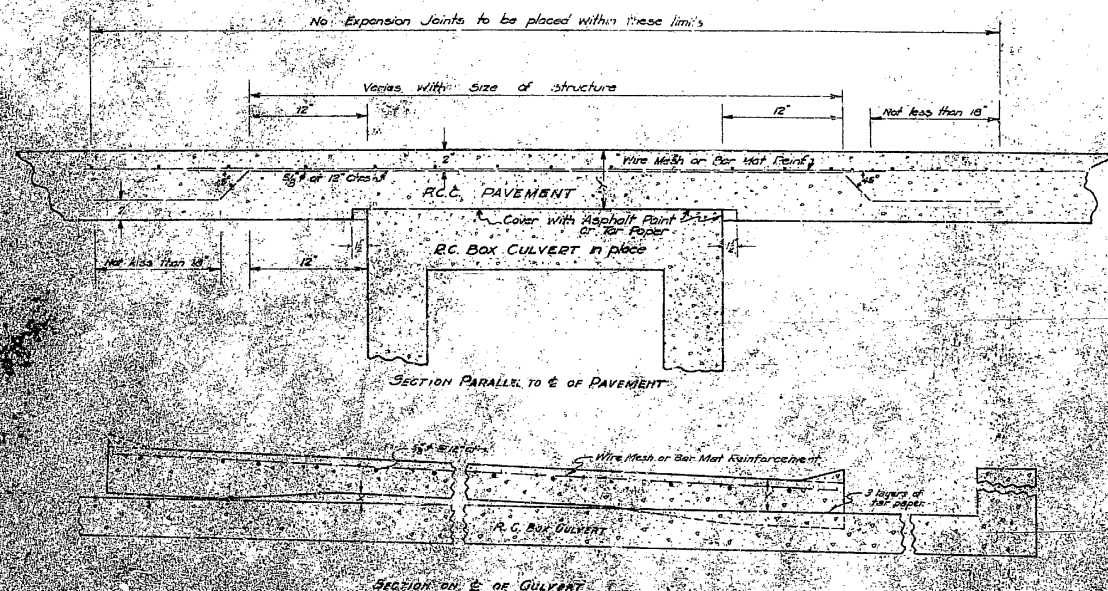
X-537

Note: This drawing is not to scale. Follow dimensions

Sheet 1 of 3

Drawn Dec. 1938 by T.H.M.
Traced Dec. 1938 by G.W.
Checked Apr. 1939 by N.W.R.
Assembled June 1940 by C.S.H.
Checked July 1940 by N.W.R.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	1934	1	1
CON. NO.	COUNTY	DATE	BY	CHECKED
10	BUYER	BT		



Notes

1. The concrete shall be placed in the form of concrete and shall be cured for 28 days before being subjected to traffic.

2. The concrete shall be placed in the form of concrete and shall be cured for 28 days before being subjected to traffic.

3. The concrete shall be placed in the form of concrete and shall be cured for 28 days before being subjected to traffic.

4. The concrete shall be placed in the form of concrete and shall be cured for 28 days before being subjected to traffic.

5. The concrete shall be placed in the form of concrete and shall be cured for 28 days before being subjected to traffic.

6. The concrete shall be placed in the form of concrete and shall be cured for 28 days before being subjected to traffic.

7. The concrete shall be placed in the form of concrete and shall be cured for 28 days before being subjected to traffic.

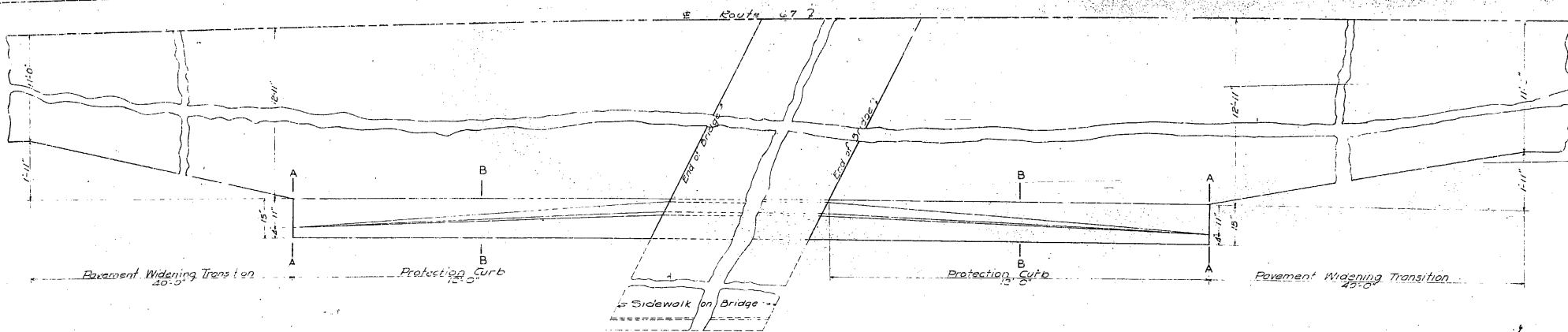
8. The concrete shall be placed in the form of concrete and shall be cured for 28 days before being subjected to traffic.

9. The concrete shall be placed in the form of concrete and shall be cured for 28 days before being subjected to traffic.

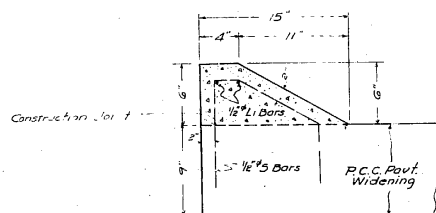
10. The concrete shall be placed in the form of concrete and shall be cured for 28 days before being subjected to traffic.

SPECIAL REINFORCED CONCRETE
PAVEMENT OVER CULVERTS

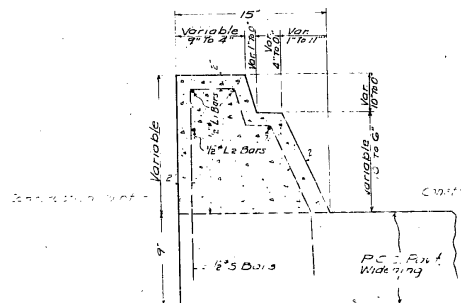
SPECIAL SHEET NO. 2



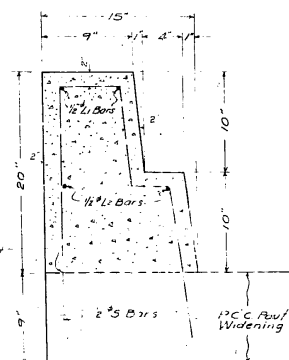
PLAN
ADDITIONAL P.C.C. PAVEMENT (9" DEPTH) 170 SQ. YDS.



SECTION A-A



SECTION B-B



RIGHT ANGLE SECTION THRU CURB
ADJACENT TO END OF BRIDGE

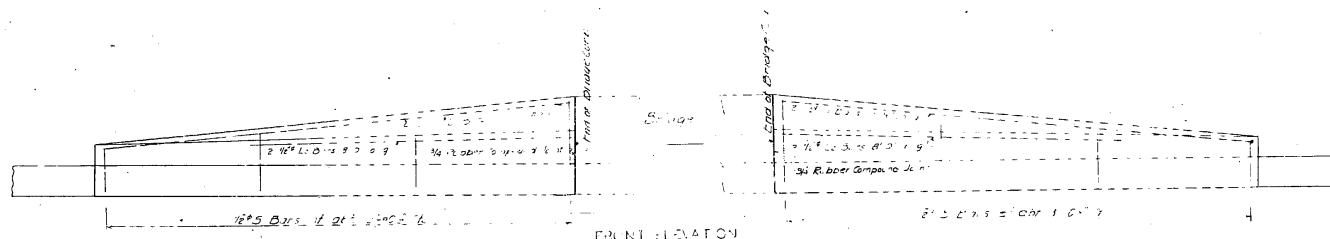
GENERAL NOTES

Concrete and reinforcing steel in protection curb will not be paid for as separate items, but will be considered as being included in and completely paid for under item 15-A, P.C.C. Pavement.

Use 1/2 Radius Edging Tool on all top corners.

5 Bars in protection curb shall be set into the P.C.C. pavement and the top surface of the slab directly under the base of the curb shall be roughened before the concrete has taken its initial set.

Reinforcing bars in protection curb shall be cut and bent in the field.



FRONT ELEVATION

PROTECTION CURB AT END OF BRIDGE

STATION 667+38.7
ROUTE 67 BUTLER COUNTY
PROJECT FA 58-B(3)
SPECIAL SHEET NO. 3

TYP SEC 4 Earthwork

STANDARDS

Roll 07

F58 B(3)

Coun. Butler

31

SURFACE-CURB & GUTTER
APPROACHES

1CB
250-9

DRAINAGE

C10R2

C230R

C253AR

C254AR

25K-8

CONC RET. APPURTS,

15A7-3 C101

C104

15C14-1

15D15-5C

15D15-5X

15E-14

398-22

BRIDGES

T-21

MISC.

2647

RR "X" Back (REFL)

" " " "

" " " "