

SHEET No. 1 TITLE PAGE

" " 2 TYPICAL CROSS SECTIONS OF IMPROVEMENT

" " 3 ENDWALLS FOR PIPE CULVERTS

" " 4 SUPERELEVATION STANDARD

" " 4-A FED. AID HIGHWAY PROJ. MARKERS

" " 5-27 PLAN AND PROFILE - STA. 17+08.12 TO STA. 636+00

" " 28 7'x7.53' R.C. BOX CULVERT - STA. 37+72.6

" " 29 5'x5'x44' R.C. BOX CULVERT - STA. 105+74

" " 30 TRIPLE 10'x10'x43' R.C. BOX CULVERT - STA. 172+28

" " 31 10'x10'x37' R.C. BOX CULVERT - STA. 207+97.6

" " 32 DOUBLE 8'x7'x39' R.C. BOX CULVERT - STA. 232+63.3

" " 33 4'x4'x43' R.C. BOX CULVERT - STA. 390+07

" " 34 DOUBLE 10'x9'x35' R.C. BOX CULVERT - STA. 482+61.5

" " 35 10'x9'x43' R.C. BOX CULVERT - STA. 496+25.8

" " 36-113 CROSS SECTIONS - STA. 20+36.4 TO STA. 636+00

PLAN AND PROFILE OF PROPOSED STATE HIGHWAY

FED. AID PROJ. NO. 2511-B(1)

AND STATE DOCKETS NO. 22,215 & 45,219

STATE ROUTE NO. 5H

GEORGETOWN WILLIAMSBURG COUNTIES

FROM BLACK RIVER TO INTERSECTION WITH ROUTE NO. 512

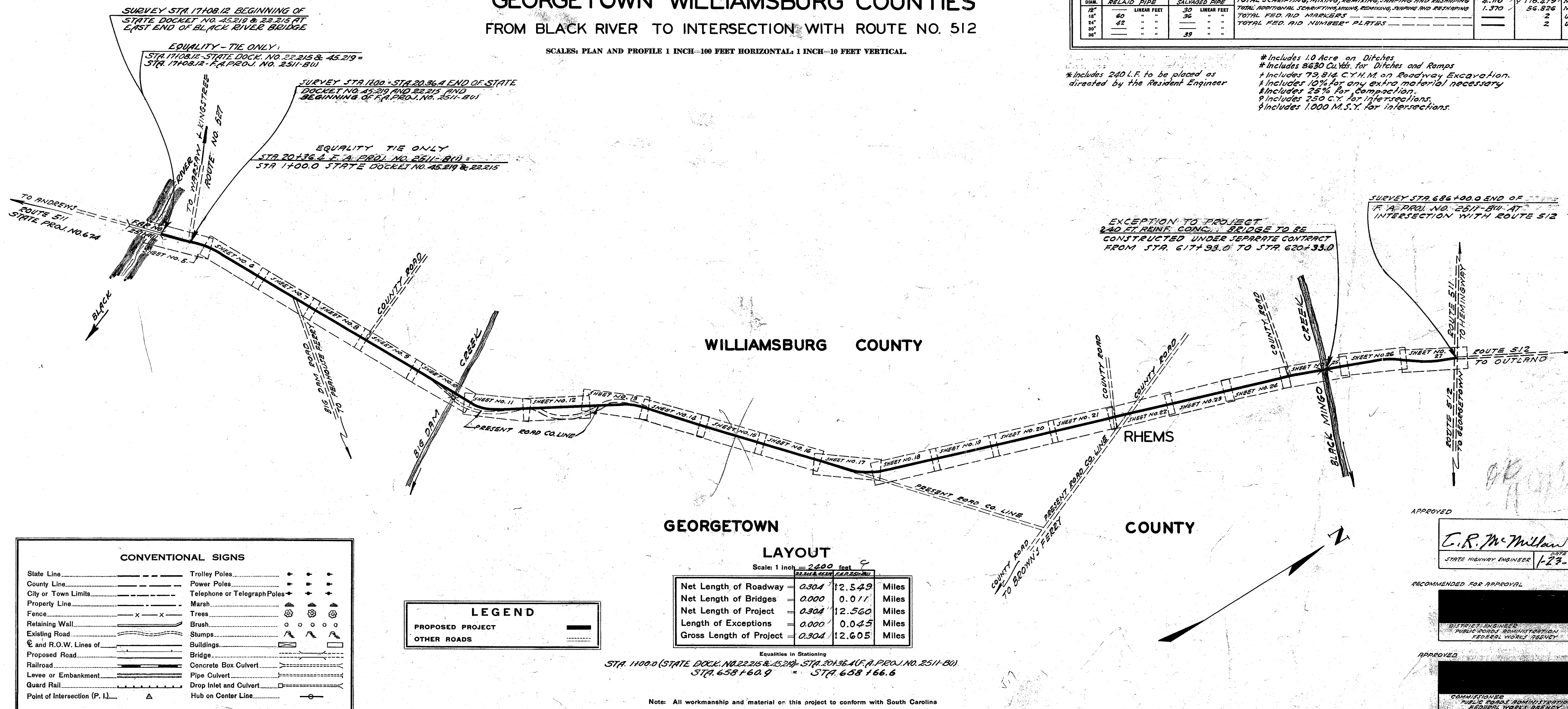
SCALES: PLAN AND PROFILE 1 INCH=100 FEET HORIZONTAL; 1 INCH=10 FEET VERTICAL.

FED ROAD DIST. NO.	STATE	COUNTY	FED. AID PROJ. NO	ROUTE No.	SHEET No.	TOTAL SHEET
14	S. C.	GEORGETOWN WILLIAMSBURG	2511-800	511	1	113

[illegible]

- *Includes 1.0 Acre on Ditches
- *Includes 8630 Cu.Yds. for Ditches and Ramps
- *Includes 79,814 C.Y.H.M. on Roadway Excavation.
- *Includes 10% for any extra material necessary
- *Includes 25% for Compaction.
- *Includes 250 C.Y. for intersections.
- *Includes 1,000 M.S.Y. for intersections.

*Includes 240 L.F. to be placed as directed by the Resident Engineer



GEORGETOWN

LAYOUT

Scale: 1 inch = 2400 feet

	2024-25-26	2025-26	
Net Length of Roadway	0.304	12.549	Miles
Net Length of Bridges	0.000	0.011	Miles
Net Length of Project	0.304	12.560	Miles
Length of Exceptions	0.000	0.045	Miles
Gross Length of Project	0.304	12.605	Miles

Equalities in Stationing

STATIONING

STA. 1400.0 (STATE DOCK. NO. 22,215 & 45,219) = STA. 20+36.4 (F.A. PROJ. NO. 2511-B01)

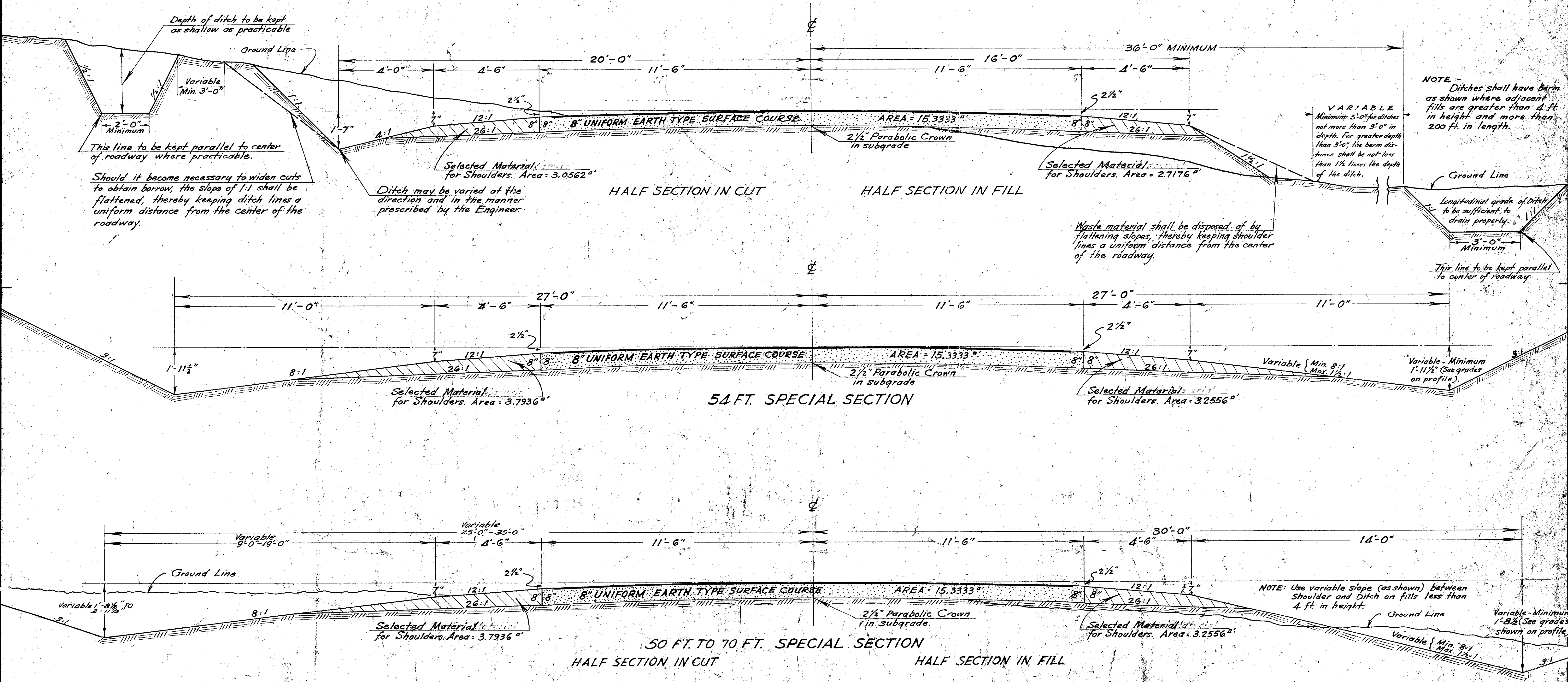
STA. 658+60.9 = STA. 658+66.6

Note: All workmanship and material on this project to conform with South Carolina State Highway Department Standard Specifications for Highway Construction dated March 15th, 1939 as approved by the Administrator, Federal Works Agency.

TYPICAL SECTIONS FOR EARTH TYPE SURFACE COURSE

SCALE: 1 IN = 2 FT.

NOTE: Excavation of Intercepting Ditches should be done in advance of excavation of adjoining roadway cuts. Material excavated from these ditches shall be used in roadway embankments.



See plans for Stations and width of section to be used.

S.C. STATE HIGHWAY DEPARTMENT
CONCRETE ENDWALLS
FOR
PIPE CULVERTS

CIRCULAR PIPES FOR CULVERTS

CAST IRON (Class 24)						CORRUGATED METAL					
INSIDE DIAM.	AREA OF OPENING SQ. FT.	THICKNESS OF SHELL INCHES	DEPTH OF SOCKET INCHES	WEIGHT PER FT. LBS.	WEIGHT PER 12 FT. SEC.	INSIDE DIAM.	AREA OF OPENING SQ. FT.	THICKNESS OF METAL GAUGE INCHES	WEIGHT PER LIN. FT.	WEIGHT PER 12 FT. SEC.	
12"	0.8	0.54"	4"	79.5	870	12"	0.8	0.625 = 1/16	10.5	120	
14"	1.1	0.57"	4"	89.6	1015	14"	1.2	0.625 = 1/16	12.9	155	
16"	1.6	0.64"	4"	129.2	1550	16"	1.8	0.625 = 1/16	15.3	184	
24"	3.1	0.76"	4"	202.2	2450	24"	3.1	0.781 = 5/64	25.2	303	
30"	4.9	0.88"	4 1/2"	291.7	3500	30"	4.9	0.781 = 5/64	30.9	371	
36"	7.1	0.99"	4 1/2"	321.9	3900	36"	7.1	1.034 = 3/32	51.0	612	

Standard Cast Iron water pipe Class 24 which is the lightest weight (American Waterworks Standard Specifications).

VITRIFIED CLAY (Soft Grades)						CONCRETE REINFORCEMENT					
INSIDE DIAM.	AREA OF OPENING SQ. FT.	THICKNESS OF SHELL INCHES	DEPTH OF SOCKET INCHES	WEIGHT PER LIN. FT.	WEIGHT PER 12 FT. SEC.	THICKNESS OF SHELL INCHES	WEIGHT NOT INCLUDING JOINT LBS.	USUAL LENGTH OF SECTION FEET	DESIRED WEIGHT PER SQ. FT. FOR EX. M.P.L.	NO. 3 BARS PER SQ. FT.	NO. 4 BARS PER SQ. FT.
12"	0.8	1"	2'-6"	50	600	1 3/4"	75	4	0.4	16	16
14"	1.1	1 1/4"	2'-6"	70	840	1 3/4"	90	4	0.5	1	2
16"	1.6	1 1/2"	2'-6"	100	1200	2"	123	4	0.6	2	5
24"	3.1	2"	2'-6"	180	2160	2 1/2"	202	4	0.8	2	4
30"	4.9	2 1/4"	3'-0"	290	3480	3"	345	4	1.0	2	25
36"	7.1	2 3/4"	3'-0"	390	4680	3 1/2"	426	4	1.2	2	42

NOTE: Chamfer all exposed edges 3/4". On skew culvert pipes, headwalls must be built parallel to the center line of the roadway instead of right angles to the pipes.

APPROVED
J. Williamson
State Highway Engineer
7-11-39
Date

SECTION OF ROADWAY



Grade generally to follow slopes of stream. Desirable limits 2% to 4%.

NOTE: Inlet of culvert is to be low enough to provide for all future drainage of farm lands.

MINIMUM DEPTHS OF GOOD FILL OR BALLAST OVER PIPE CULVERTS

INSIDE DIAM.		CAST IRON		CORRUGATED METAL		VITRIFIED CLAY		CONCRETE		INSIDE DIAM.	
		C	S	C	S	C	S	C	S		
12"	1'-0"	0'-8"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	12"	1'-0"
14"	1'-0"	0'-8"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	14"	1'-0"
16"	1'-0"	0'-8"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	16"	1'-0"
24"	1'-0"	0'-8"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	24"	1'-0"
30"	1'-0"	0'-8"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	30"	1'-0"
36"	1'-0"	0'-8"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	36"	1'-0"

STRAIGHT ENDWALL

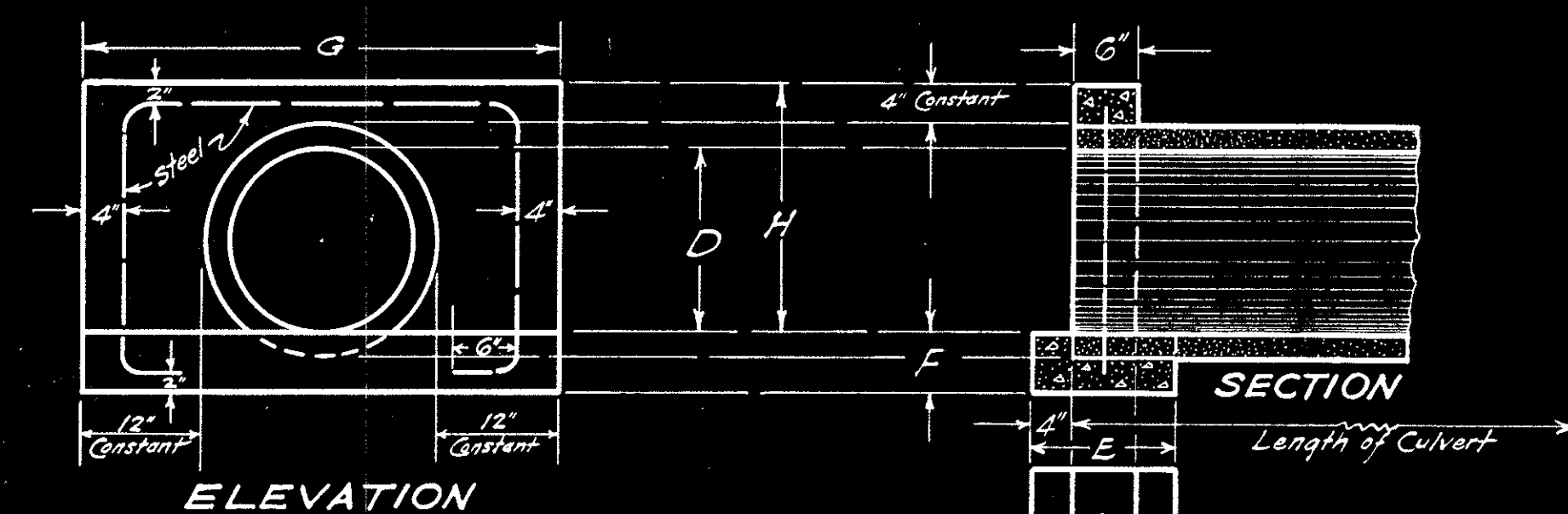


TABLE OF DIMENSIONS AND QUANTITIES									
D	G	H	F	E	R	CONC. PIPE	STEEL TABLE	STEEL TABLE	STEEL TABLE
12"	32 1/2"	17 1/2"	6"	11"	18"	0.179	13	8'-5" x 3/4"	Bent as shown
14"	42 1/2"	23 1/2"	6"	12"	18"	0.212	14	9'-8" x 3/4"	"
16"	48 1/2"	26 1/2"	6"	12"	18"	0.255	16	10'-4" x 3/4"	"
24"	64 1/2"	34 1/2"	6"	12"	18"	0.342	18	12'-8" x 3/4"	"
30"	80 1/2"	42 1/2"	6"	12"	18"	0.445	21	16'-1" x 3/4"	"
36"	96 1/2"	50 1/2"	6"	12"	18"	0.538	25	16'-4" x 3/4"	"
12"	32 1/2"	17 1/2"	6"	11"	18"	0.179	13	8'-5" x 3/4"	"
14"	42 1/2"	23 1/2"	6"	12"	18"	0.212	14	9'-8" x 3/4"	"
16"	48 1/2"	26 1/2"	6"	12"	18"	0.255	16	10'-4" x 3/4"	"
24"	64 1/2"	34 1/2"	6"	12"	18"	0.342	18	12'-8" x 3/4"	"
30"	80 1/2"	42 1/2"	6"	12"	18"	0.445	21	16'-1" x 3/4"	"
36"	96 1/2"	50 1/2"	6"	12"	18"	0.538	25	16'-4" x 3/4"	"

ENDWALL WITH "U" TYPE WINGS

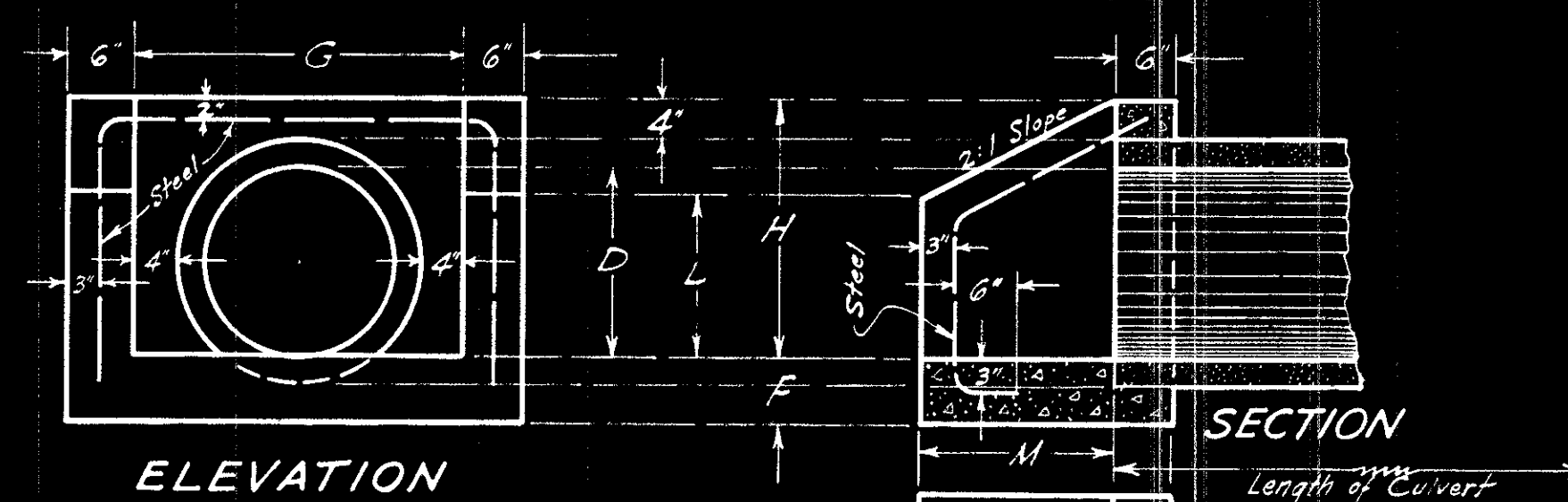


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D	G	H	F	E	R	CONC. PIPE	STEEL TABLE	STEEL TABLE	STEEL TABLE
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14"	42 1/2"	23 1/2"	6"	12"	18"	0.212	14	9'-8" x 3/4"	"
16"	48 1/2"	26 1/2"	6"	12"	18"	0.255	16	10'-4" x 3/4"	"
24"	64 1/2"	34 1/2"	6"	12"	18"	0.342	18	12'-8" x 3/4"	"
30"	80 1/2"	42 1/2"	6"	12"	18"	0.445	21	16'-1" x 3/4"	"
36"	96 1/2"	50 1/2"	6"	12"	18"	0.538	25	16'-4" x 3/4"	"

"L" TYPE ENDWALL

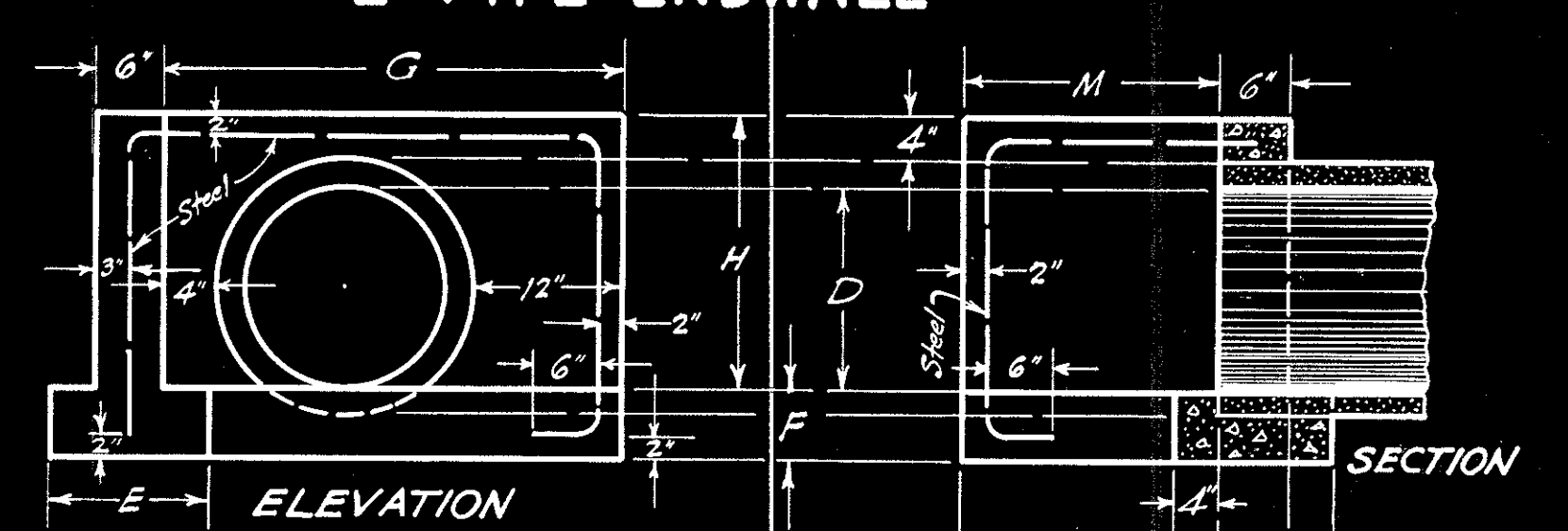


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16"	48 1/2"	26 1/2"	6"	12"	18"	0.255	16	10'-4" x 3/4"	"
24"	64 1/2"	34 1/2"	6"	12"	18"	0.342	18	12'-8" x 3/4"	"
30"	80 1/2"	42 1/2"	6"	12"	18"	0.445	21	16'-1" x 3/4"	"
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30"	80 1/2"	42 1/2"	6"	12"	18"	0.445	21	16'-1" x 3/4"	"
36"	96 1/2"	50 1/2"	6"	12"	18"	0.538	25	16'-4" x 3/4"	"

STRAIGHT ENDWALL FOR SKEWED PIPE LINES

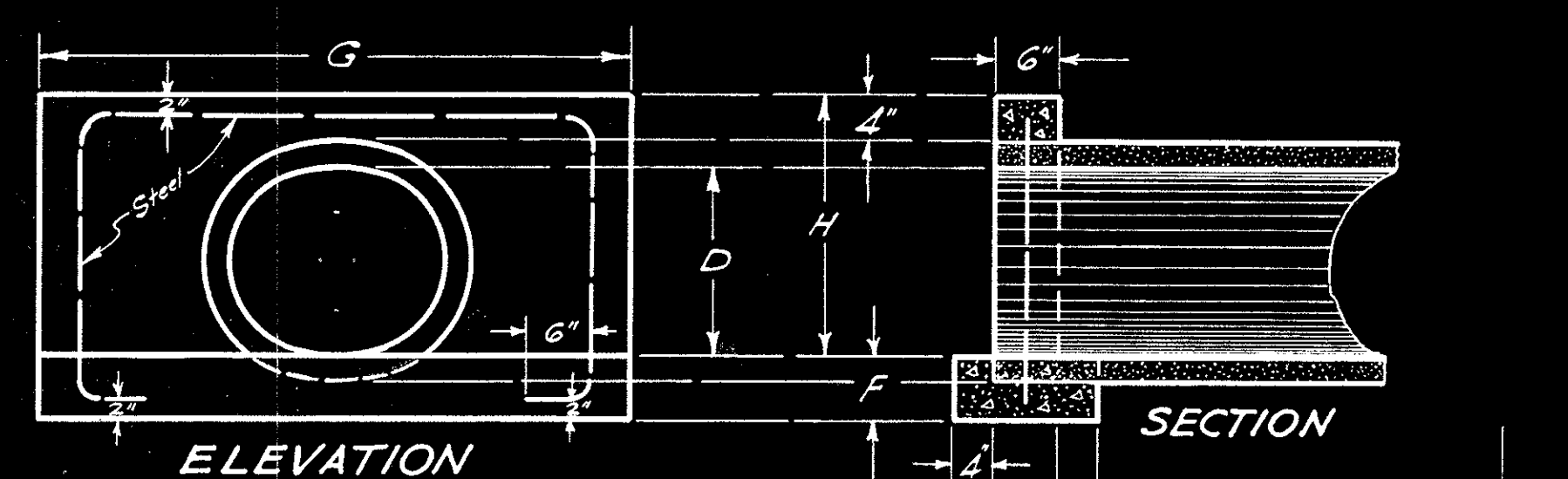


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14"	42 1/2"	23 1/2"	6"	12"	18"	0.212	14	9'-8" x 3/4"	"
16"	48 1/2"	26 1/2"	6"	12"	18"	0.255	16	10'-4" x 3/4"	"
24"	64 1/2"	34 1/2"	6"	12"	18"	0.342	18	12'-8" x 3/4"	"
30"	80 1/2"	42 1/2"	6"	12"	18"	0.445	21	16'-1" x 3/4"	"
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24"	64 1/2"	34 1/2"	6"	12"	18"	0.342	18	12'-8" x 3/4"	"
30"	80 1/2"	42 1/2"	6"	12"	18"	0.445	21	16'-1" x 3/4"	"
36"	96 1/2"	50 1/2"	6"	12"	18"	0.538	25	16'-4" x 3/4"	"

ENDWALL WITH 45° WINGS

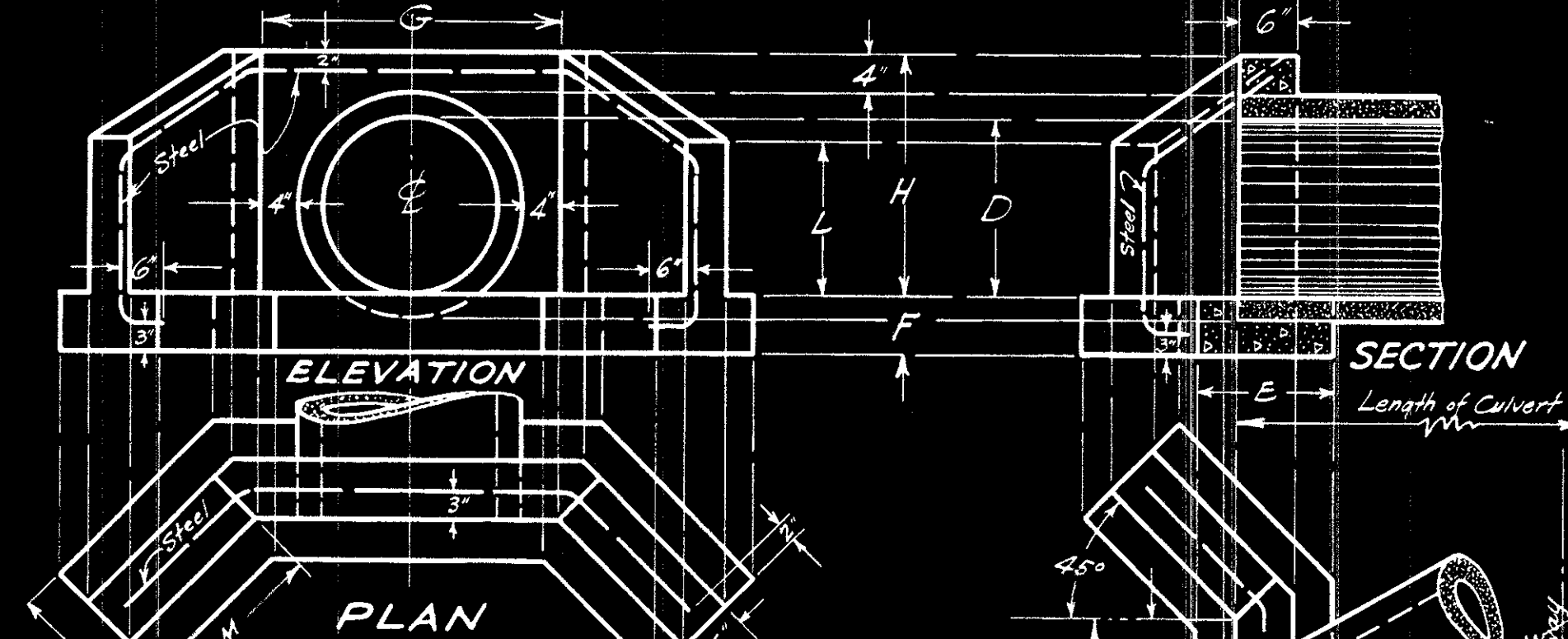
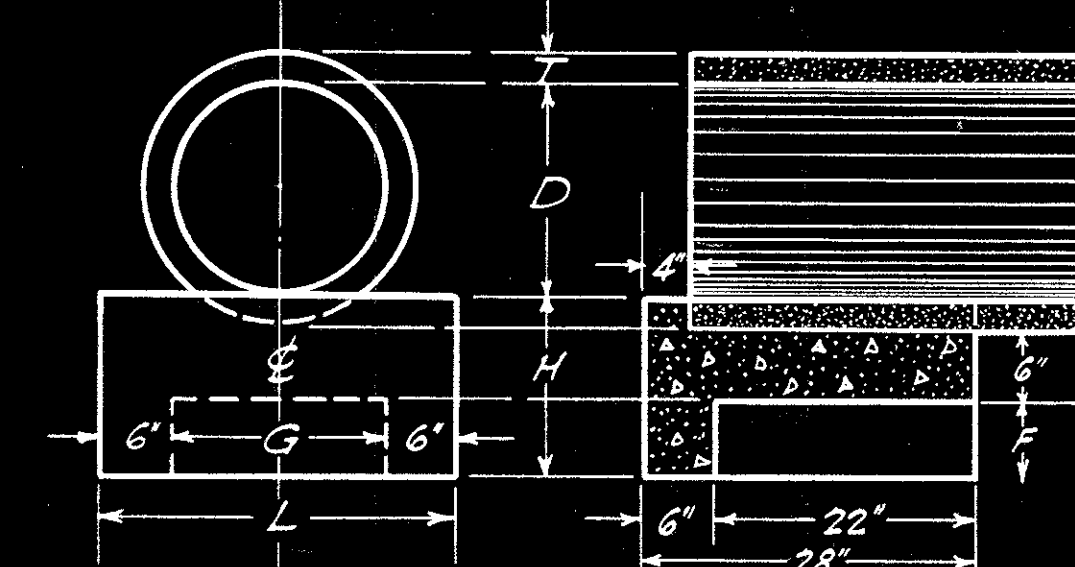


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CUT-OFF WALL

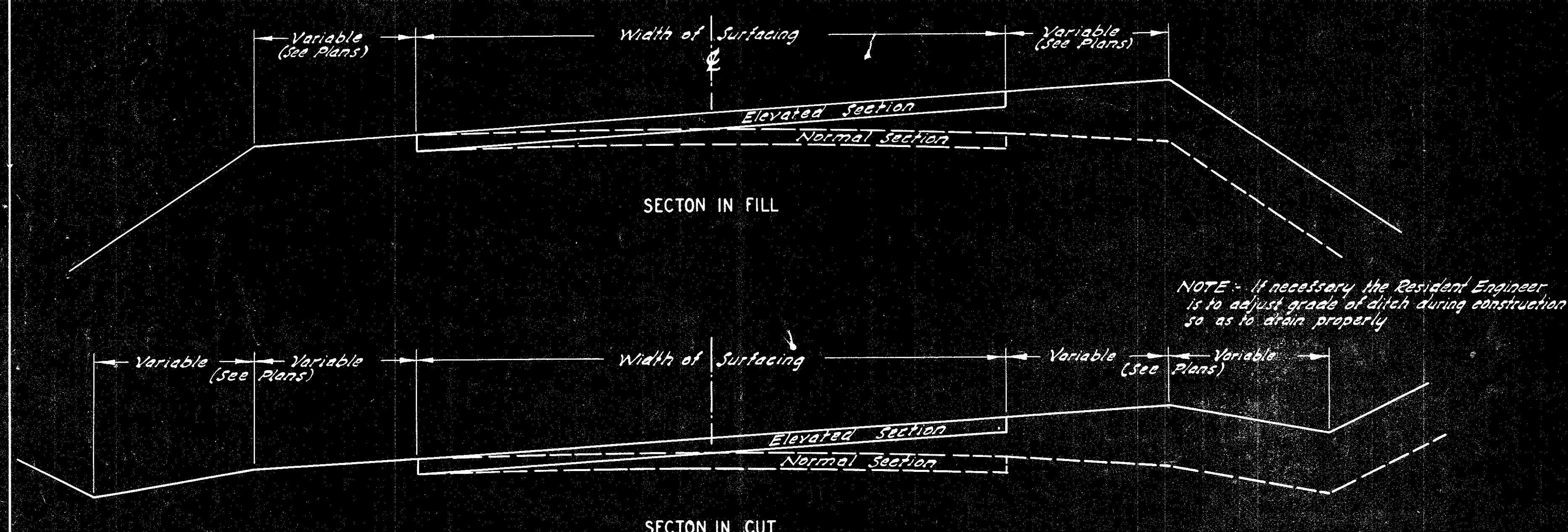


DIMENSIONS & QUANTITIES									
D	T	L	H	G	F	CONC. PIPE	STEEL TABLE	STEEL TABLE	STEEL TABLE
12"	1 1/2"	23"	1 1/2"	1 1/2"	4"	0.135	0.117		
14"	1 1/2"	26 1/2"	1 1/2"	1 1/2"	5 1/2"	0.169	0.148		
16"	2"	30"	1 1/2"	1 1/2"	6 1/2"	0.197	0.170		
24"	2 1/2"	39"	1 1/2"	1 1/2"	8 1/2"	0.267	0.246		
30"	3 1/2"	51"	1 1/2"	1 1/2"	11"	0.384	0.304		
36"	4 1/2"	58 1/2"	1 1/2"	1 1/2"	14"	0.441	0.360		

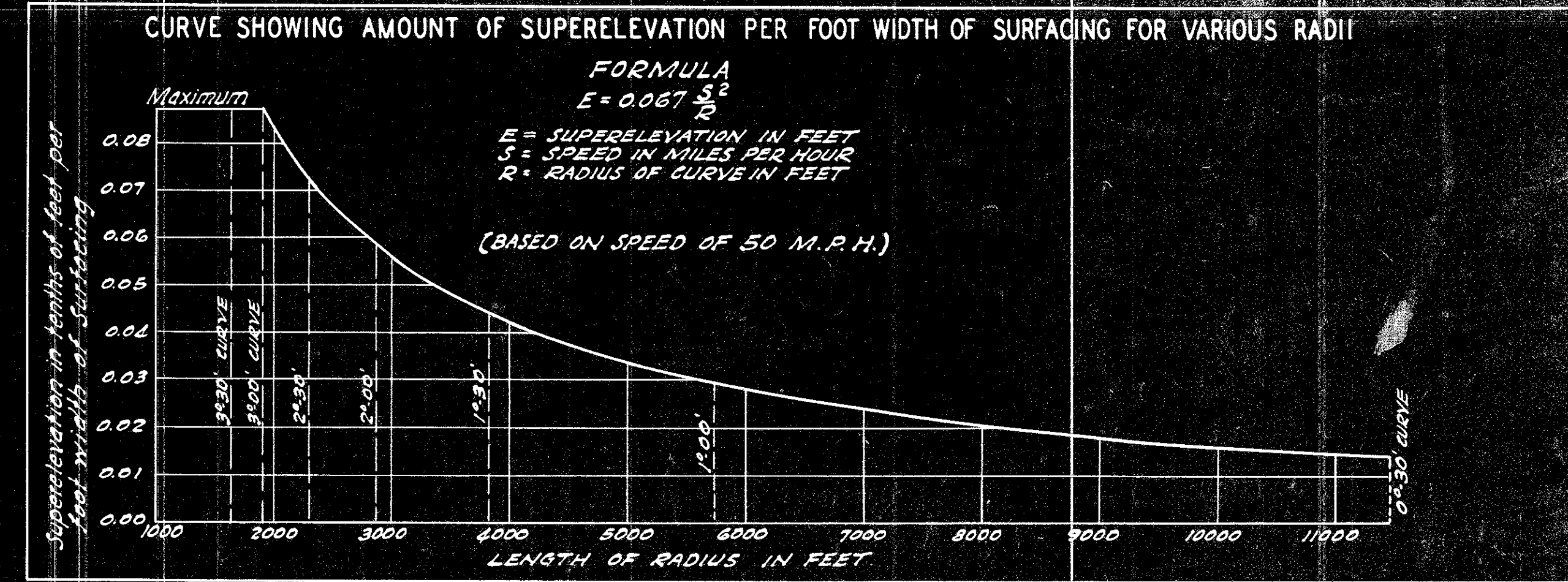
FOR USE ON ALL SIZE PIPES

Note: Cut-off walls to be placed on downstream end of pipes.

DRAWING
A-28



NOTE - If necessary the Resident Engineer is to adjust grade of ditch during construction so as to drain properly



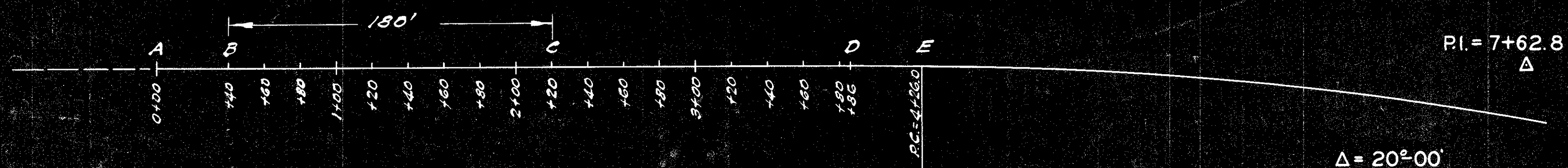
SUPERELEVATION TABLE

DEGREE CURVE	RADIUS CURVE	Superelevation in ft. per ft. width of Surfacing	TOTAL SUPERELEVATION-FT.			LENGTH OF APPROACH-FT.		
			20' SURF.	22' SURF.	24' SURF.	20' SURF.	22' SURF.	24' SURF.
0°-30'	11459.19	0.01462	0.29	0.32	0.35	98	104	110
1°-00'	5729.65	0.02923	0.58	0.64	0.70	156	168	180
1°-30'	3819.83	0.04385	0.88	0.96	1.05	216	232	250
2°-00'	2866.93	0.05846	1.17	1.29	1.40	274	298	320
2°-30'	2292.01	0.07308	1.46	1.61	1.75	332	362	390
3°-00'	1910.08	0.08769	1.75	1.93	2.10	390	426	460

3°-30' AND OVER TO BE SUPERELEVATED SAME AS 3°-00'

NOTE
All curves are to be superelevated to the nearest thirty (30) minutes according to the table

PLAN SHOWING APPROACH FROM ZERO TO MAXIMUM SUPERELEVATION - ILLUSTRATED WITH A 3°-00' CURVE



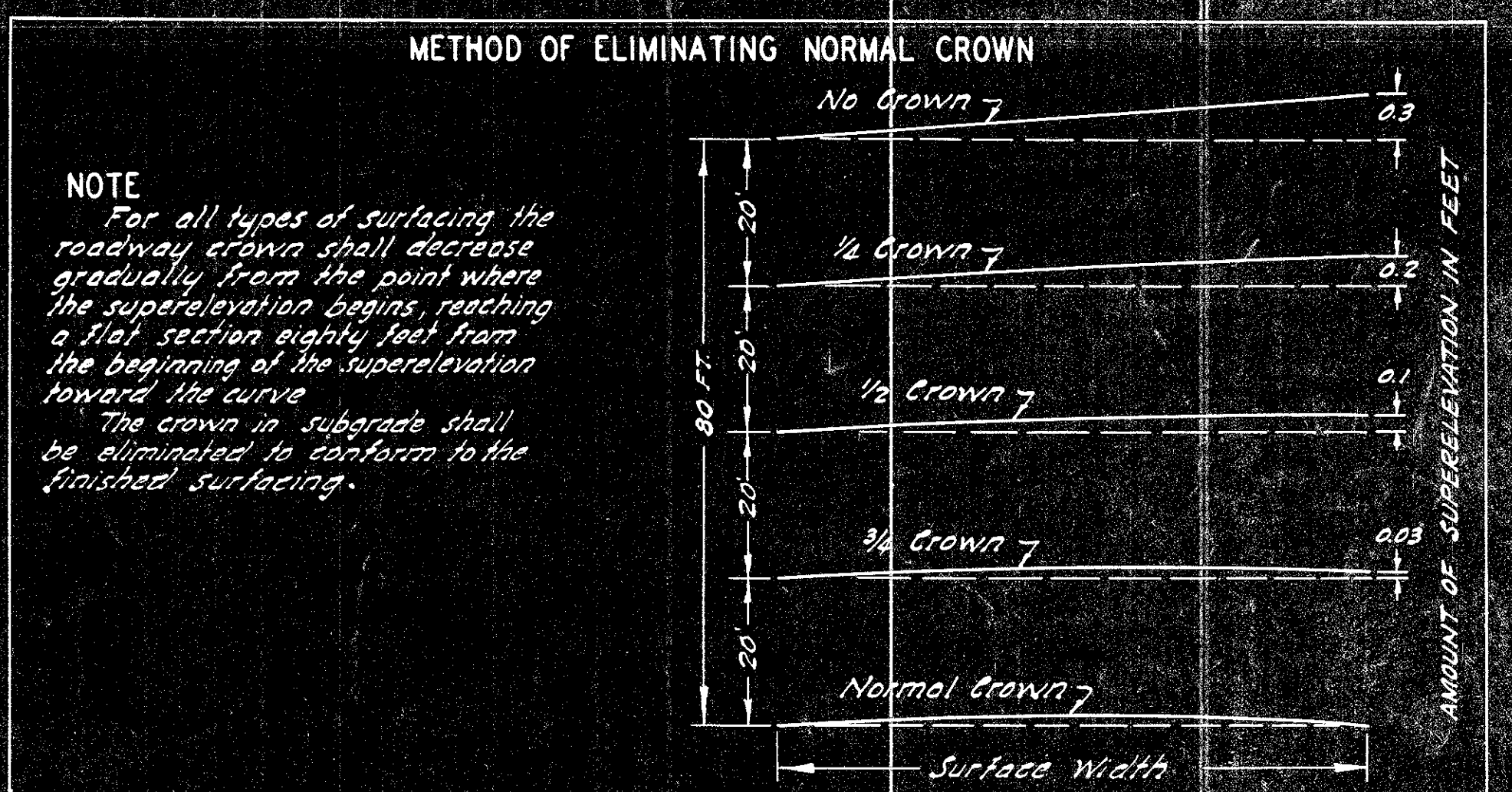
The amount of superelevation at any point between "B" and "D" may be obtained by the following method: where "C" equals the point at which the superelevation is desired. Take the distance "B"-C and divide by 20 which is the distance required for each tenth foot increase in superelevation. This quotient plus one (1) gives the total superelevation at "C" in tenths of a foot.

The increase in superelevation between "A" & "B" and "D" & "E" will be one tenth of a foot in all cases or the total superelevation at "B" will always be one tenth of a foot.

In all cases the maximum superelevation will be applied throughout the length of the horizontal curve.

Maximum Superelevation for 3°-00' curve with 22' Surfacing equals 1.93 ft. (See table)

NOTE
In any case where conditions do not permit an approach as shown on this sheet, the Resident Engineer is to adjust same to meet the conditions. Where unusual conditions make it desirable, superelevation may be obtained by revolving the surface about the center line instead of the inside edge, the amount of superelevation to be the same as shown in the table.



NOTE
For all types of surfacing the roadway crown shall decrease gradually from the point where the superelevation begins, reaching a flat section eighty feet from the beginning of the superelevation toward the curve.

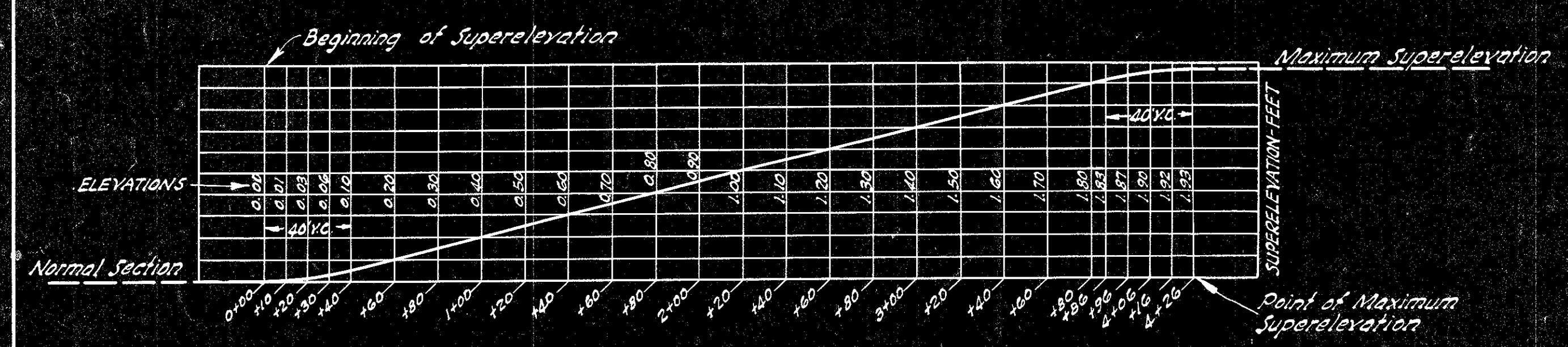
The crown in subgrade shall be eliminated to conform to the finished surfacing.

TABLE SHOWING AMOUNT OF SUPERELEVATION AT ANY POINT ON APPROACH TO CURVE

Superelevation - Feet		Distances from beginning of superelevation in direction of curve - Feet																																												
		Degree of Curve		10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390				
22 FT. WIDE	Degree of Curve	0°-30'	0.01	0.03	0.06	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.93	1.93	1.93	1.93
		1°-00'	0.02	0.04	0.08	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60	0.66	0.72	0.78	0.84	0.90	0.96	1.02	1.08	1.14	1.20	1.26	1.32	1.38	1.44	1.50	1.56	1.62	1.68	1.74	1.80	1.86	1.92	1.98	2.04	2.10	2.16	2.22	2.28	2.34	2.40	2.46	2.52
		1°-30'	0.03	0.06	0.12	0.18	0.27	0.36	0.45	0.54	0.63	0.72	0.81	0.90	0.99	1.08	1.17	1.26	1.35	1.44	1.53	1.62	1.71	1.80	1.89	1.98	2.07	2.16	2.25	2.34	2.43	2.52	2.61	2.70	2.79	2.88	2.97	3.06	3.15	3.24	3.33	3.42	3.51	3.60	3.69	3.78
		2°-00'	0.04	0.08	0.16	0.24	0.36	0.48	0.60	0.72	0.84	0.96	1.08	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	2.16	2.28	2.40	2.52	2.64	2.76	2.88	3.00	3.12	3.24	3.36	3.48	3.60	3.72	3.84	3.96	4.08	4.20	4.32	4.44	4.56	4.68	4.80	4.92	
		2°-30'	0.05	0.10	0.20	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	6.00	6.15	
20 FT. WIDE	Degree of Curve	3°-00'	0.06	0.12	0.24	0.36	0.54	0.72	0.90	1.08	1.26	1.44	1.62	1.80	1.98	2.16	2.34	2.52	2.70	2.88	3.06	3.24	3.42	3.60	3.78	3.96	4.14	4.32	4.50	4.68	4.86	5.04	5.22	5.40	5.58	5.76	5.94	6.12	6.30	6.48	6.66	6.84	7.02	7.20	7.38	
		0°-30'	0.01	0.03	0.06	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.93	1.93	1.93	1.93
		1°-00'	0.02	0.04	0.08	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60	0.66	0.72	0.78	0.84	0.90	0.96	1.02	1.08	1.14	1.20	1.26	1.32	1.38	1.44	1.50	1.56	1.62	1.68	1.74	1.80	1.86	1.92	1.98	2.04	2.10	2.16	2.22	2.28	2.34	2.40	2.46	2.52
		1°-30'	0.03	0.06	0.12	0.18	0.27	0.36	0.45	0.54	0.63	0.72	0.81	0.90	0.99	1.08	1.17	1.26	1.35	1.44	1.53	1.62	1.71	1.80	1.89	1.98	2.07	2.16	2.25	2.34	2.43	2.52	2.61	2.70	2.79	2.88	2.97	3.06	3.15	3.24	3.33	3.42	3.51	3.60	3.69	3.78
		2°-00'	0.04	0.08	0.16	0.24	0.36	0.48	0.60	0.72	0.84	0.96	1.08	1.20	1.32	1.44	1.56	1.68	1.80	1.92	2.04	2.16	2.28	2.40	2.52	2.64	2.76	2.88	3.00	3.12	3.24	3.36	3.48	3.60	3.72	3.84	3.96	4.08	4.20	4.32	4.44	4.56	4.68	4.80	4.92	
18 FT. WIDE	Degree of Curve	2°-30'	0.05	0.10	0.20	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	6.00	6.15	
		3°-00'	0.06	0.12	0.24	0.36	0.54	0.72	0.90	1.08	1.26	1.44	1.62	1.80	1.98	2.16	2.34	2.52	2.70	2.88	3.06	3.24	3.42	3.60	3.78	3.96	4.14	4.32	4.50	4.68	4.86	5.04	5.22	5.40	5.58	5.76	5.94	6.12	6.30	6.48	6.66	6.84	7.02	7.20	7.38	
		0°-30'	0.01	0.03	0.06	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.93	1.93	1.93	1.93
		1°-00'	0.02	0.04	0.08	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60	0.66	0.72	0.78	0.84	0.90	0.96	1.02	1.08	1.14	1.20	1.26	1.32	1.38	1.44	1.50	1.56	1.62	1.68	1.74	1.80	1.86	1.92	1.98	2.04	2.10	2.16	2.22	2.28	2.34	2.40	2.46	2.52
		1°-30'	0.03	0.06	0.12	0.18	0.27	0.36	0.45	0.54	0.63	0.72	0.81	0.90	0.99	1.08	1.17	1.26	1.35	1.44	1.53	1.62	1.71	1.80	1.89	1.98	2.07	2.16	2.25	2.34	2.43	2.52	2.61	2.70	2.79	2.88	2.97	3.06	3.15	3.24	3.33	3.42	3.51	3.60	3.69	3.78

EXAMPEE
 $S = \frac{BC}{20} + 1$
 $S = \frac{180}{20} + 1 = 10 = 1.0 \text{ FT.}$

S = Superelevation in tenths of foot
20 = Distance required for one tenth ft. increase of S.E. between "B" & "D"
A = Beginning of 1st 40 ft. section and beginning of superelevation
B = End of 1st 40 ft. section
C = Point at which superelevation is desired.
D = Beginning of last 40 ft. section
E = End of last 40 ft. section and point of maximum superelevation



PROFILE OF APPROACH FOR A 3°-00' CURVE WITH 22 FT. SURFACING SHOWING INCREASE IN SUPERELEVATION ALONG THE OUTER EDGE OF SURFACING. FOR ALL CURVES THE FIRST AND LAST 40 FT. SECTIONS ARE TO BE COMPUTED AS 40 FT. VERTICAL CURVES

SUPERELEVATION STANDARD

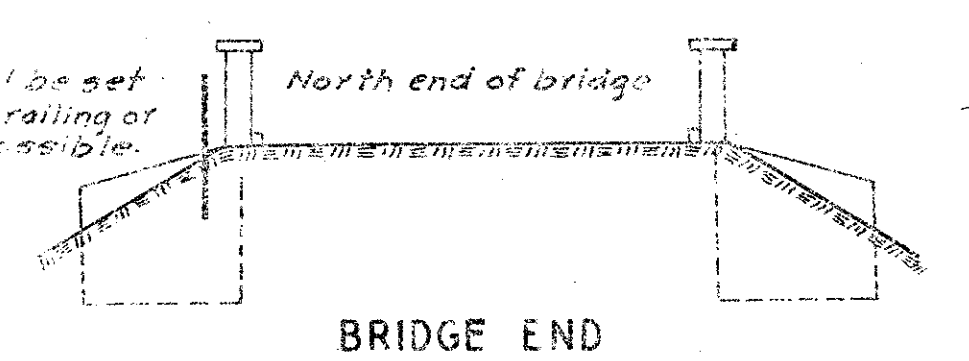
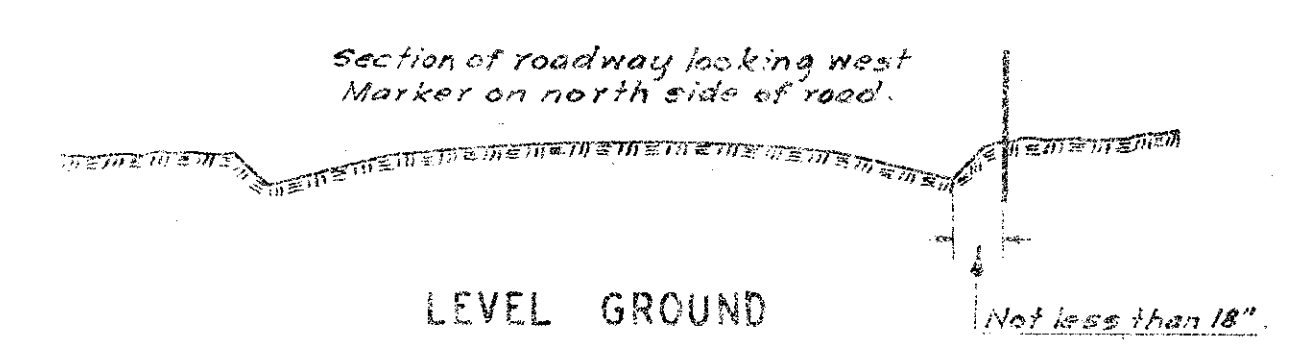
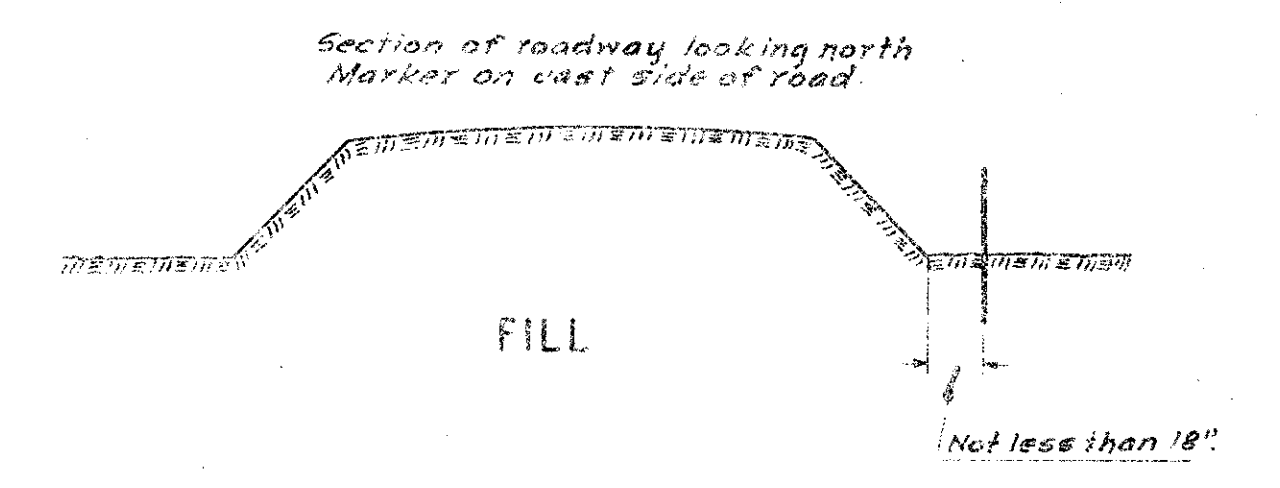
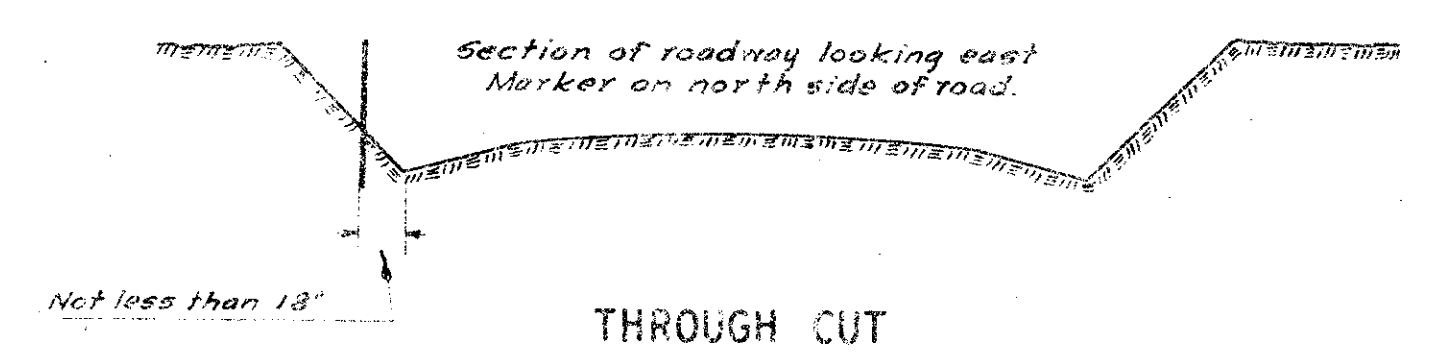
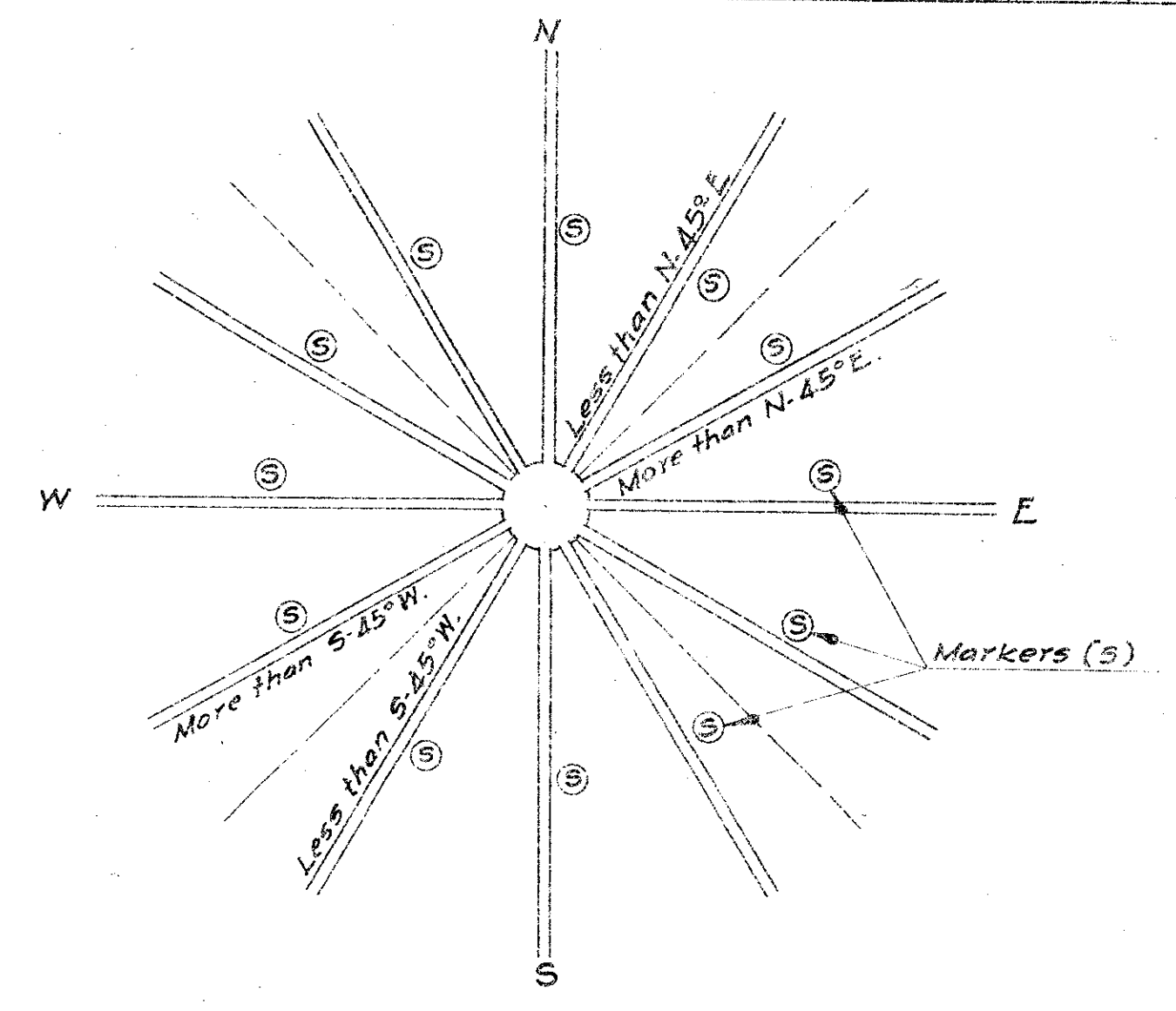
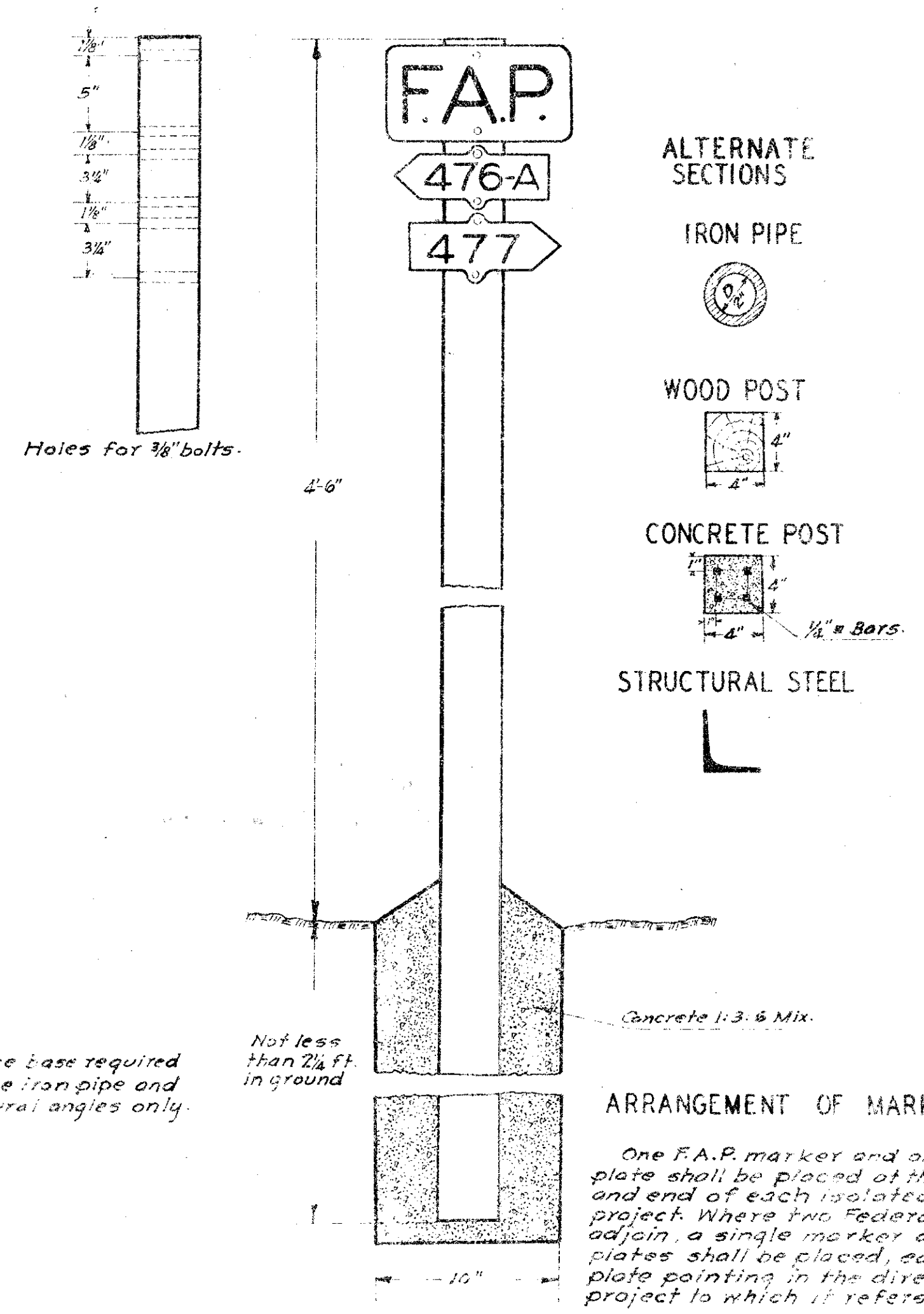
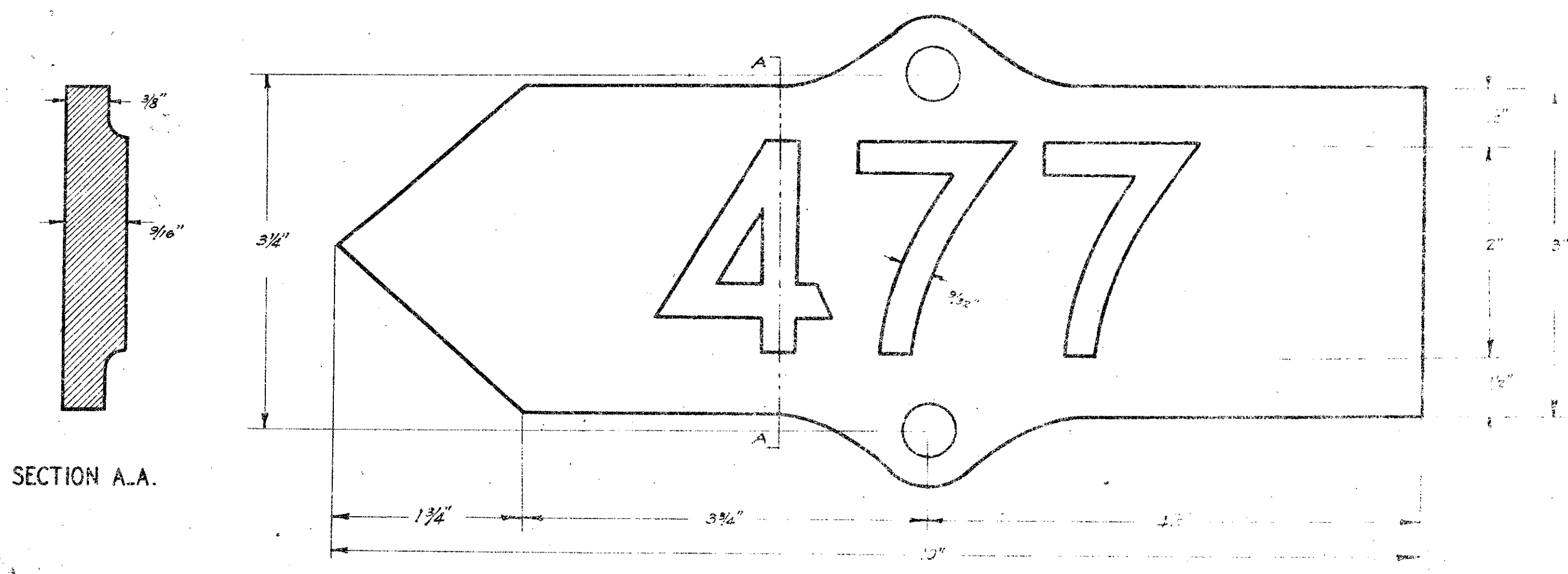
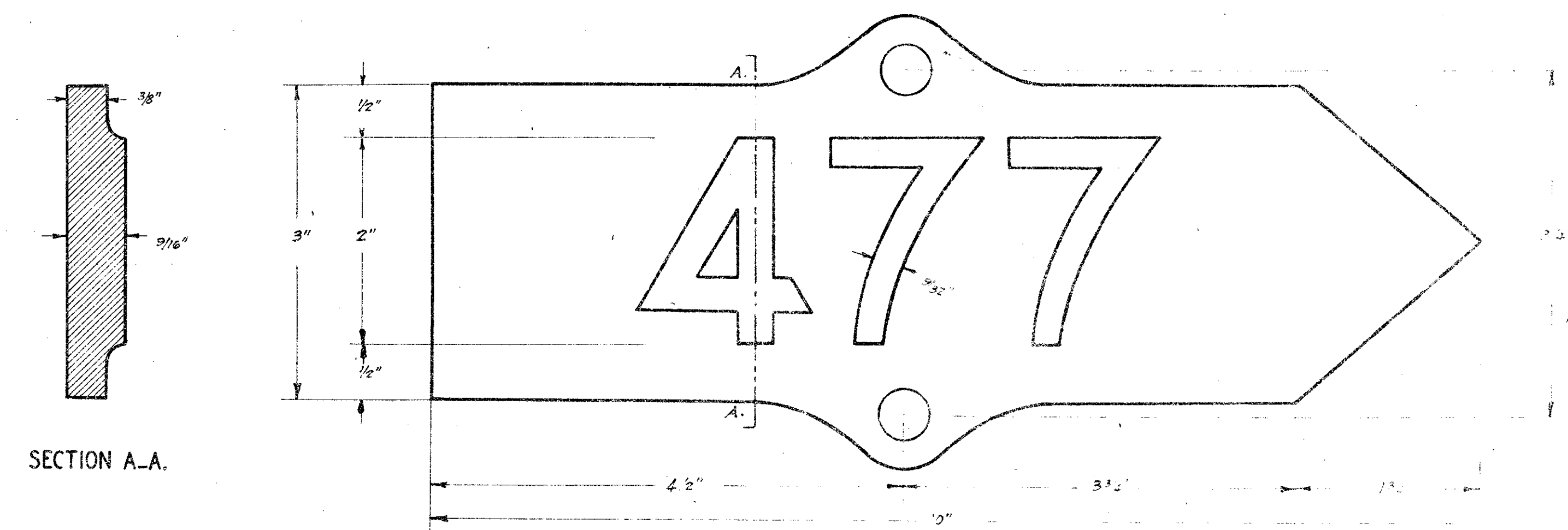
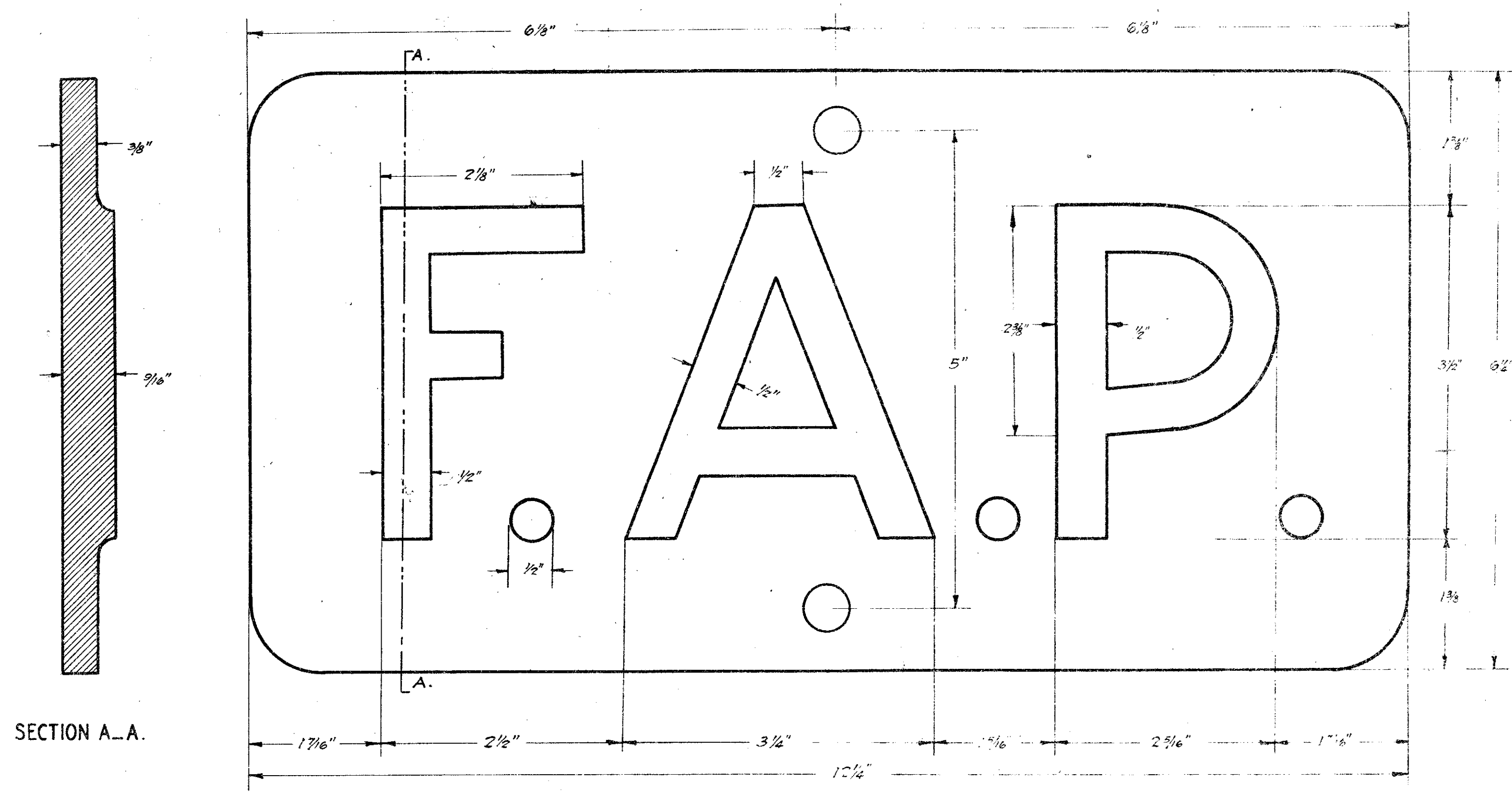
FOR ALL TYPES OF SURFACING

S. C. STATE HIGHWAY DEPARTMENT
COLUMBIA, S. C.

Drawn by: M. J. Hendrix 3-22-40
Traced by: M. J. Hendrix 3-22-40
Checked by: M. J. Hendrix 3-22-40

APPROVED _____ DATE _____
STATE HIGHWAY ENGINEER

FED. ROAD DIST. NO.	STATE	COUNTY	FED. AID PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	SC					



EXPLANATORY NOTES

A marker shall be placed at the beginning and end of each project or section thereof on the north or east side of the road in conformity with the diagram in the upper right hand corner of this sheet.

The marker shall be placed parallel to the center line of the roadway and in the relation to the roadway as shown for various conditions.

GENERAL SPECIFICATIONS

Markers shall be of gray cast iron, the castings shall be painted with two coats of black graphite paint, and the face of the raised letters shall be painted with two coats of white lead and oil.

Posts:

Iron pipe shall be 2 inches in diameter. The pipe shall be threaded at the top and capped. The pipe shall be painted with two coats of black graphite paint.

Structural angles shall be of medium steel and shall have a section modulus of not less than 0.25. The angles shall be painted with two coats of black graphite paint.

Wood posts shall be of creosoted or untreated timber. If untreated timber is used it shall be of longleaf yellow pine or an equally durable wood, with the portion to be placed in the ground treated by immersion in a preservative compound and the remainder of the post painted with two coats of white lead and oil.

Concrete posts shall be precast of 1-2-3 concrete and be reinforced as shown in the section. All corners shall be chamfered to a one half inch face.

S.C. STATE HIGHWAY DEPARTMENT

CONSTRUCTION DETAILS

OF

FEDERAL AID

HIGHWAY PROJECT MARKERS

SCALE: 1"=1' AND 1/2"=1'

MARCH, 20, 1925

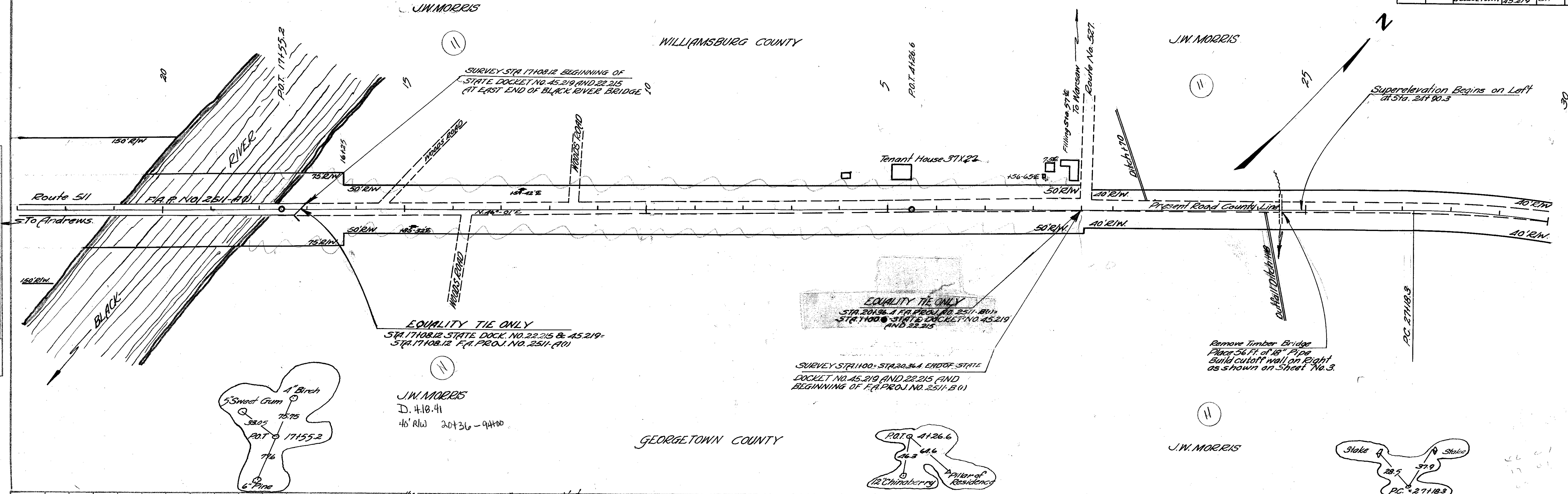
DRAWING

A.26

FED. DIST. NO.	STATE	COUNTY	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1A	S. C.	WILLIAMSBURG	511	5	113

PLAN	DATE	BY
SURVEYED		
NOTED		
ALIGNED		
CHECKED		
RT. OF WAY		

PROFILE	DATE	BY
SURVEYED		
NOTED		
ALIGNED		
CHECKED		
STRUCTURE		



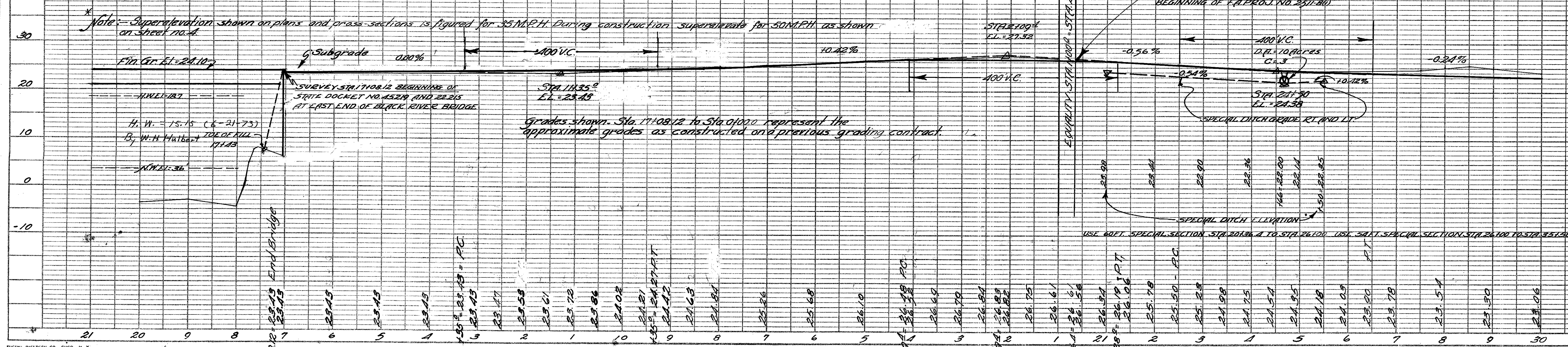
NOTES TO RESIDENT ENGINEER

Changes involving increased cost of project or changes in alignment must be specifically authorized by the State Highway Engineer in advance of being made. District Engineer, with consent of Federal Representative, may authorize minor alterations not in conflict with the Standard Practices of the Department and not involving increases in cost. Keep a record on your set of plans of all changes made during construction and forward to Columbia Office each month information necessary to check monthly estimates.

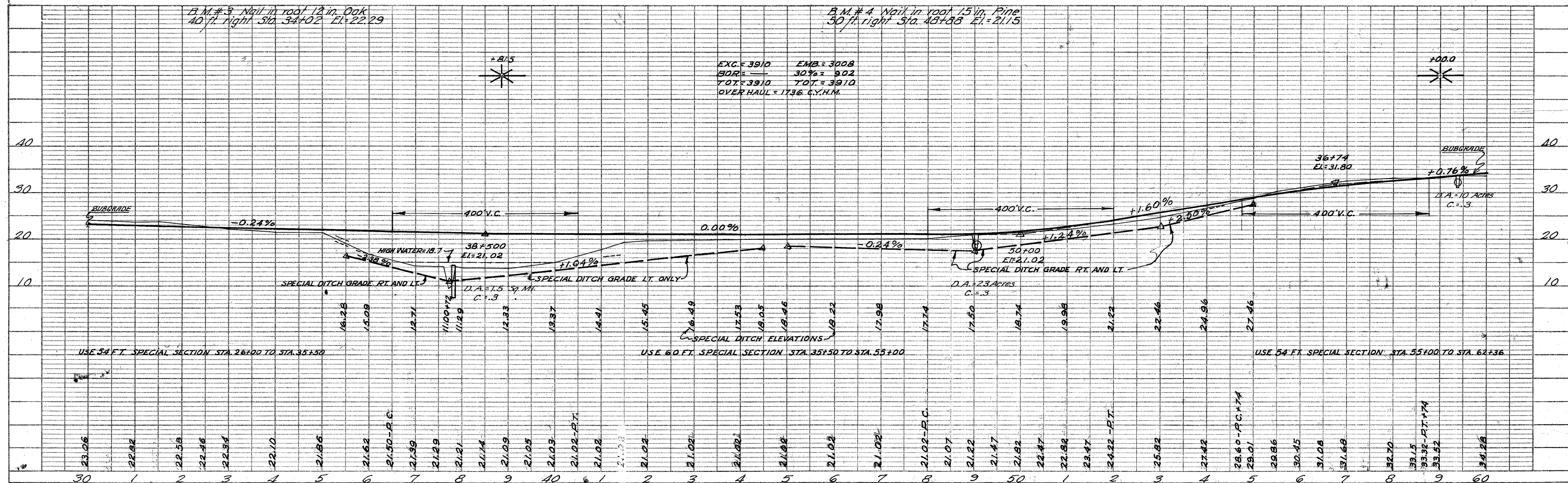
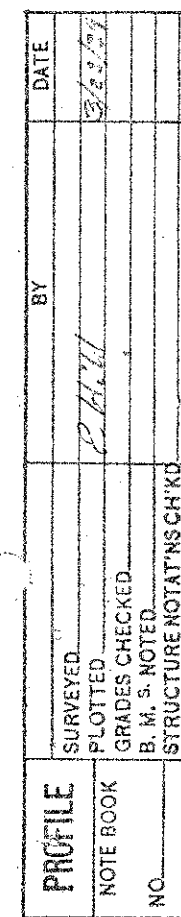
Excavation necessary in cleaning out widening, deepening or reshaping existing ditches will be measured and paid for at the contract unit price for common excavation. Material thus obtained may be used in roadway widening fills or disposed of as directed by the Engineer.

All curves of thirty minutes and over are to be super-elevated as shown on sheet no. 4. Elevations shown are normal elevations before super-elevation is added. Proper grade connections are to be made with existing roads. All buildings etc. are to be removed from the Right-of-Way so as to secure an un-obstructed Right-of-Way for width shown on the plans. All telephone and power poles are to be removed from the roadbed.

Note: Super-elevation shown on plans and cross-sections is figured for 35 M.P.H. During construction super-elevate for 50 M.P.H. as shown on sheet no. 4.



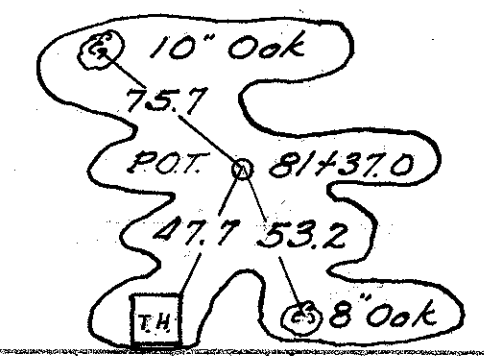
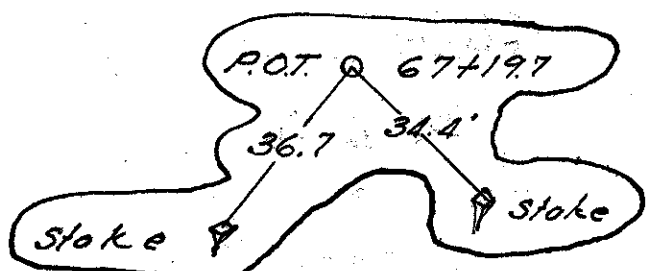
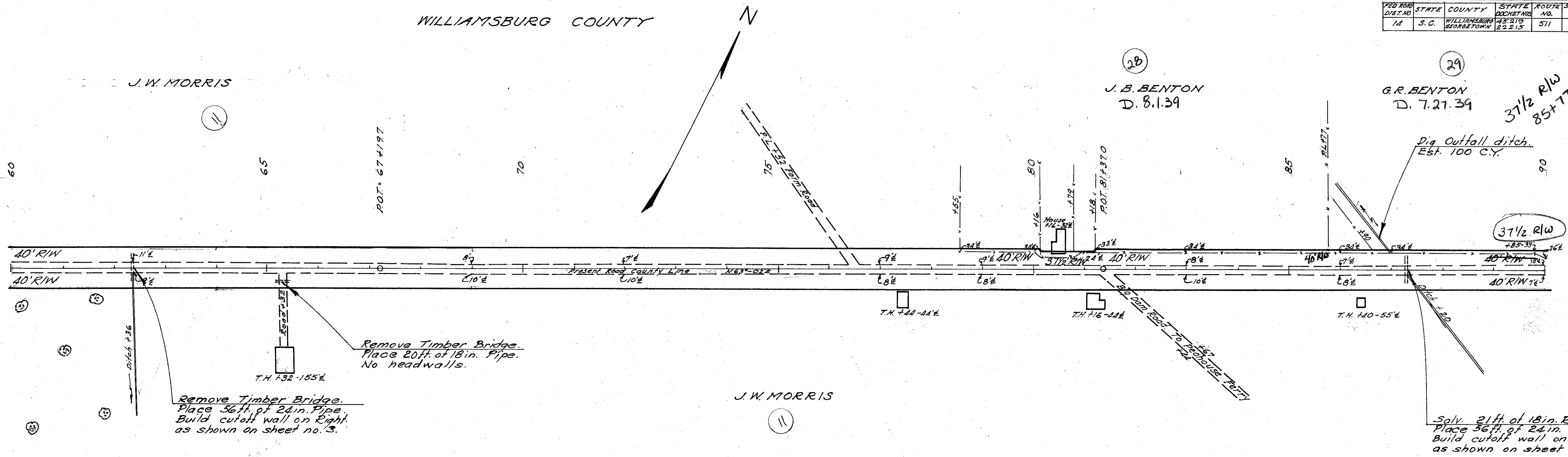
PLAN	BY	DATE
SURVEYED <i>Q220</i> PLOTTED <i>W-3-35</i> ALIGNMENT CHECKED <i>W-3-35</i> RT. OF WAY CHECKED <i>W-3-35</i>		



WILLIAMSBURG COUNTY

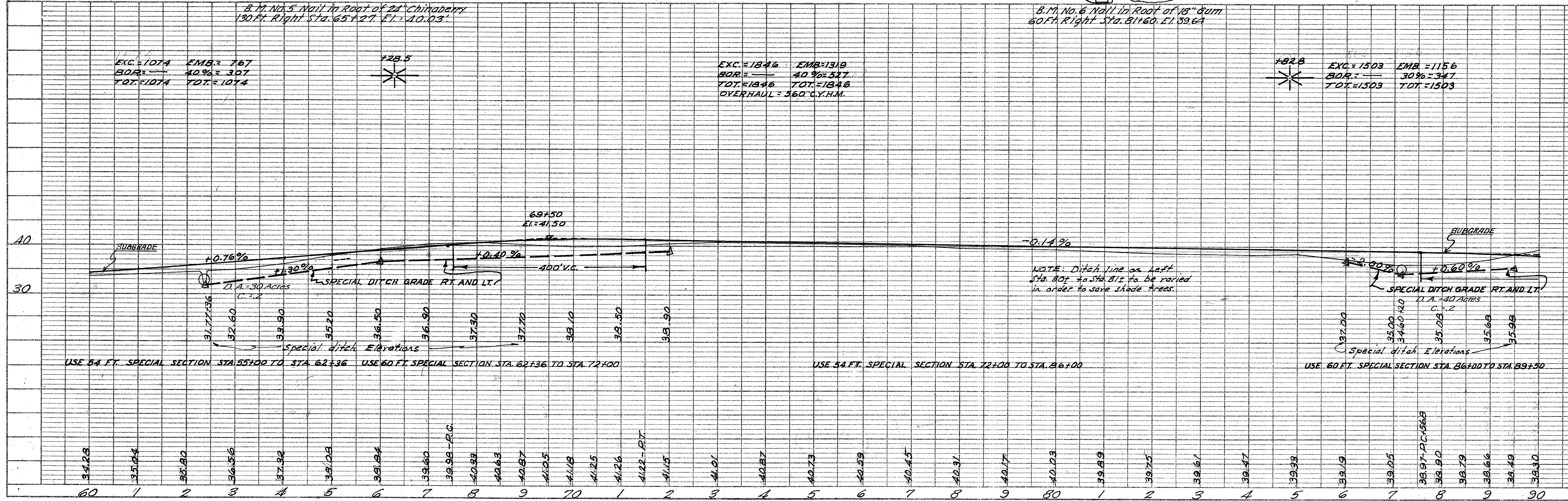
FED. ROAD DIST. NO.	STATE	COUNTY	STATE ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMSBURG	45-215	511	7
		GEORGETOWN	22-215		113

PLAN	DATE	BY
SURVEYED		
NOTE BOOK		
ALIGNED CHECKED		
RT. OF WAY CHECKED		
NO.		



GEORGETOWN COUNTY

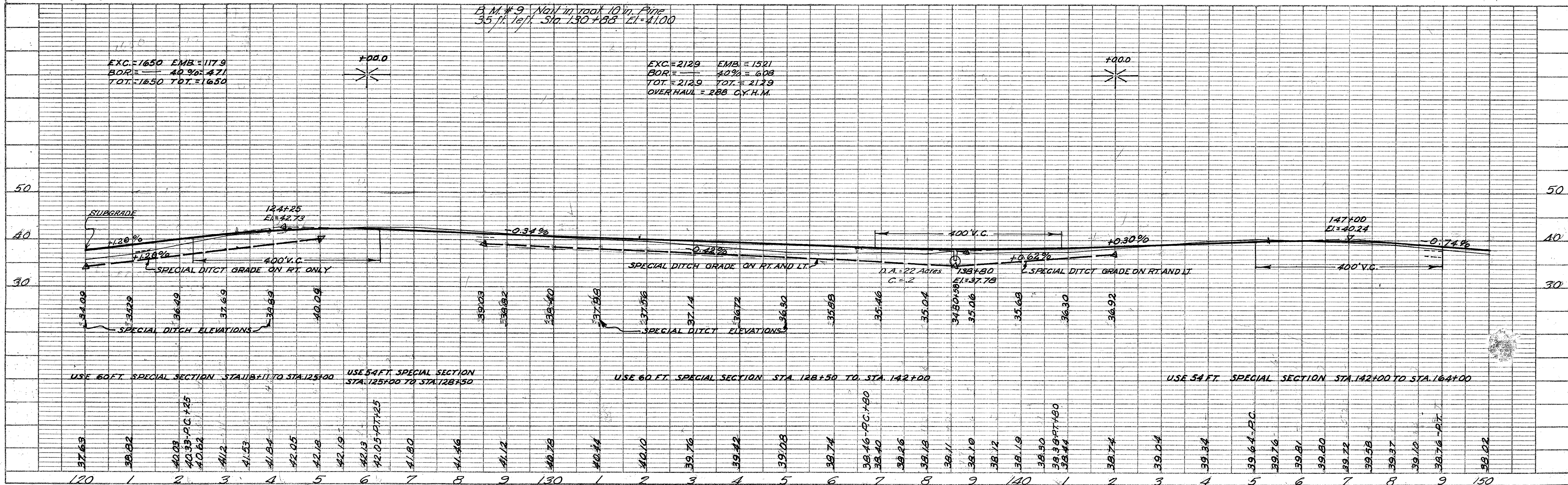
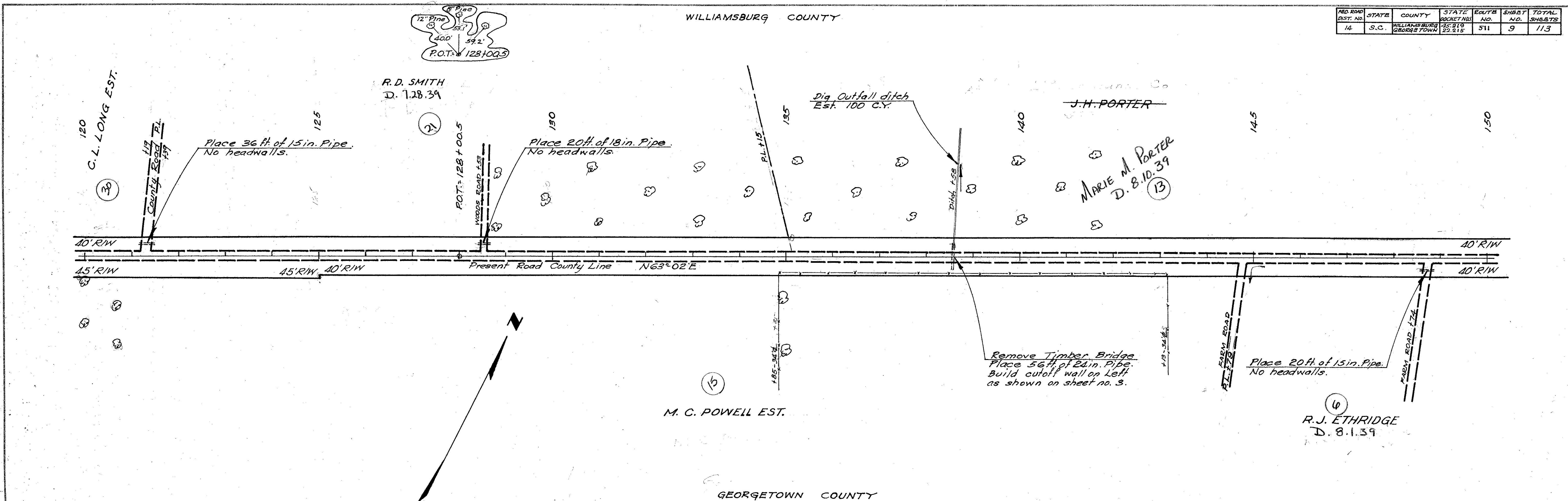
PROFILE	DATE	BY
SURVEYED		
NOTE BOOK		
GRADES CHECKED		
B.M. S. NOTED		
STRUCTURE NOTATION CHECKED		
NO.		



PLAN	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	NO.	NO.

PROFILE	SURVEYED	DATE
NOTE BOOK	PLOTTED	BY
NO.	NO.	NO.

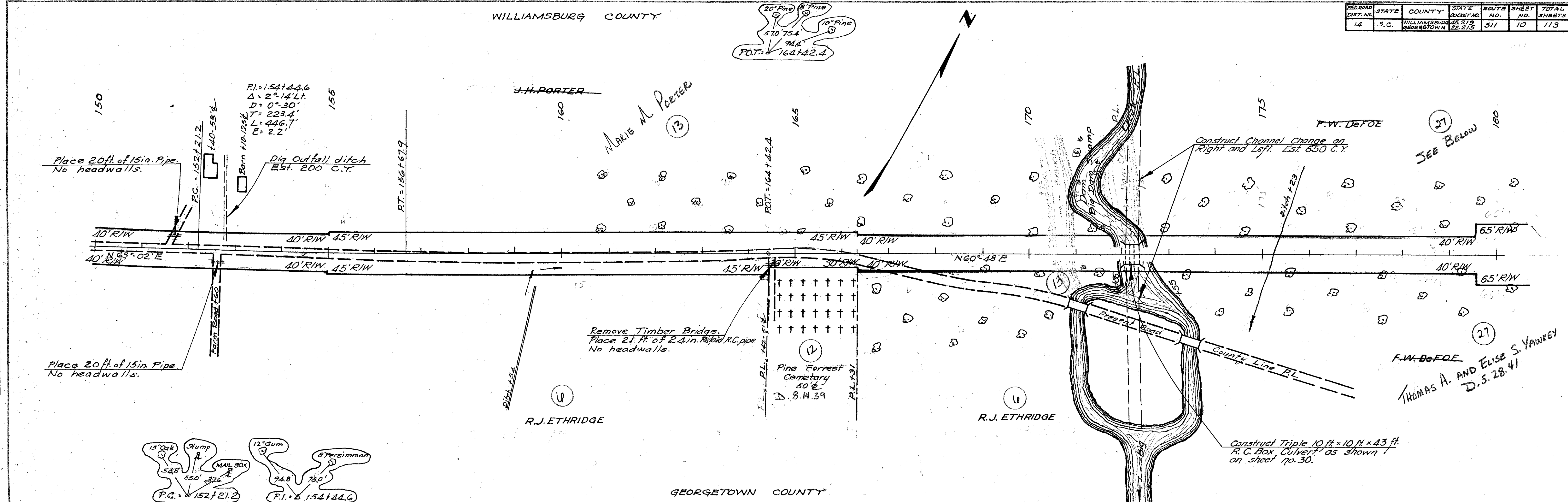
RED. ROAD DIST. NO.	STATE	COUNTY	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMSBURG	15.215	511	9



FED. ROAD DIST. NO.	STATE	COUNTY	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMSBURG	22	511	10

PLAN	DATE	BY
NOTE BOOK	5/23/41	CHIT
PLANNED		
CHECKED		
BY		

PROFILE	DATE	BY
NOTE BOOK	5/23/41	CHIT
PLANNED		
CHECKED		
BY		



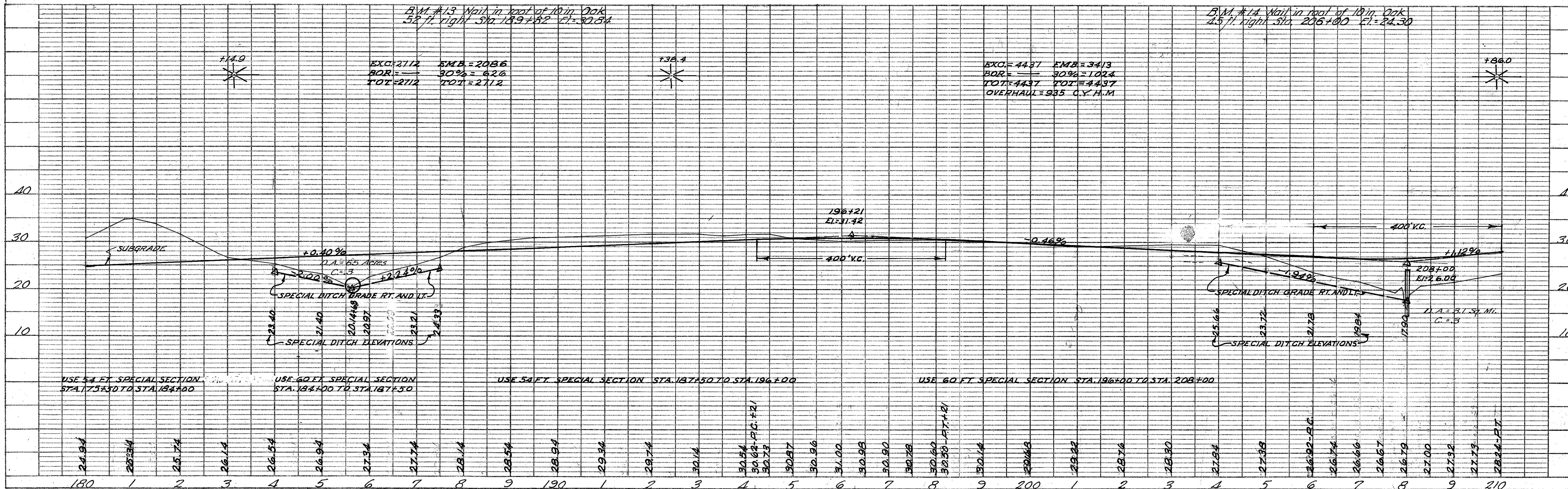
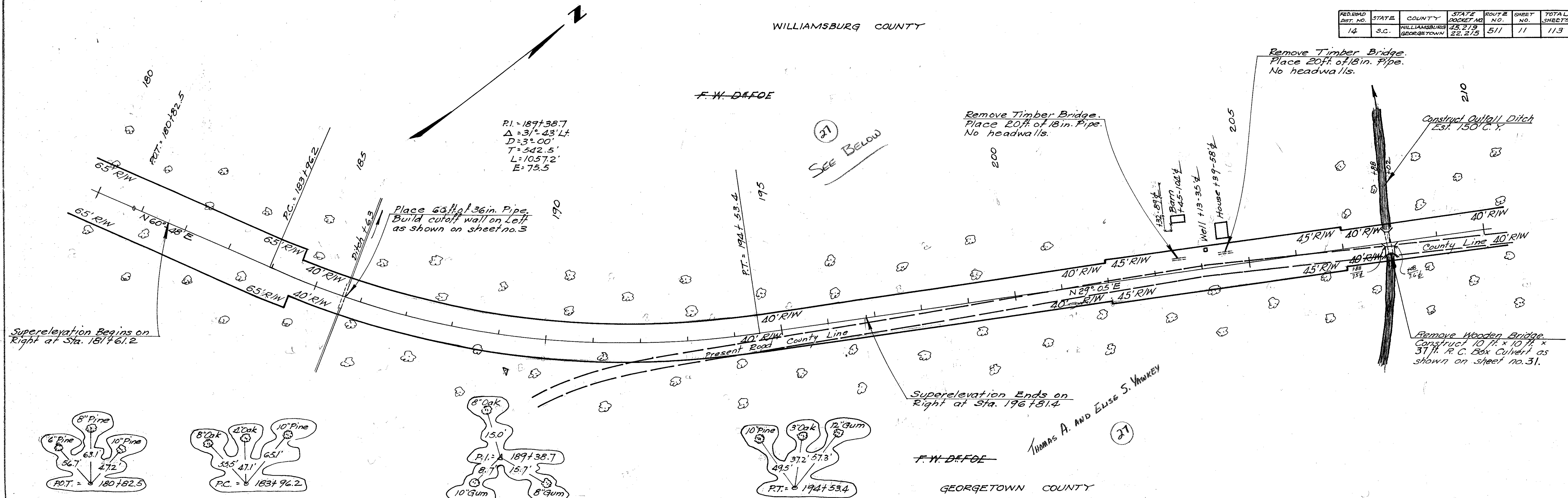
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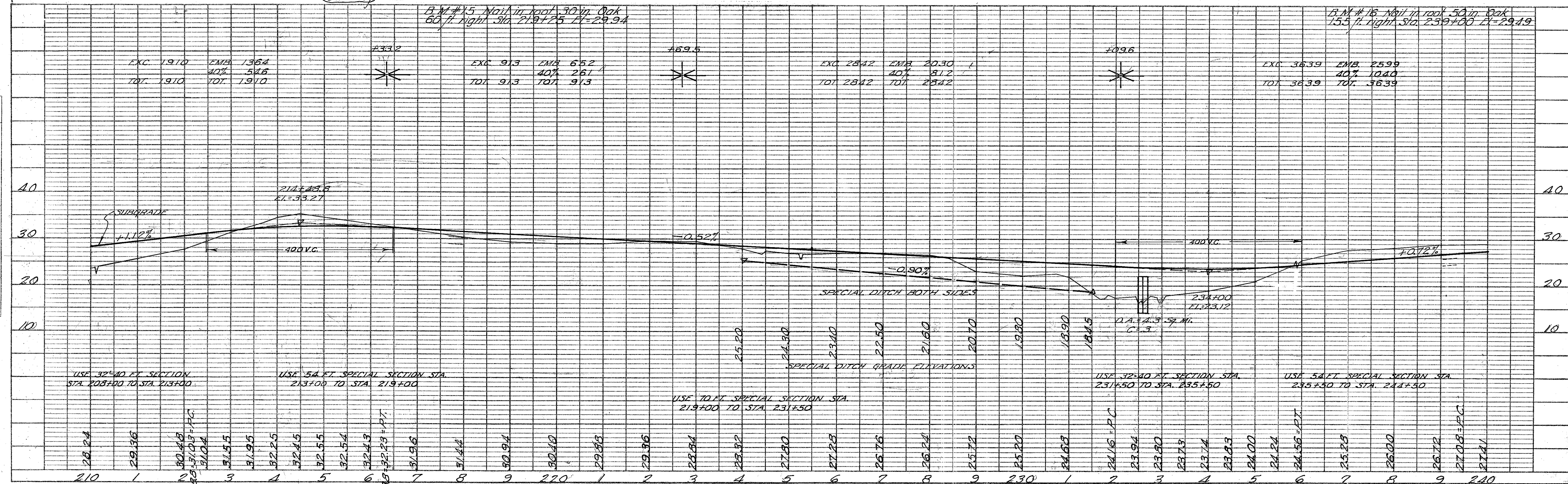
PLAN	DATE	BY
NOTE BOOK	8/23/39	W. B. D. F. O. E.
NO.		

PROFILE	DATE	BY
NOTE BOOK		
NO.		

WILLIAMSBURG COUNTY

FED. ROAD DIST. NO.	STATE	COUNTY	STATE ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMSBURG	21	11	113





PLAN	DATE	BY	DATE
NO.	3/24/69	W.B. Benjamin	3/24/69
NO.			

PROFILE	DATE	BY	DATE
NO.	3/24/69	W.B. Benjamin	3/24/69
NO.			

FED. ROAD DIST. NO.	STATE	COUNTY	STATE JACKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMSBURG	45, 219	511	13	113

MILHOUSE
C.R. MILLHOUSE

SOUTHERN KRAFT CORP
J.H. FRIEND - VICE PRES. MOBILE, ALA.
Remove Timber Bridge.
Place 56 ft. of 24 in. Pipe.
Build cutoff wall on Rt.
as shown on sheet no. 3.
D. 8.15.39

WILLIAMSBURG COUNTY

ATLANTIC COAST LUMBER CORP.
D. 11.9.39

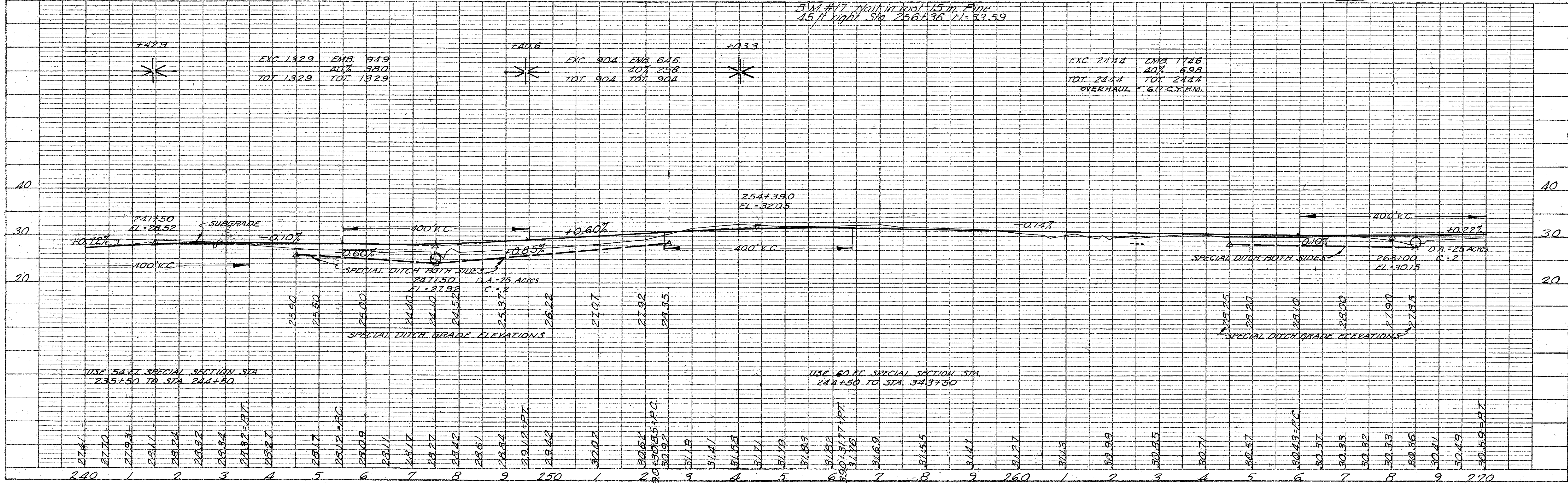
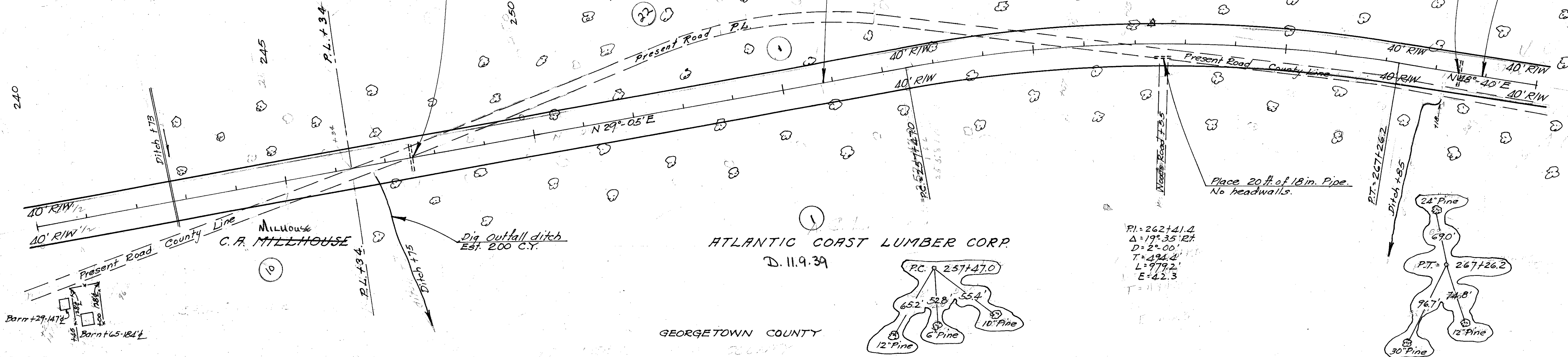
GEORGETOWN COUNTY

Superelevation Ends on
Left at Sta. 268+92.2

Place 56 ft. of 24 in. Pipe.
Build cutoff wall on Rt.
as shown on sheet no. 3.

Place 20 ft. of 18 in. Pipe.
No headwalls.

P.I. = 262+41.4
Δ = 19° 35' 12"
D = 2° 00'
T = 494.4'
L = 979.2'
E = 42.3'

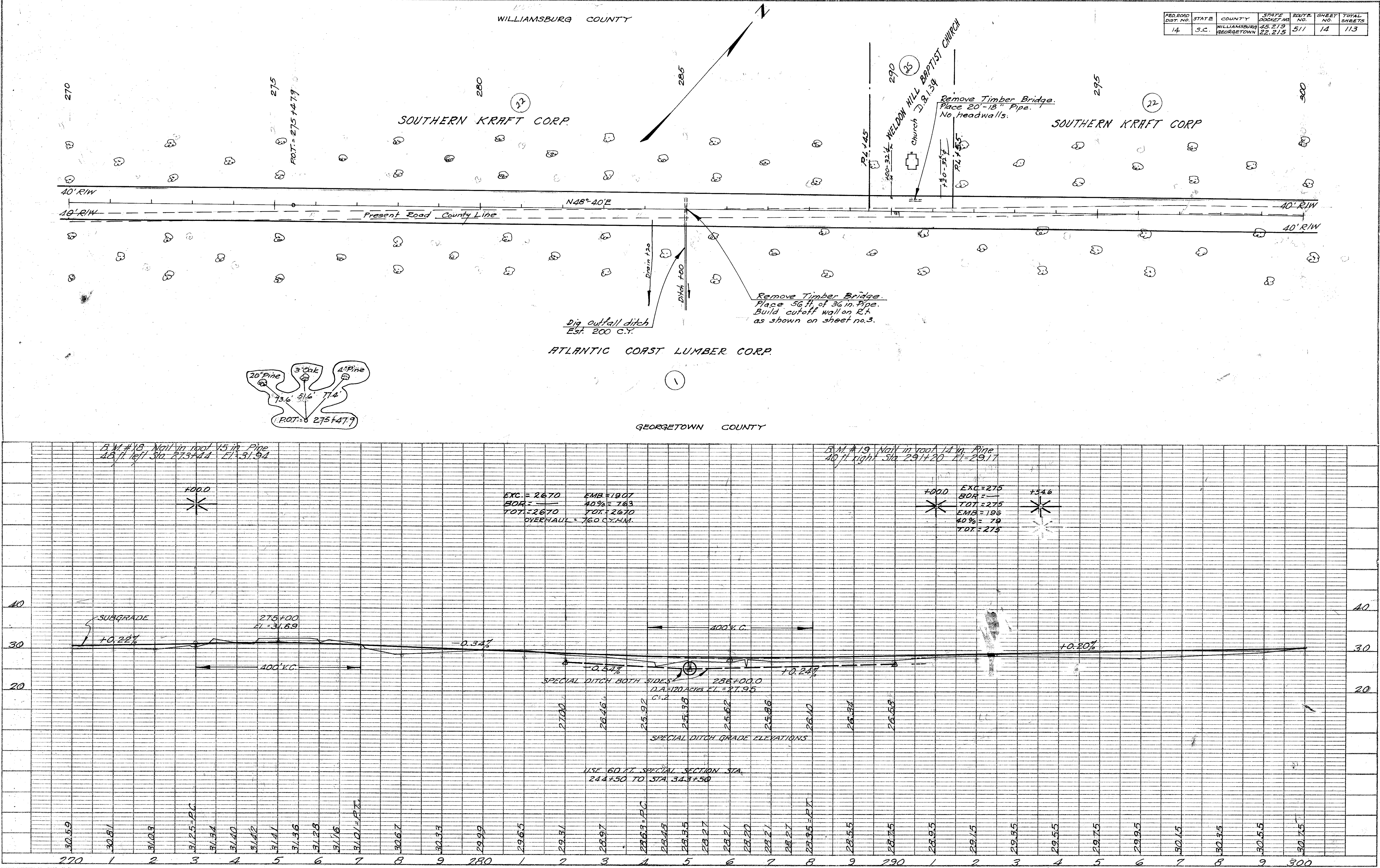


270-30-3

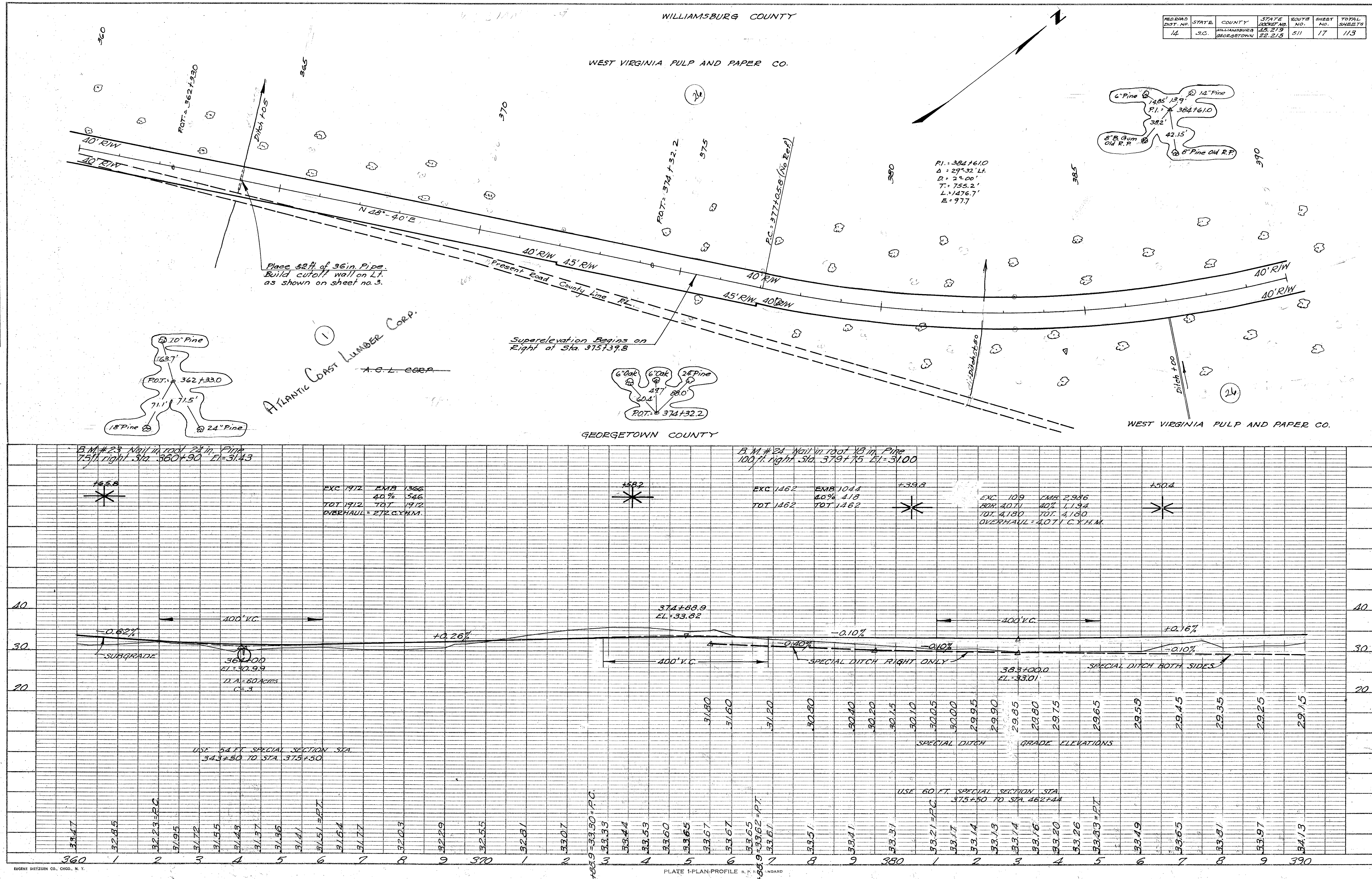
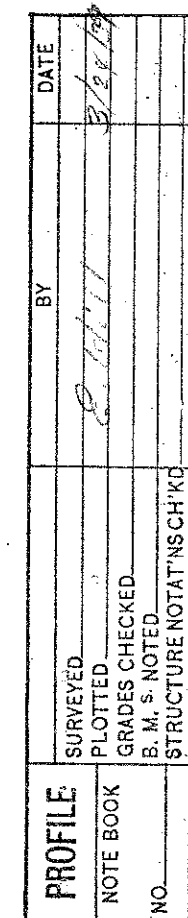
PLAN	NO. 1	DATE	3/24/29
NOTE BOOK		BY	W. B. G. M. S.
SURVEYED		PLOTTED	
ALIGNED		CHECKED	
RT. OF WAY		CHECKED	

PROFILE	NO. 1	DATE	3/24/29
NOTE BOOK		BY	W. B. G. M. S.
SURVEYED		PLOTTED	
GRADE		CHECKED	
STRUCTURE NOT CHECKED			

FED. ROAD DIST. NO.	STATE	COUNTY	STATE DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMSBURG	45.219	511	14	113



WEST VIRGINIA PULP AND PAPER CO.



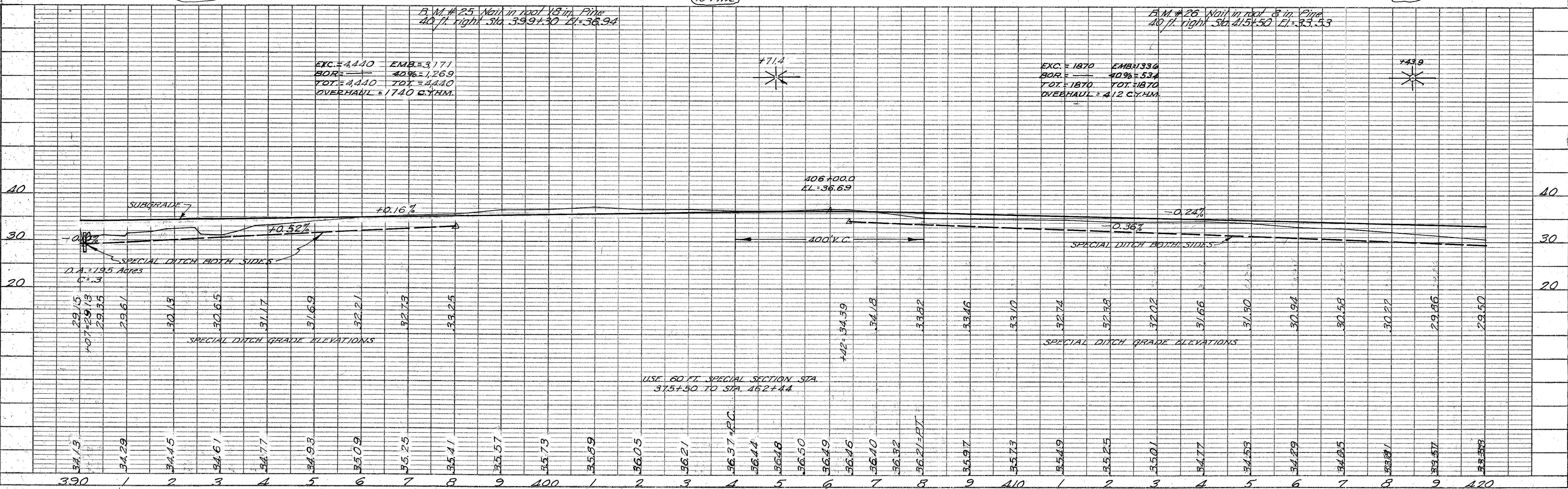
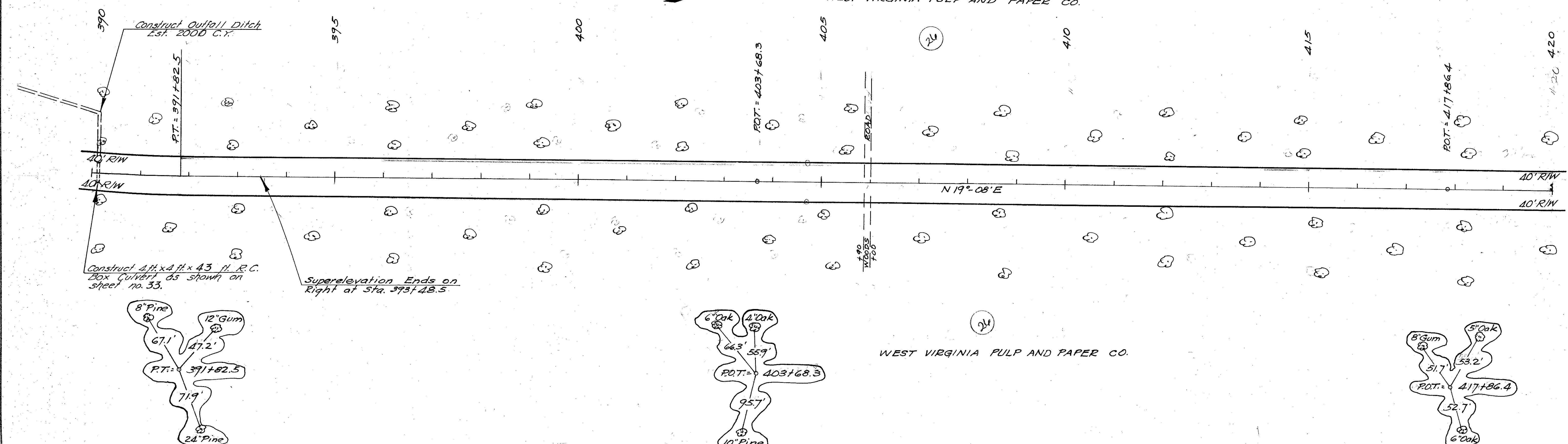
FED. ROAD DIST. NO.	STATE	COUNTY	STATE DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMSBURG	45.219	511	18	113
GEORGETOWN 22.215						

WEST VIRGINIA PULP AND PAPER CO.

WEST VIRGINIA PULP AND PAPER CO.

PLAN	DATE	BY	NO.
SURVEYED	7/11/11	BY	
NOTED			
PLANNED			
ALIGNED			
CHECKED			
REVIEWED			

PROFILE	DATE	BY	NO.
SURVEYED	7/11/11	BY	
NOTED			
PLANNED			
ALIGNED			
CHECKED			
REVIEWED			

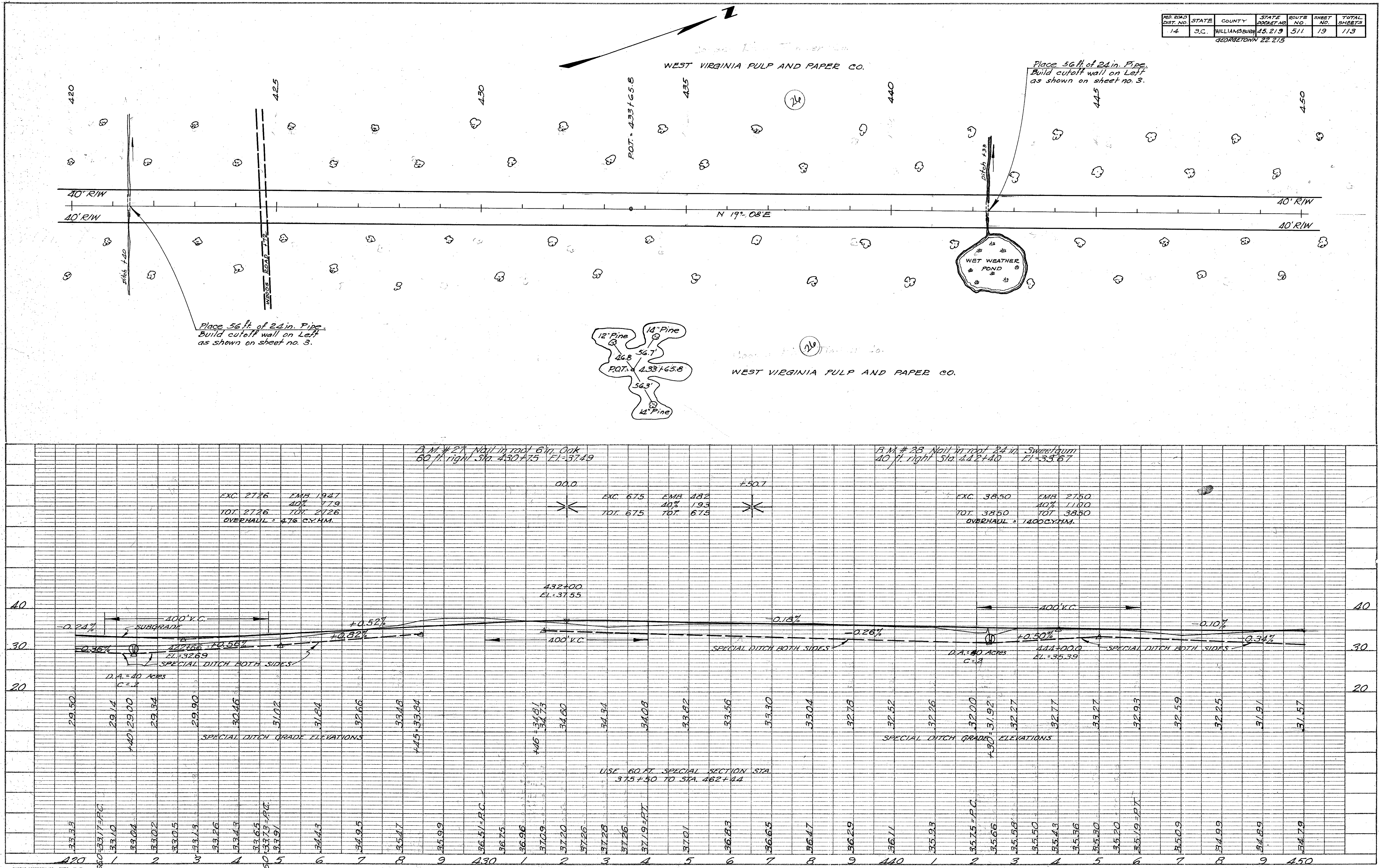


RED. ROAD DIST. NO.	STATE	COUNTY	STATE DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMS	45.219	511	19	113

GEORGETOWN 22.215

PLAN	DATE	BY	DATE
NOTE BOOK	7/27/59	W. B. Beckman	7/27/59
NO.			

PROFILE	DATE	BY	DATE
NOTE BOOK	7/27/59	W. B. Beckman	7/27/59
NO.			



FED. ROAD DIST. NO.	STATE	COUNTY	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMSBURG	45.219	20	113

W.D. RHEM 537

17

WILLIAMSBURG

P.O.T. = 466+57.9

470

P.O.T. = 474+39.2

475

P.O.T. = 479+43.8

480

Place 60 ft. of 18 in. Pipe.
Build cutoff wall on Left
as shown on sheet no. 3.

Place 56 ft. of 24 in. Pipe.
Build cutoff wall on Left
as shown on sheet no. 3.

Place 72 ft. of 36 in. Pipe.
Build cutoff wall on Left
as shown on sheet no. 3.

COUNTY

11

W.D. RHEM 537
D. 8.2.39

B.M. #29 Nail in top of 6 in. Blackgum
65 ft. left Sta 451+40 E.L. = 34.89

B.M. #30 Nail in side of 4 in. Pine
45 ft. left Sta 467+43 E.L. = 33.40

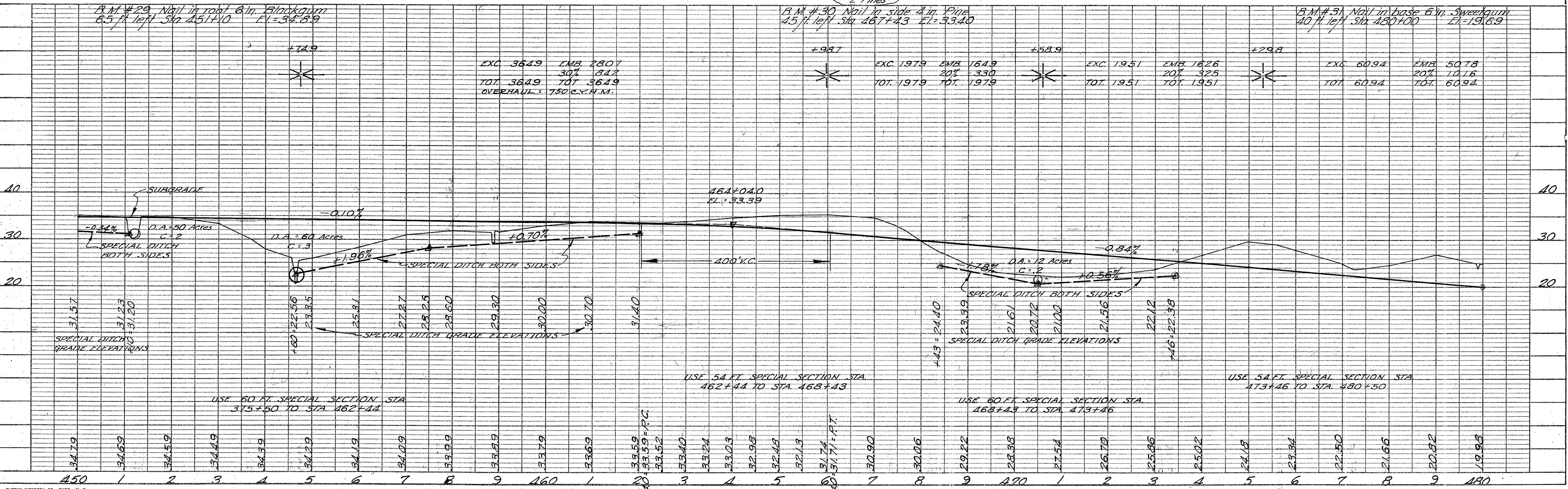
B.M. #31 Nail in base 6 in. Sweetgum
40 ft. left Sta 480+00 E.L. = 19.69

Exc. 3649 LMB 2807
30% 842
TOT. 3649 TOT. 3649
OVERHAUL = 750 C.Y. H.M.

Exc. 1979 LMB 1649
20% 330
TOT. 1979 TOT. 1979

Exc. 1951 LMB 1826
20% 325
TOT. 1951 TOT. 1951

Exc. 60.94 LMB 50.78
20% 10.16
TOT. 60.94 TOT. 60.94

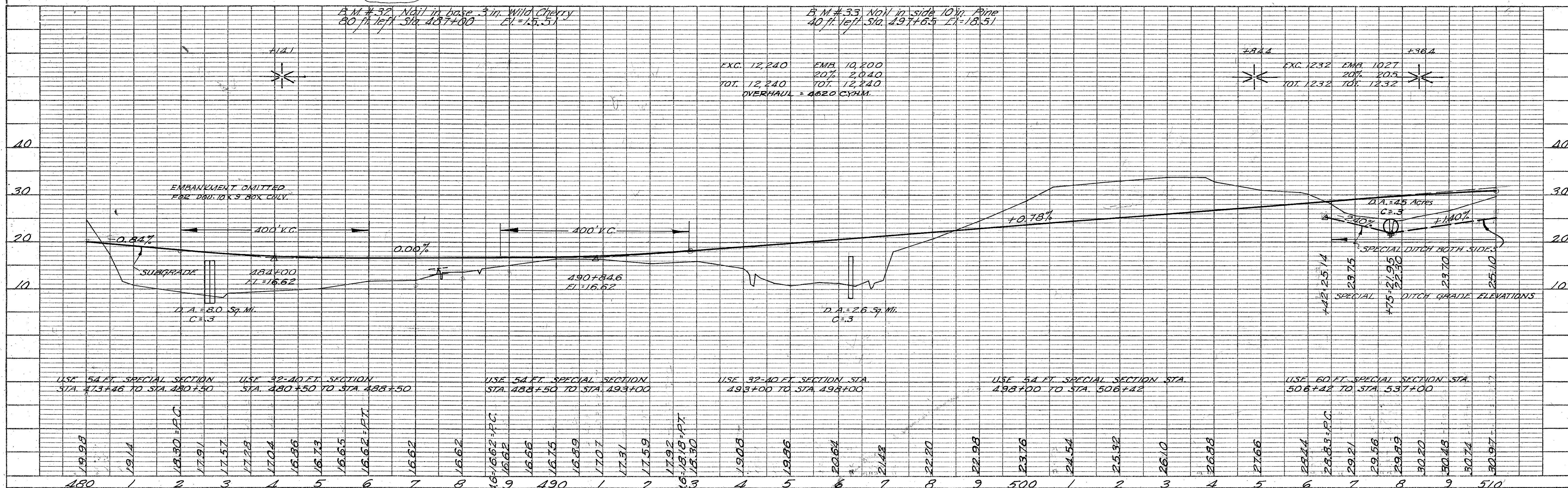
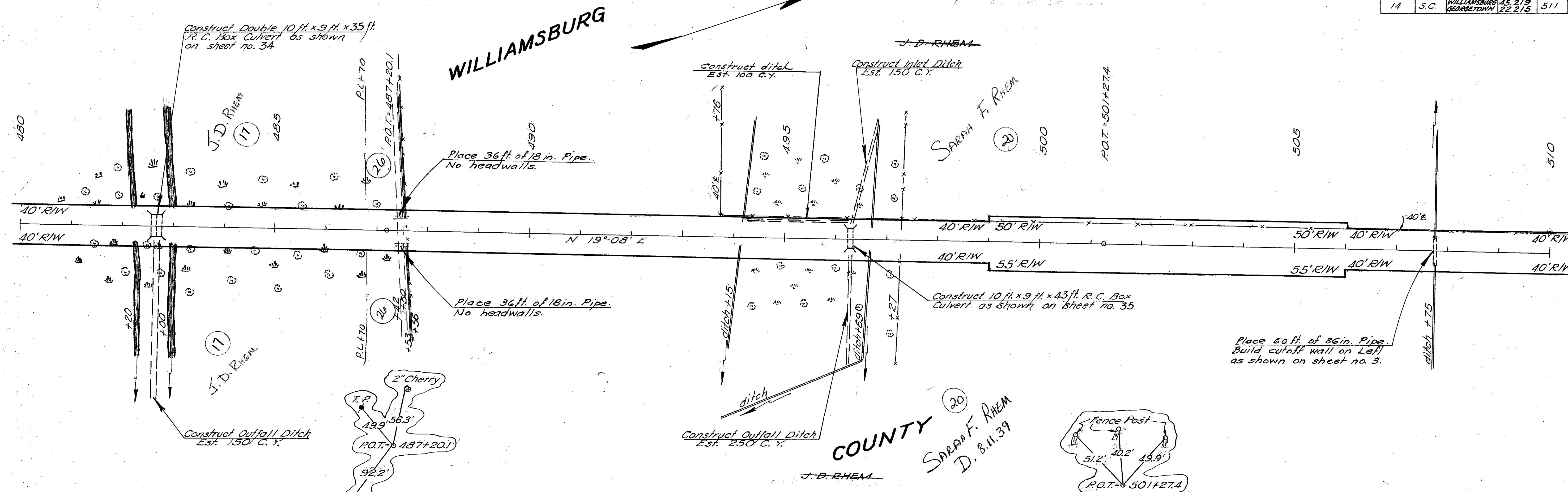


PLAN	DATE
NOTE BOOK	8/29/39
ALIGNED CHECKED	
RT. OF WAY CHECKED	
NO.	

PROFILE	DATE
NOTE BOOK	8/29/39
B.M. % NOTED	
STRUCTURE NOTED	
NO.	

FED. ROAD DIST. NO.	STATE	COUNTY	STATE DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEET
14	S.C.	WILLIAMSBURG GEORGETOWN	25, 219 22 215	511	21	113

PLAN				BY	DATE
NOTE BOOK	SURVEYED	<i>W. B. Kingman</i>			
	PLOTTED				<i>3/25</i>
	ALIGNMENT CHECKED				
	RT. OF WAY CHECKED				
NO.					

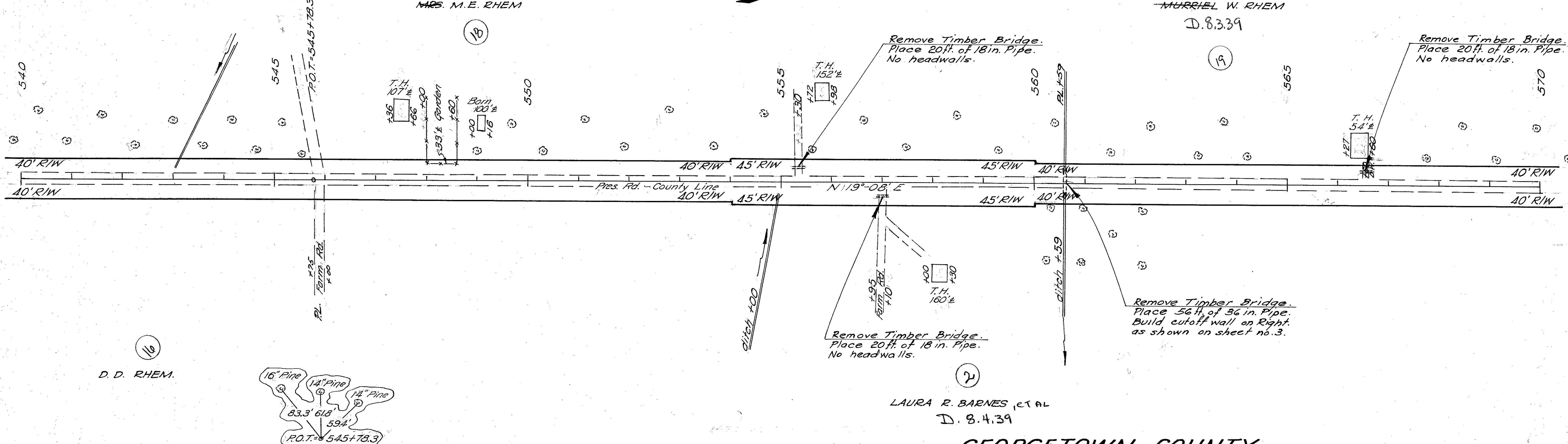


FED. ROAD DIST. NO.	STATE	COUNTY	STATE DOCKET NOS.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	GEORGETOWN WILLIAMSBURG	22 & 15 43-219	511	23	113

WILLIAMSBURG COUNTY

MRS. M.E. RHEM

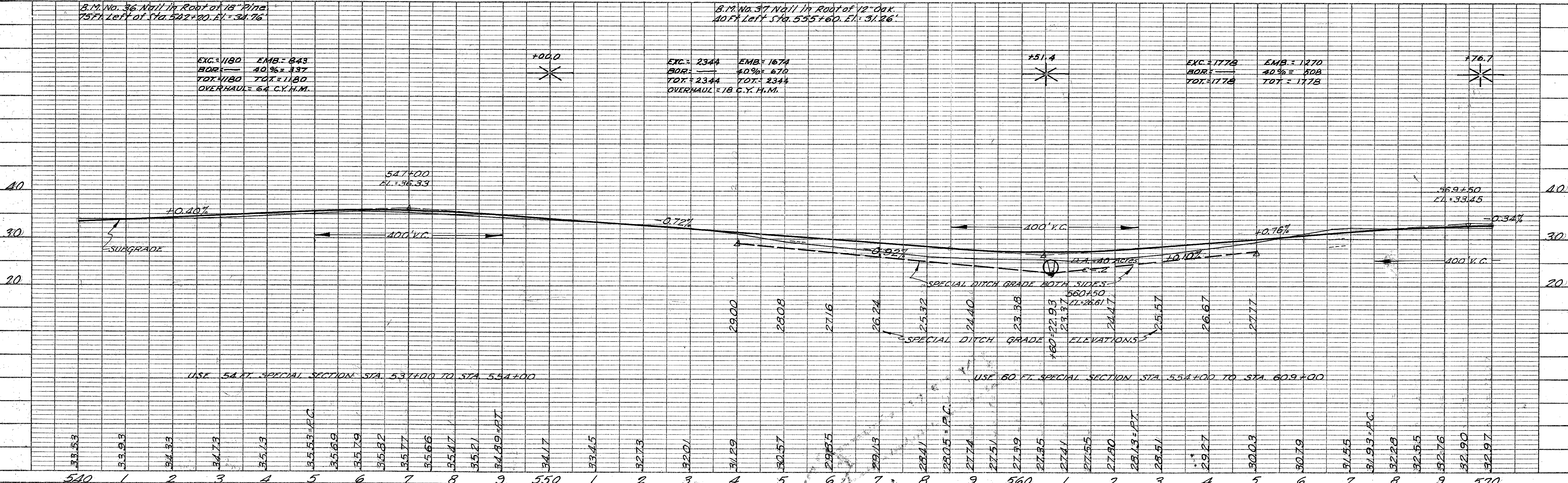
MURIEL
MURIEL W. RHEM
D.8.3.39



D. D. RHEM.

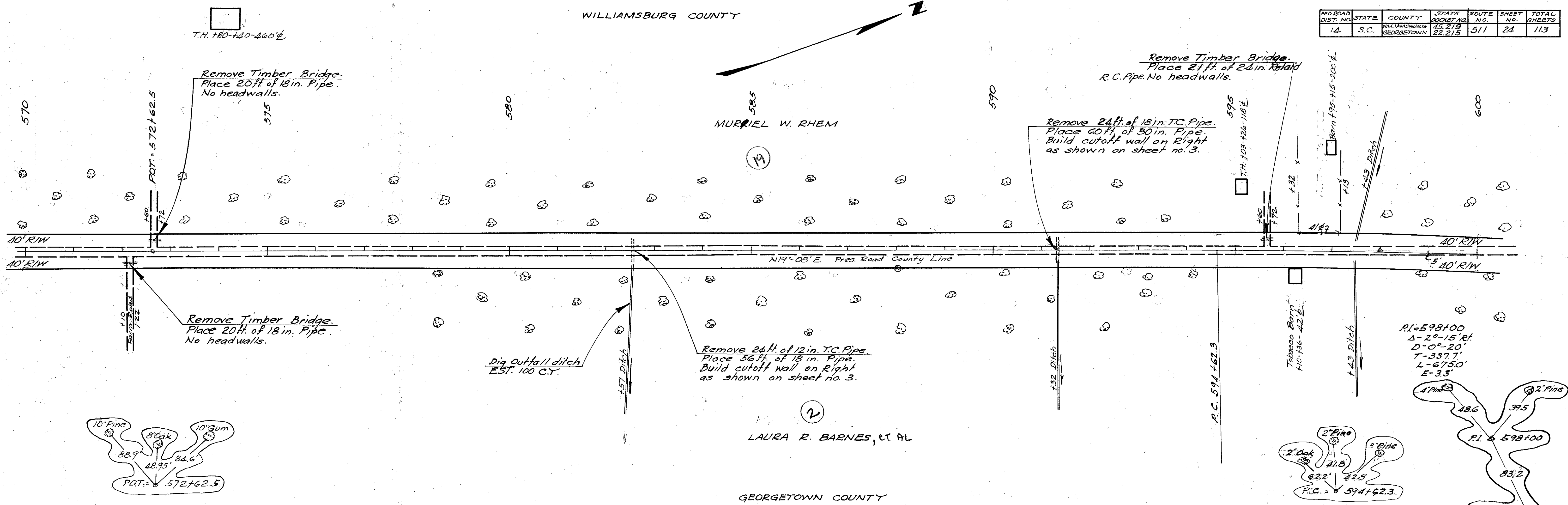
LAURA R. BARNES ET AL
D. 8.4.39

GEORGETOWN COUNTY

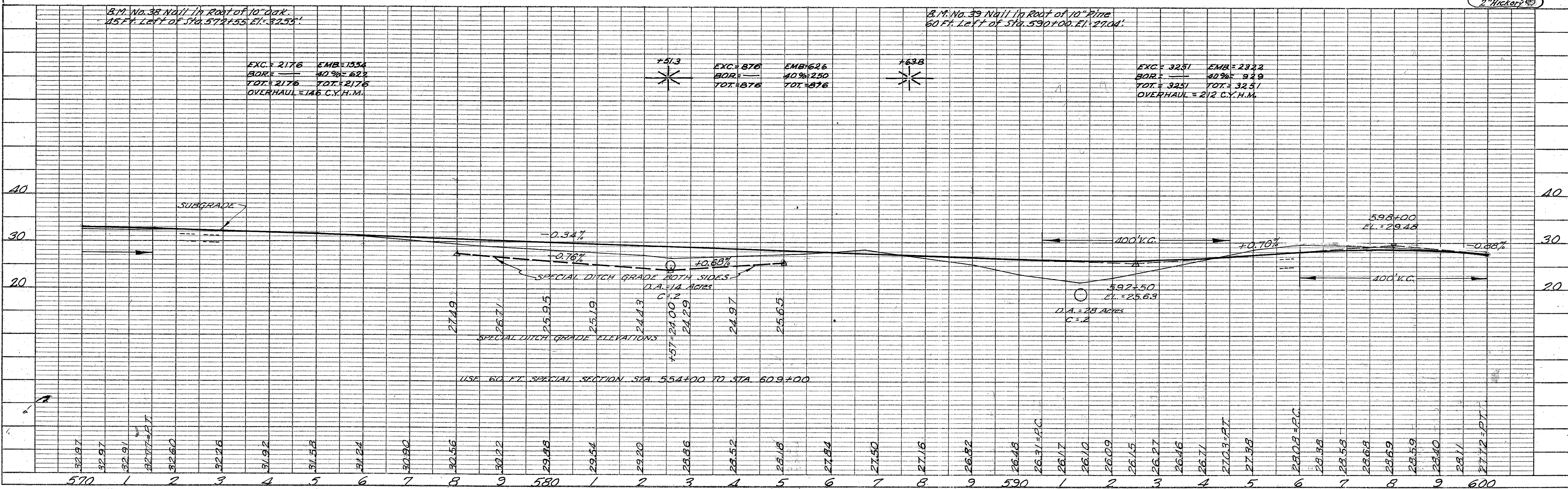


WILLIAMSBURG COUNTY

ROAD DIST. NO.	STATE	COUNTY	STAFF DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMSBURG	22,215	511	24	113



GEORGETOWN COUNTY

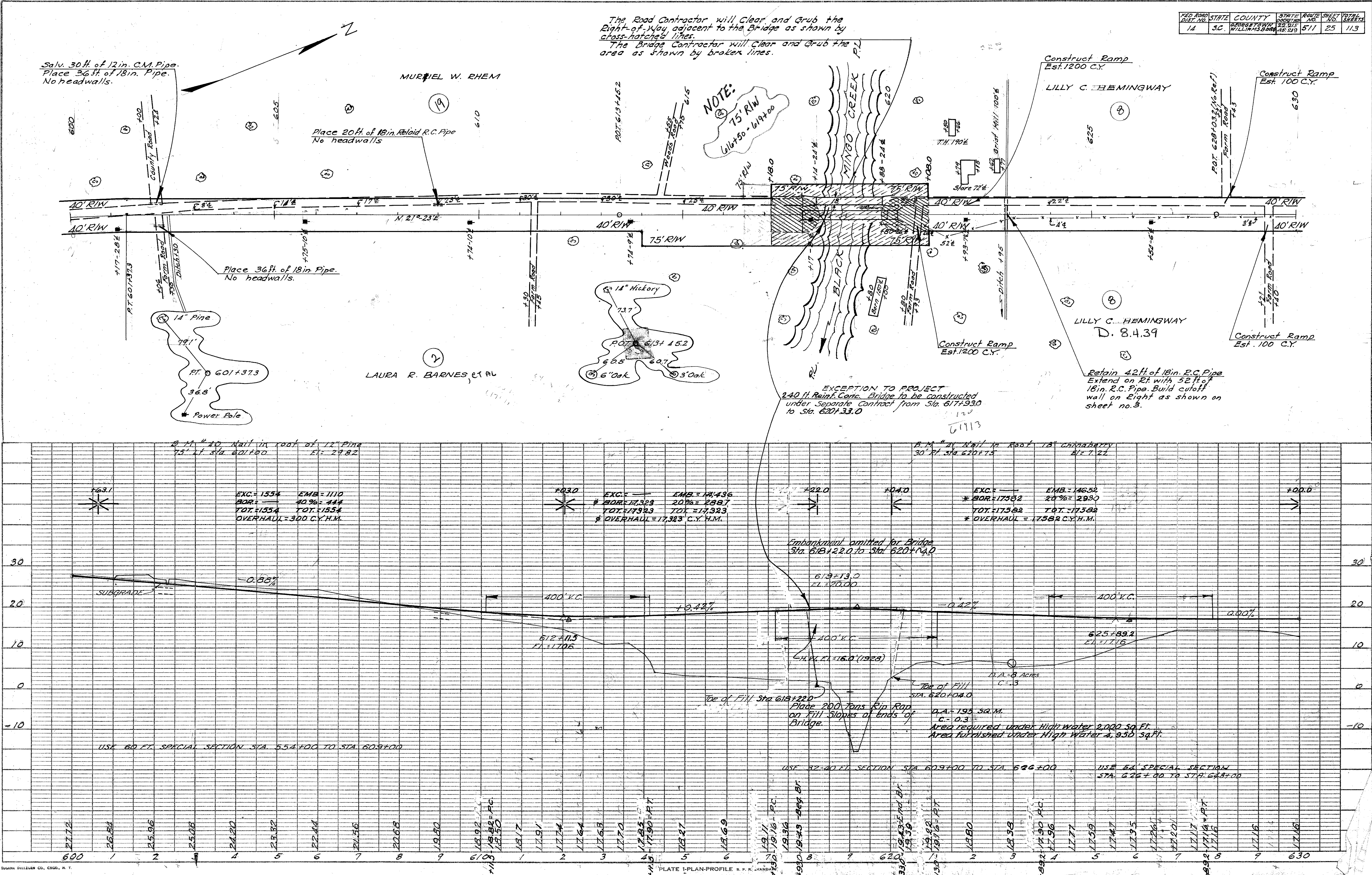


FED. ROAD DIST. NO.	STATE	COUNTY	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1A	SC.	WILLIAMS	511	25	113

The Road Contractor will Clear and Grub the Right-of-Way adjacent to the Bridge as shown by cross-hatched lines.
The Bridge Contractor will Clear and Grub the area as shown by broken lines.

PLAN	DATE	BY	NO.
SURVEYED			
NOTE BOOK			
PLOTTED			
ALIGNMENT CHECKED			
RT. OF WAY CHECKED			

PROFILE	DATE	BY	NO.
SURVEYED			
NOTE BOOK			
PLOTTED			
GRADES CHECKED			
STRUCTURE NOTATION CHECKED			

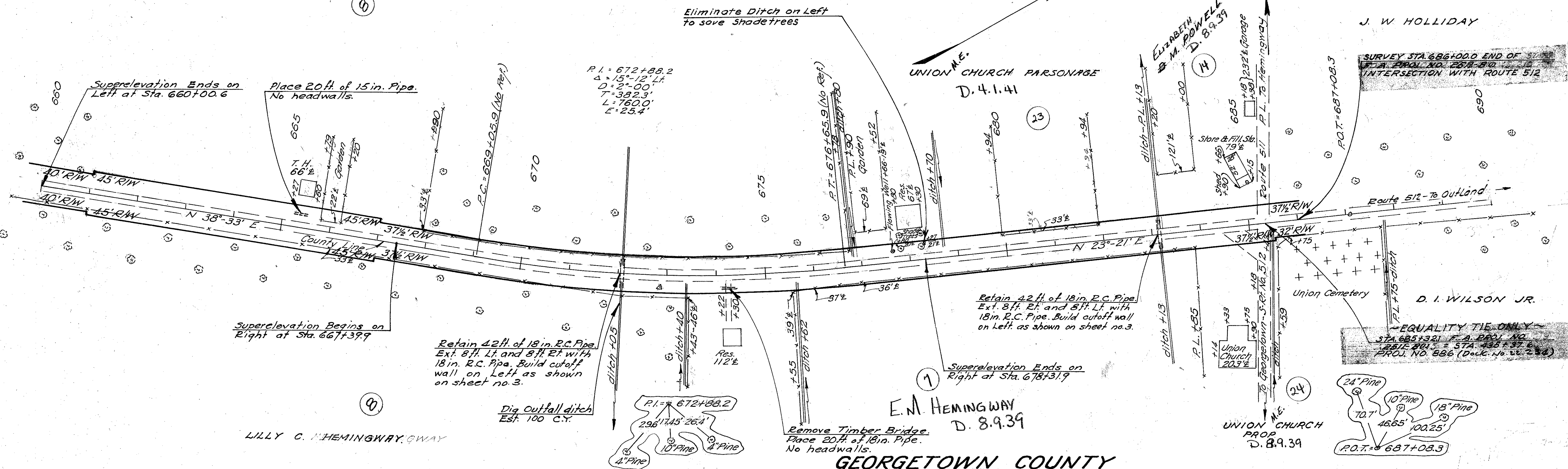


LILLY C. HEMINGWAY

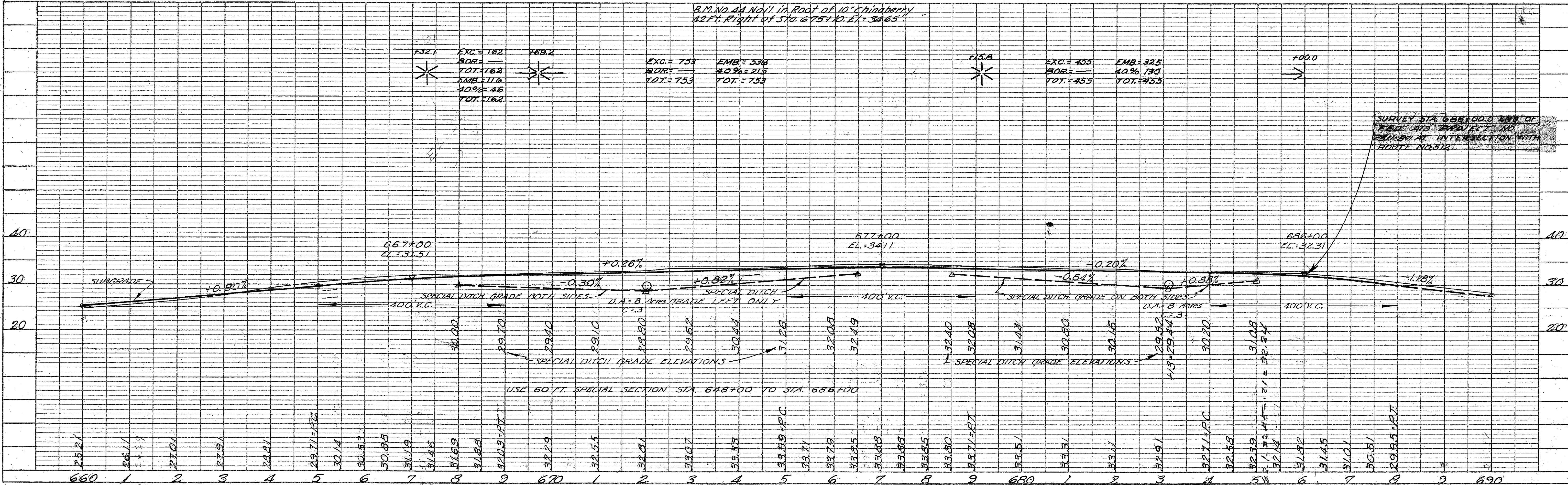
WILLIAMSBURG COUNTY

FED. ROAD DIST. NO.	STATE	COUNTY	STATE DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	WILLIAMSBURG	22, 215	511	27	113

PLAN	DATE	BY	NO.
NOTE BOOK	3/27/39	W. Hemingway	
ALIGNMENT CHECKED			
RT. OF WAY CHECKED			



PROFILE	DATE	BY	NO.
NOTE BOOK	3/27/39	W. Hemingway	
GRADE CHECKED			
STRUCTURE NOTATION			



HALF END VIEW

HALF CROSS-SECTION

SCHEDULE OF STEEL REINFORCING					
Mark	No.	Size	Length	Location	Spacing
A	65	3/8"	9'-3"	Top Slab	10" c/c
B	66	3/8"	13'-6"	"	"
C	6	1/2"	28'-1"	"	24" c/c
D	66	3/8"	29'-0"	Bottom Slab	10" c/c
E	66	3/8"	13'-6"	"	"
F	14	1/2"	28'-1"	"	10" c/c
G	2	1/2"	21'-0"	Side Walls	18" stgd.
G1	2	1/2"	27'-0"	"	"
G2	2	1/2"	32'-0"	"	"
G3	4	1/2"	34'-0"	"	"
H	146	1/2"	8'-3"	"	9" stgd.
H1	8	1/2"	4'-0"	Wings	as shown
H2	8	1/2"	4'-0"	"	"
I	15	1/2"	6'-6"	"	"
I1	4	1/2"	7'-6"	"	"
I2	4	1/2"	7'-11"	"	"
I3	4	1/2"	8'-4"	"	"
I4	4	1/2"	8'-9"	"	"
I5	4	1/2"	9'-3"	"	"
I6	4	1/2"	9'-8"	"	"
I7	4	1/2"	10'-0"	"	"
J	10	1/2"	40'-0"	Splice with G-G bars	as shown
J1	8	1/2"	1'-7"	Wings	as shown
J2	8	1/2"	2'-1"	"	"
J3	4	1/2"	2'-7"	"	"
J4	4	1/2"	2'-10"	"	"
J5	4	1/2"	3'-0"	"	"
J6	4	1/2"	3'-2"	"	"
J7	4	1/2"	3'-4"	"	"
J8	4	1/2"	3'-7"	"	"
J9	4	1/2"	3'-9"	"	"
J10	4	1/2"	4'-0"	"	"
K	12	1/2"	28'-6"	Top Slab	24" c/c
L	12	1/2"	11'-0"	Wings	as shown
M	6	3/8"	8'-3"	Cut-Off	"
N	8	3/8"	13'-0"	Wings	"

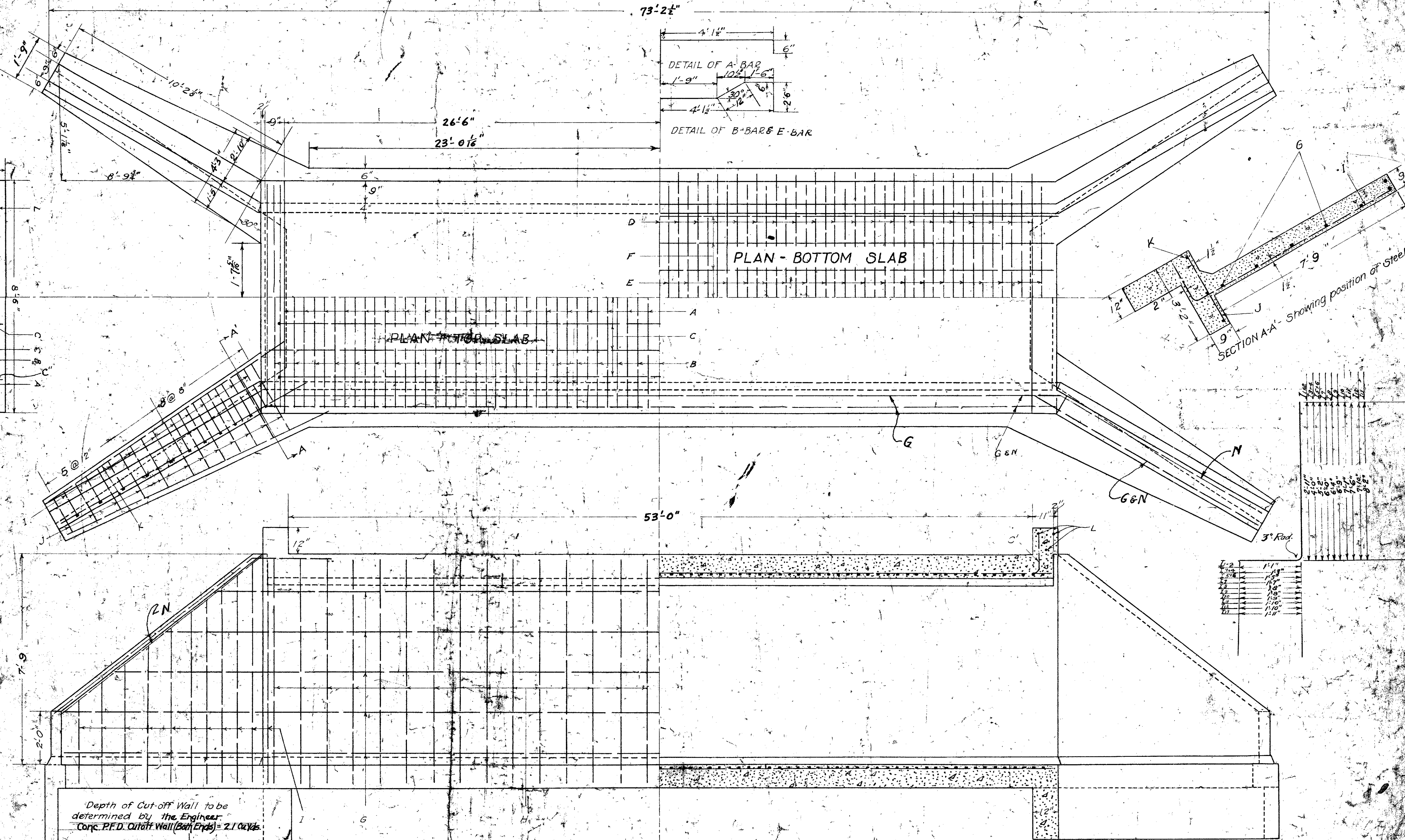
QUANTITIES	
Concrete	60.49 Cu.Yds.
Excav. 3 Ft. - 130. Cu.Yds.	
Steel	6144 Lbs.

Conc. per foot length of barrel: 8.97 Cu.Yd.
Excav. PFD = 32.1 Cu.Yd.

Designed by J. B. G. 10/22/22
Drawn by J. B. G. 10/22/22
Traced by J. B. G. 10/22/22
Checked by J. B. G. 10/22/22

Steel Revised by J. B. G. 5/27/31
Checked by J. B. G. 5/27/31

WORKED UP BY: PELLE - 10-27-39
CHECKED BY: M. S. Hall - 11-1-40



NOTES:

- All exposed edges to be chamfered.
- All reinforcing steel to be deformed bars. Square twisted bars not considered deformed.
- Forms for all exposed surfaces to be of dressed lumber.
- Forms to be removed when directed by the Engineer and all exposed surfaces brought to a smooth, neat finish by rubbing with a carborundum brick while concrete is green.
- Top surfaces to be tamped and troweled so as to provide a smooth finish free from pits and porous places.
- Foundation to be modified and depth of cut-off wall changed as deemed necessary by the Engineer.
- Quantity for Cut-off Walls to be added to Quantities for this culvert.
- Main reinforcing steel to be placed 1/2" clear from surface.
- Make all laps 40 diameters of bar.
- Elevation of top of bottom slab to be not less than one foot below bed of Stream at downstream end of Culvert.
- G-Bars are to be bent into wings and all splices shall be staggered.

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA, S.C.

CONCRETE CULVERT

REINFORCED SINGLE BOX TYPE

Size: 7'-0" x 7'-0" x 53'-0"

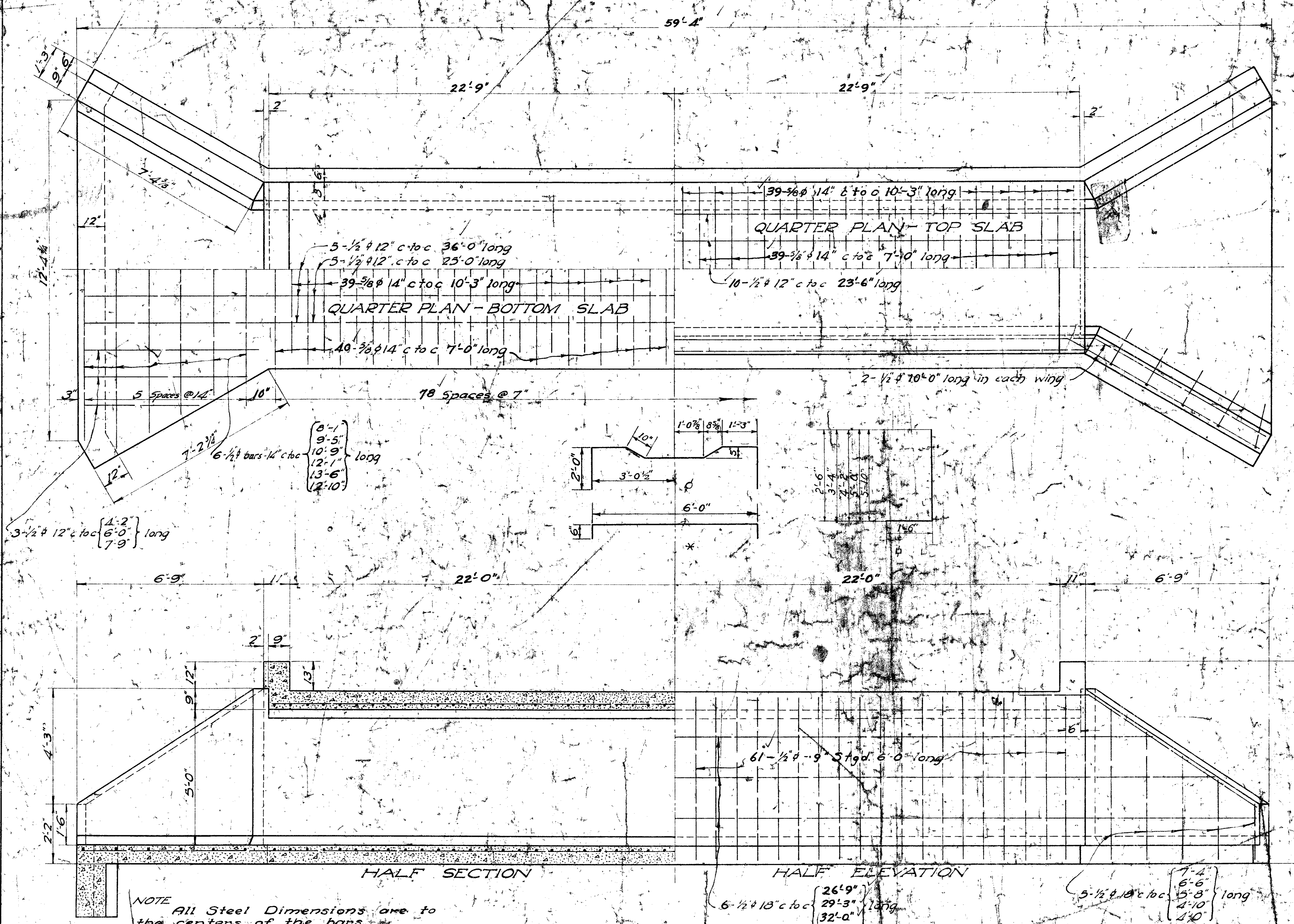
DOCKET 22-216 Sta. 37+72.5
DOCKET 45-219 Sta. 37+72.5

Scale: 1" = 1'00'

DEC 21, 1939

B 143

B 143



NO. PIECES	SIZE	LENGTH
* 19	1/2"	7'-0"
10	1/2"	25'-6"
5	1/2"	36'-0"
5	1/2"	25'-0"
2	1/2"	12'-10"
2	1/2"	13'-6"
2	1/2"	12'-1"
2	1/2"	9'-5"
2	1/2"	8'-1"
4	1/2"	4'-2"
4	1/2"	7'-9"
4	1/2"	7'-4"
4	1/2"	6'-6"
8	1/2"	10'-0"
4	1/2"	4'-0"
126	1/2"	6'-0"
4	1/2"	26'-9"
4	1/2"	29'-8"
4	1/2"	32'-0"
4	1/2"	2'-10"
2	1/2"	5'-8"
2	1/2"	10'-9"
78	3/4"	10'-3"

ITEM	QUANTITY	UNIT
Concrete A	34.48	Cu Yds
Steel	3130	LBS
Exc. 3'	95	Cu Yds

NOTES

Chamfer all exposed edges. 3/4" unless otherwise specified.

All reinforcing steel to be deformed bars - square twisted bars not considered deformed. Make all bends cold. Make laps 10 diam of bar. Main reinforcing steel to be placed 1 1/2" from surface.

Forms for exposed surfaces to be of dressed lumber. Forms are to be removed when directed by the Engineer and all exposed surfaces brought to a smooth, neat finish by rubbing with a carborundum brick while concrete is green. Top surfaces are to be tamped and trowelled so as to provide a smooth, neat finish, free from pits and porous places.

Elevation of top of bottom slab to be not less than one foot below elevation of stream-bed at both ends of culvert.

NOTE

All Steel Dimensions are to the centers of the bars.

Cut-off wall to be placed at each end of culvert. Depth of cut off wall to be determined by the Engineer & quantities adjusted.

S.C. STATE HIGHWAY DEPARTMENT
 COLUMBIA, S.C.

CONCRETE CULVERT

REINFORCED BOX TYPE
 SIZE 5' x 5' x 44'

DOCKET 22-215 GEORGETOWN CO. STA. 105+74
 DOCKET 46-219 WILLIAMSBURG CO.

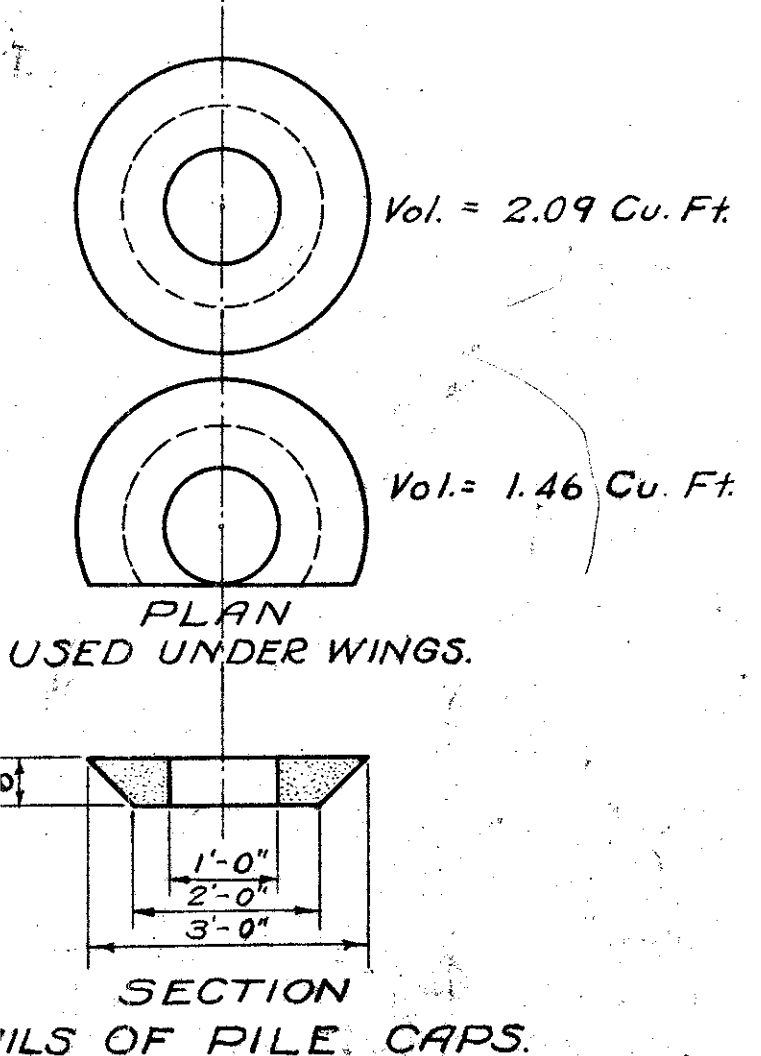
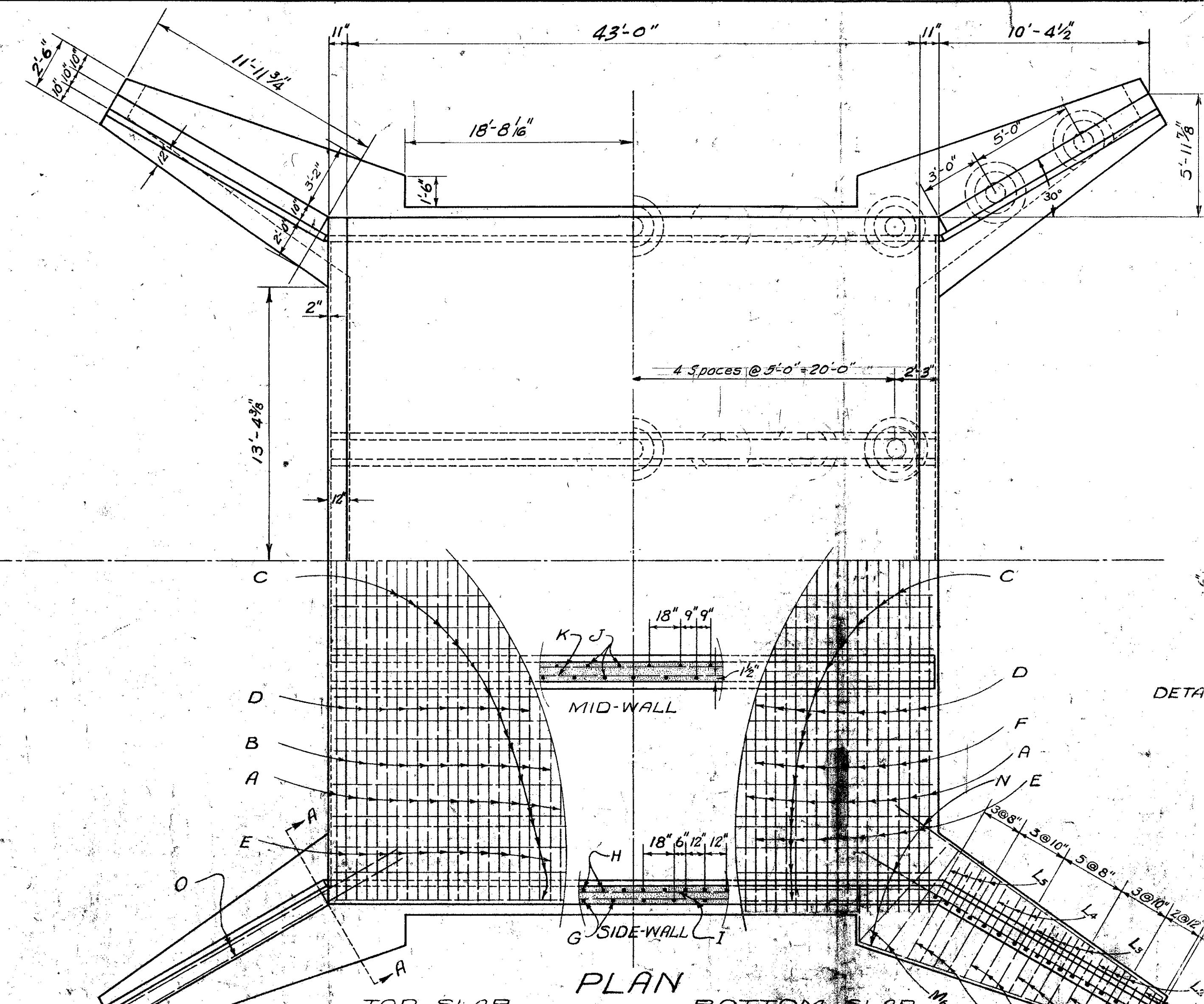
SCALE 1/4" = 1'-0"

DATE 1939

DESIGNED BY *James M. ...*
 CHECKED BY *Paul H. ...*

HALF END ELEVATION

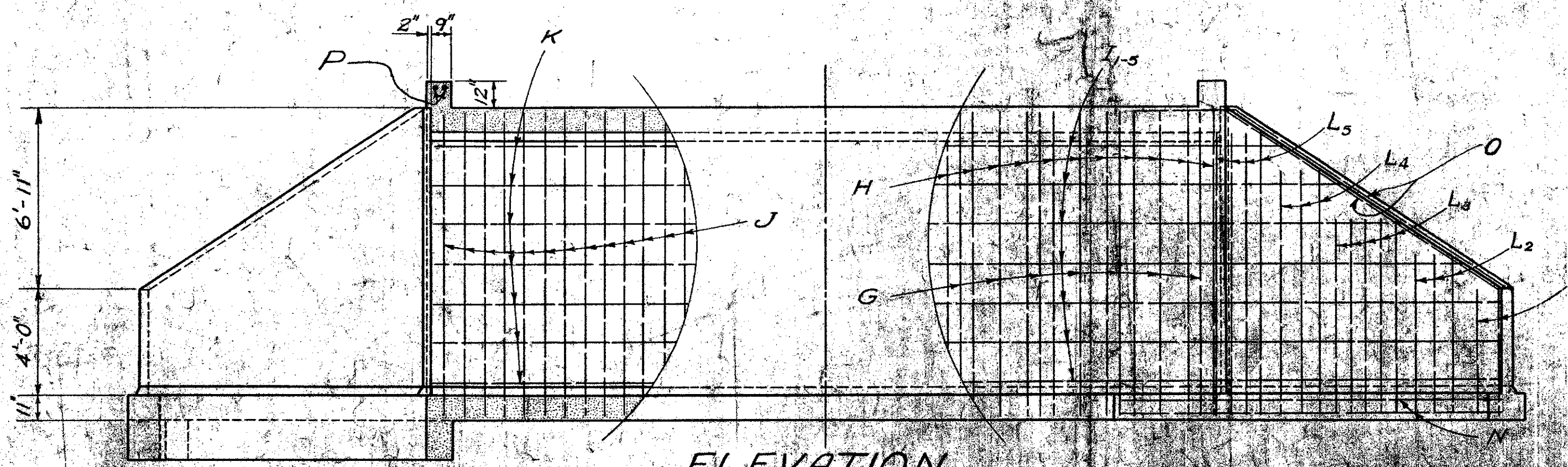
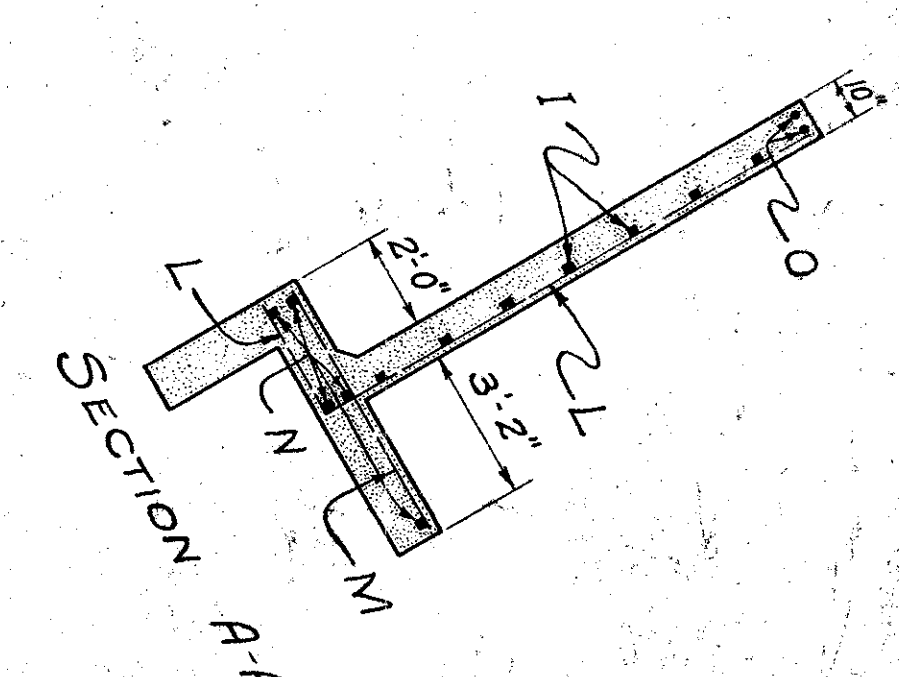
HALF CROSS SECTION



STEEL SCHEDULE									
MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	BENDING DETAILS			
A	90	3/8"	39'-10"	12" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
B	44	3/4"	34'-5"	12" c/c	Top slab	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
C	124	1/2"	23'-1"	As shown	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
D	180	3/4"	8'-4"	12" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
E	180	1/2"	9'-0"	12" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
F	44	3/8"	34'-5"	12" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
G	60	1/2"	11'-7"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
H	90	1/2"	11'-7"	12" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
I	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
J	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
K	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
L	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
M	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
N	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
O	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
P	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
Q	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
R	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
S	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
T	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
U	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
V	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
W	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
X	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
Y	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"
Z	4	1/2"	25'-8"	18" c/c	Slabs	1'-6"	1'-11 1/2"	6'-2 1/4"	1'-11 1/2"

SUMMARY QUANTITIES		
Concrete	190.36	Cu. Yds.
Steel	18049	Lbs.
Excavation (3')	305	Cu. Yds.
Piling - Unit Timber	660	Lin. Ft.
Concrete P.F.L.	3.7027	Cu. Yds.
Excav. P.F.L. - P.F.D.	1.3580	Cu. Yds.
Includes 3.22 Cu. Yds. in Pile Caps.		
CONC. P.F.D. Cutoff Wall	4.40	Cu. Yds. (Both Ends)
Excavation P.F.D.	76.0	"

NOTES:-
 Elevation of top of Bottom slab to be not less than 1'-0" below bed of stream at downstream end of Culvert.
 All exposed edges are to be chamfered 3/4" unless otherwise specified.
 Forms for all exposed surfaces to be of dressed lumber.
 Forms are to be removed when directed by the Engineer and all exposed surfaces brought to a smooth neat finish by rubbing with a carborundum brick. Top surfaces are to be tamped and trowelled so as to provide a smooth finish free from pits and porous places.
 All reinforcing steel is to be deformed bars, square twisted bars not considered deformed.
 Make all laps 40 Diameters of bar.
 All bends are to be made cold.
 All dimensions relating to steel are to centers of bars.
 Depth of cut-off wall to be determined by the Engineer from the character of the foundation, and quantities for same added to those shown on plans.
 Piles may be omitted where firm foundation is found in the opinion of the Engineer.
 Piles shall be driven to a minimum bearing of 15 tons per pile.



ELEVATION

Drawn by: J.C.A. 5/6/31
 Traced by: F.M. Joye
 Checked by: J.C.A. 5/5/31 & F.M. Joye
 Checked by: J.C.A. 5/5/31 & F.M. Joye
 Checked by: J.C.A. 5/5/31 & F.M. Joye

Section on Center Line showing steel in Mid-wall.
 Side Elevation showing steel in Side Wall and Wings.
 S.C. STATE HIGHWAY DEPARTMENT
 COLUMBIA, S.C.
CONCRETE CULVERT
 REINFORCED BOX TYPE
 TRIPLE 10'X10'X43'
 DOCK NO. 2215 - GEORGETOWN CO.
 45219 - WILLIAMSBURG CO.
 SCALE - 1/4" = 1 FT. - DATE - DEC. 1939
 CORRECTED BY: M. B. Bannell
 BRIDGE ENGINEER
 APPROVED BY: J. H. Bannell
 STATE HIGHWAY ENGINEER

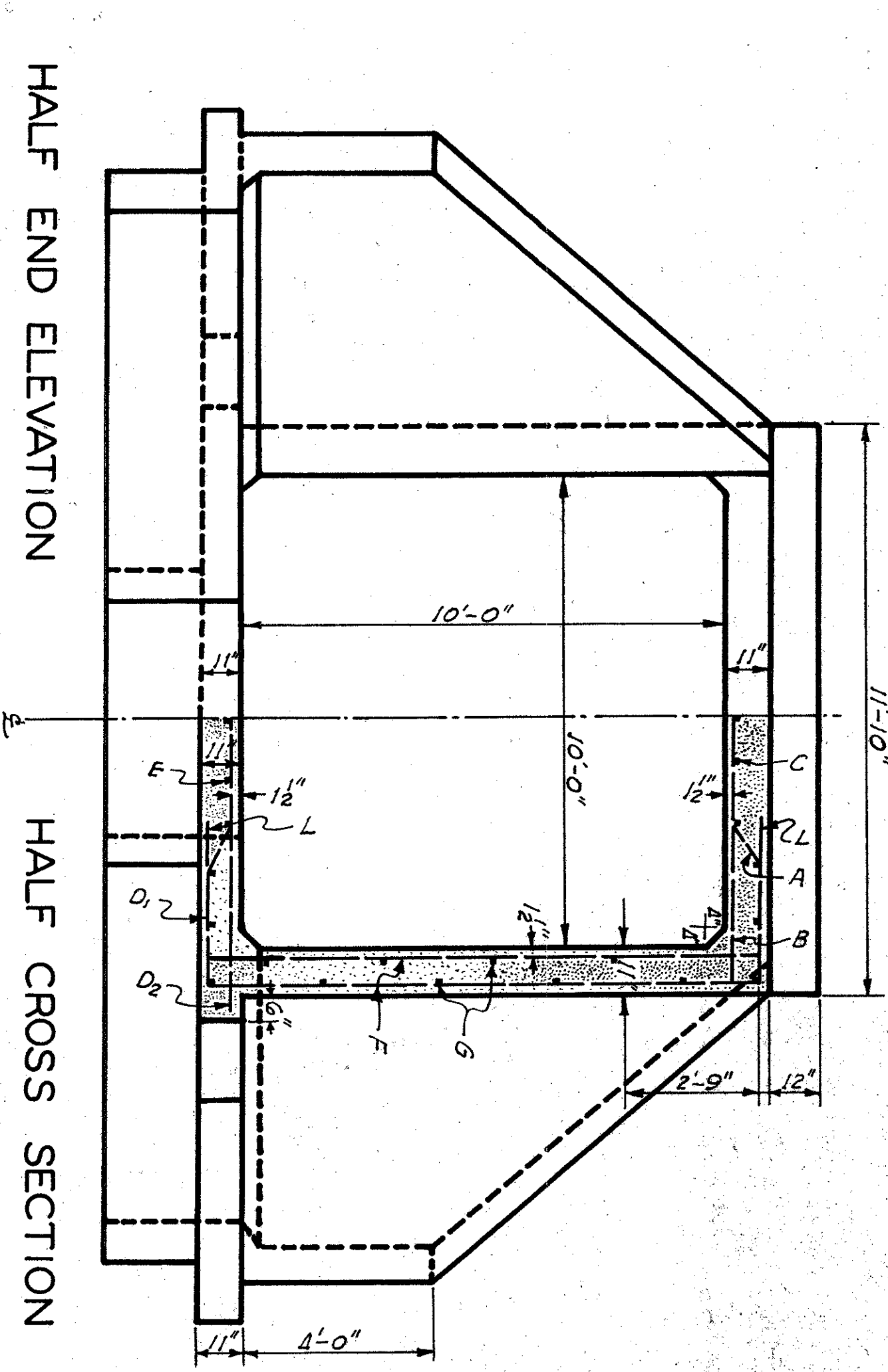
STEEL TABLE					
MARK	NO.	SIZE	LENGTH	SPACING	LOCATION
A	58	3/8"	17'-4"	8" c.to.c.	Top slab
B	57	3/8"	12'-6"	" "	" "
C	11	1/2"	38'-4"	12" "	" "
D	58	3/8"	17'-4"	8" "	Bot. "
D ₂	57	3/8"	12'-6"	" "	" "
E	11	1/2"	38'-4"	12" "	" "
F	116	1/2"	11'-5"	8" Stgd	Side walls
G	14	1/2"	31'-0"	15" "	" "
G ₂	2	1/2"	16'-6"	" "	" "
G ₃	2	1/2"	21'-0"	" "	" "
G ₄	2	1/2"	25'-0"	" "	" "
G ₅	2	1/2"	29'-6"	" "	" "
G ₆	6	1/2"	33'-0"	" "	" "
H	4	1/2"	14'-0"	6" c.to.c.	Wings
H ₂	4	1/2"	13'-8"	" "	" "
H ₃	4	1/2"	13'-3"	" "	" "
H ₄	4	1/2"	12'-11"	" "	" "
H ₅	4	1/2"	12'-7"	" "	" "
H ₆	4	1/2"	12'-3"	" "	" "
H ₇	4	1/2"	11'-11"	7" c.to.c.	" "
H ₈	4	1/2"	11'-6"	8" "	" "
H ₉	4	1/2"	11'-1"	" "	" "
H ₁₀	4	1/2"	10'-8"	" "	" "
H ₁₁	4	1/2"	10'-3"	" "	" "
H ₁₂	4	1/2"	9'-9"	10" "	" "
H ₁₃	4	1/2"	9'-2"	12" "	" "
H ₁₄	8	1/2"	7'-10"	" "	" "
H ₁₅	8	1/2"	6'-7"	18" c.to.c.	" "
I	4	1/2"	5'-9"	6" c.to.c.	" "
J	4	1/2"	5'-7"	" "	" "
J ₂	4	1/2"	5'-6"	" "	" "
J ₃	4	1/2"	5'-4"	" "	" "
J ₄	4	1/2"	5'-2"	" "	" "
J ₅	4	1/2"	5'-0"	" "	" "
J ₆	4	1/2"	4'-11"	" "	" "
J ₇	4	1/2"	4'-9"	" "	" "
J ₈	4	1/2"	4'-7"	8" c.to.c.	" "
J ₉	4	1/2"	4'-4"	" "	" "
J ₁₀	4	1/2"	4'-2"	" "	" "
J ₁₁	4	1/2"	4'-0"	" "	" "
J ₁₂	4	1/2"	3'-10"	" "	" "
J ₁₃	4	1/2"	3'-6"	12" "	" "
J ₁₄	4	1/2"	3'-2"	" "	" "
J ₁₅	4	1/2"	2'-11"	" "	" "
J ₁₆	4	1/2"	2'-11"	" "	" "
J ₁₇	8	1/2"	2'-4"	12" c.to.c.	" "
J ₁₈	12	1/2"	1'-9"	As Shown	" "
K	8	3/4"	18'-0"	" "	" "
L	232	1/2"	7'-0"	8" c.to.c.	Corners
J ₂	4	1/2"	17'-0"	As Shown	Wings

Class "A" concrete 79.32 Cu. yds.
Reinforcing steel 8805 lbs.
Excavation 5' depth 230 Cu. yds.

Concrete per foot length of barrel = 1.5247 C.Y.
Excavation P.F.D. and P.F.D. " = 5494 C.Y.
Excavation P.F.D. of culvert = 34.7 Cu. yds.
Conc. P.F.D. Cutoff Wall = 2.5 C.Y. (Both Ends)

HALF END ELEVATION

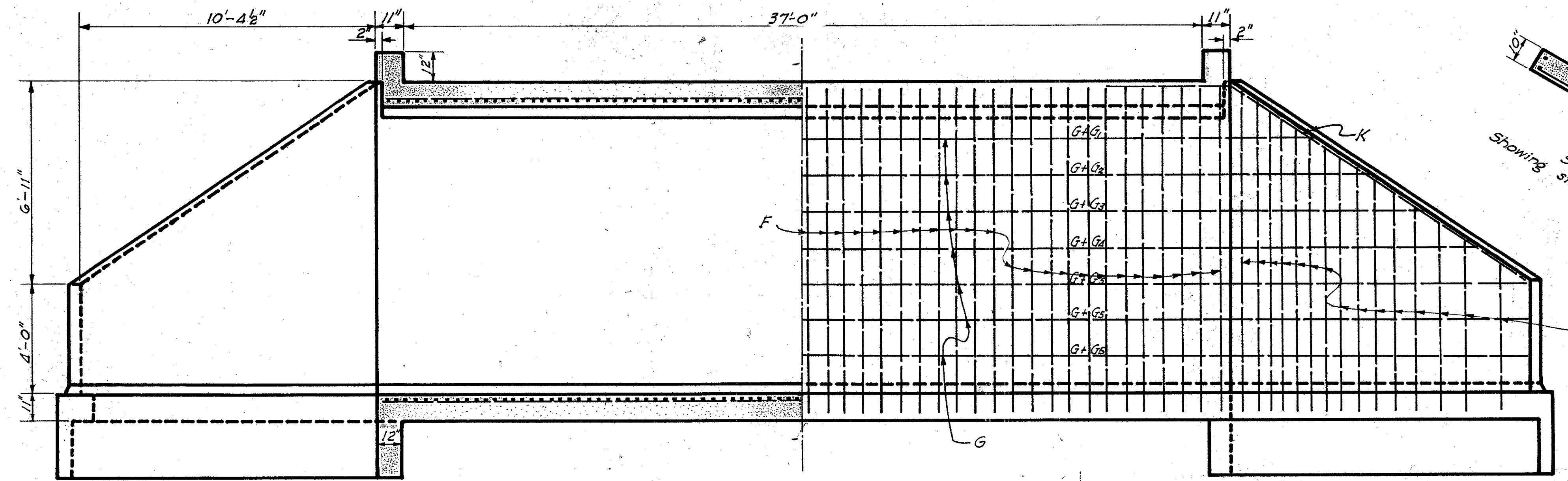
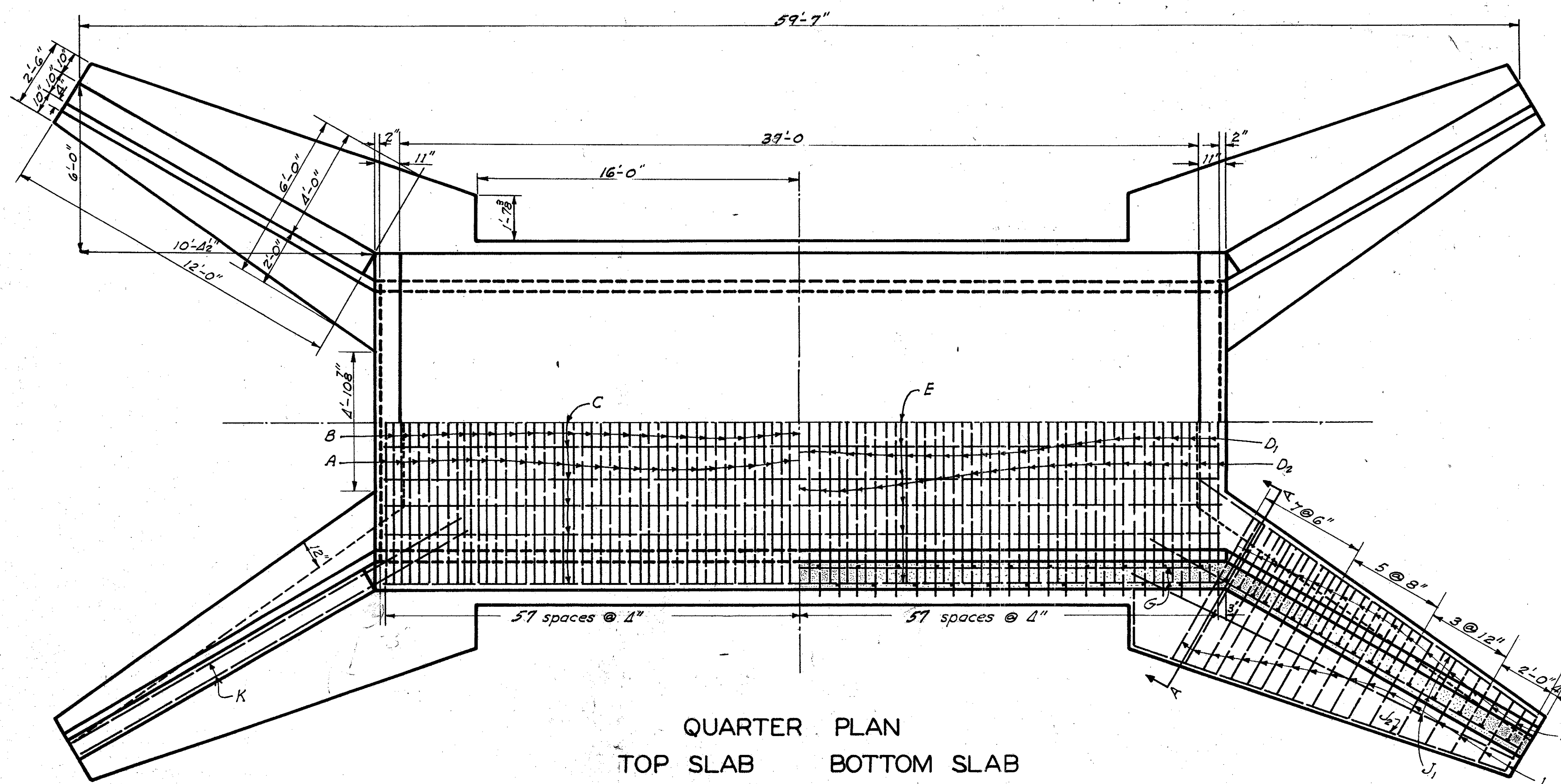
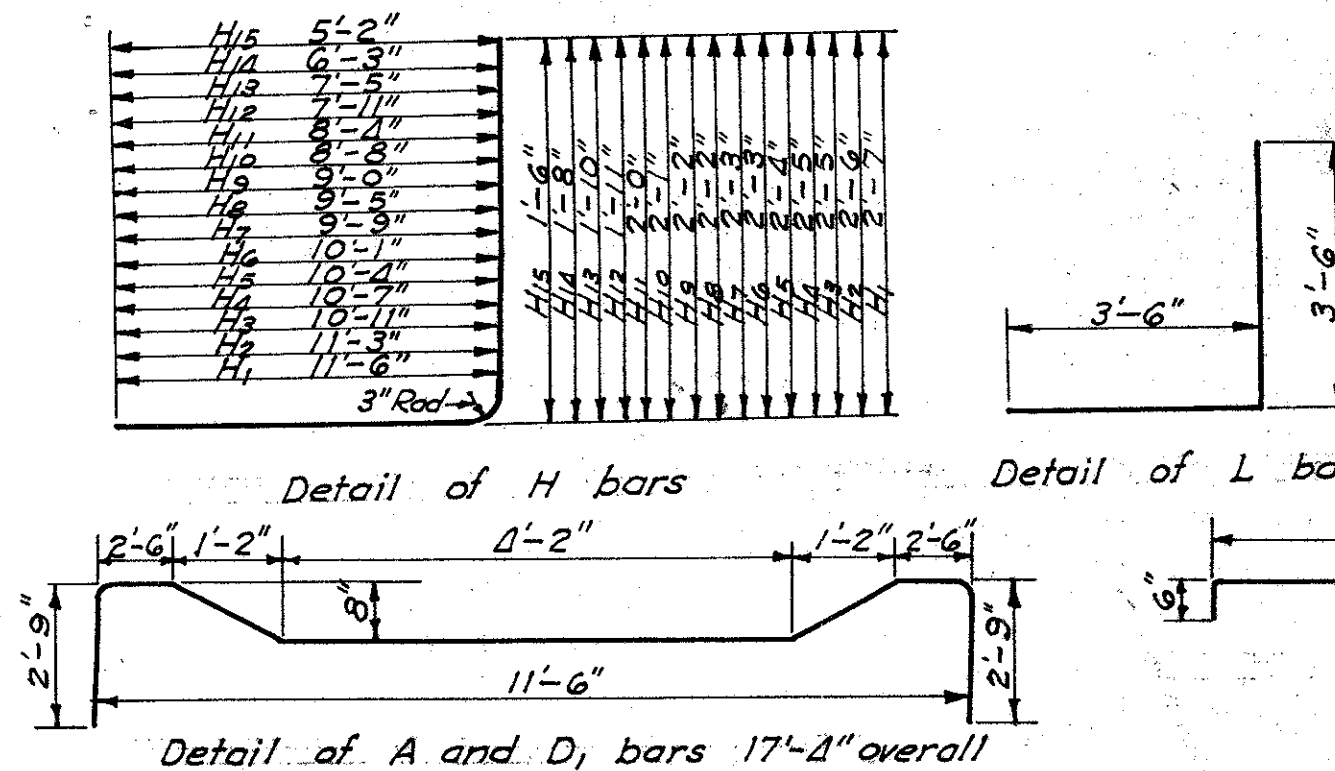
HALF CROSS SECTION



NOTES:

All exposed edges shall be chamfered 3/4".
Elevation of top of bottom slab shall be at least one foot below elevation of stream bed at down-stream end of culvert.
All dimensions relating to reinforcing steel are to centers of bars.
Depth of cut-off wall shall be determined by the Engineer.
Quantity for cut-off wall shall be added to "quantities" shown.
If earth fill on culvert is greater than 12' the design must be revised.

DETAIL OF REINF. BARS



HALF SECTION

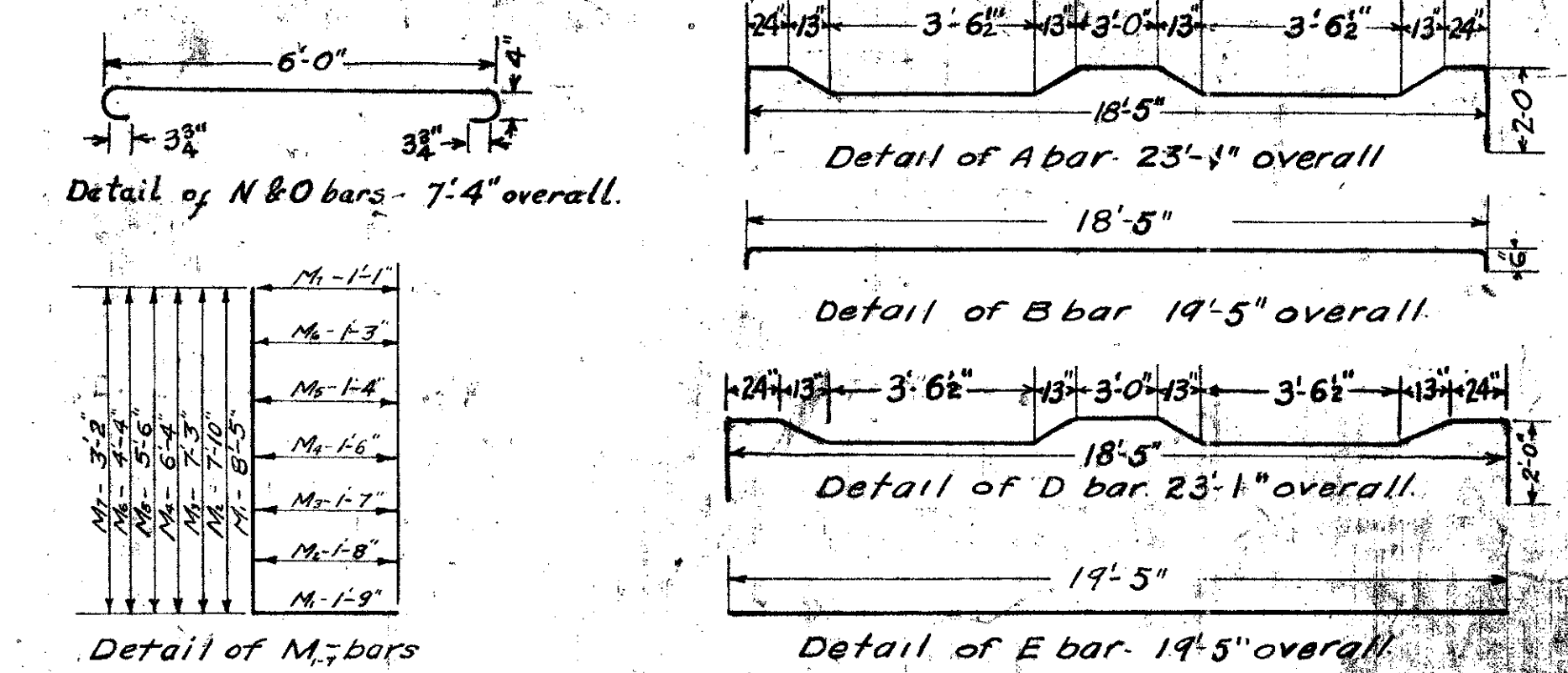
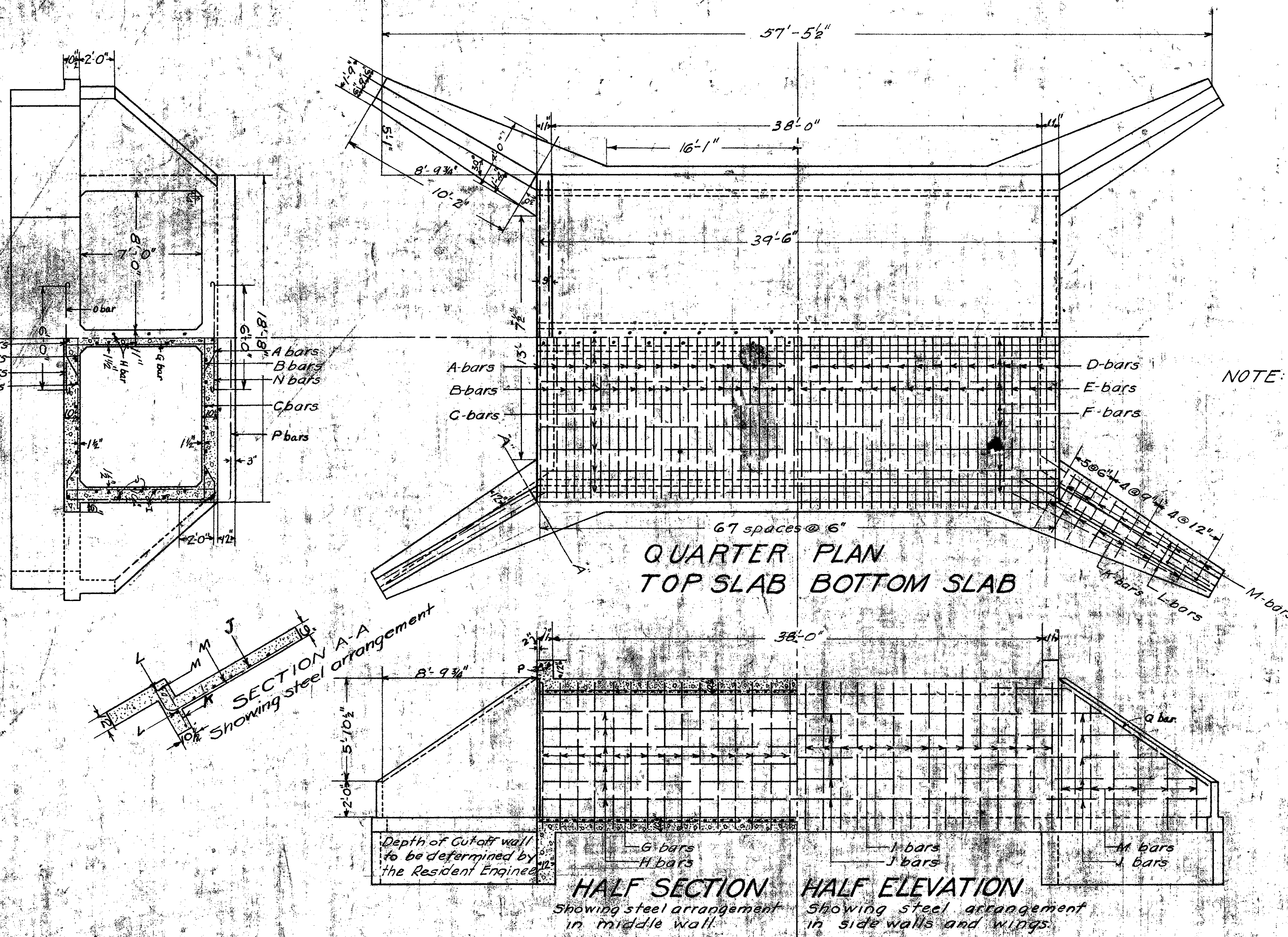
HALF ELEVATION

COLUMBIA S.C.
SC STATE HIGHWAY DEPARTMENT
CONCRETE CULVERT
REINFORCED BOX TYPE
SIZE 10'X10'X37'

DOCK NO. 22-215
43-219
GEORGETOWN
WILLIAMSBURG COUNTY
STA. 207+97.6
DATE: DEC. 1939

SCALE: 3/8" = 1'-0"
B 129

HALF END ELEVATION
HALF CROSS SECTION



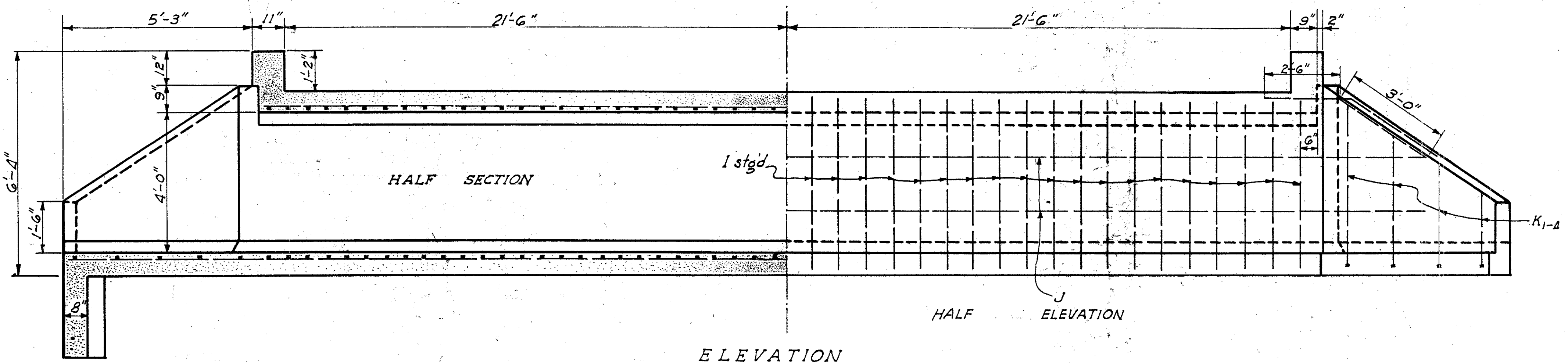
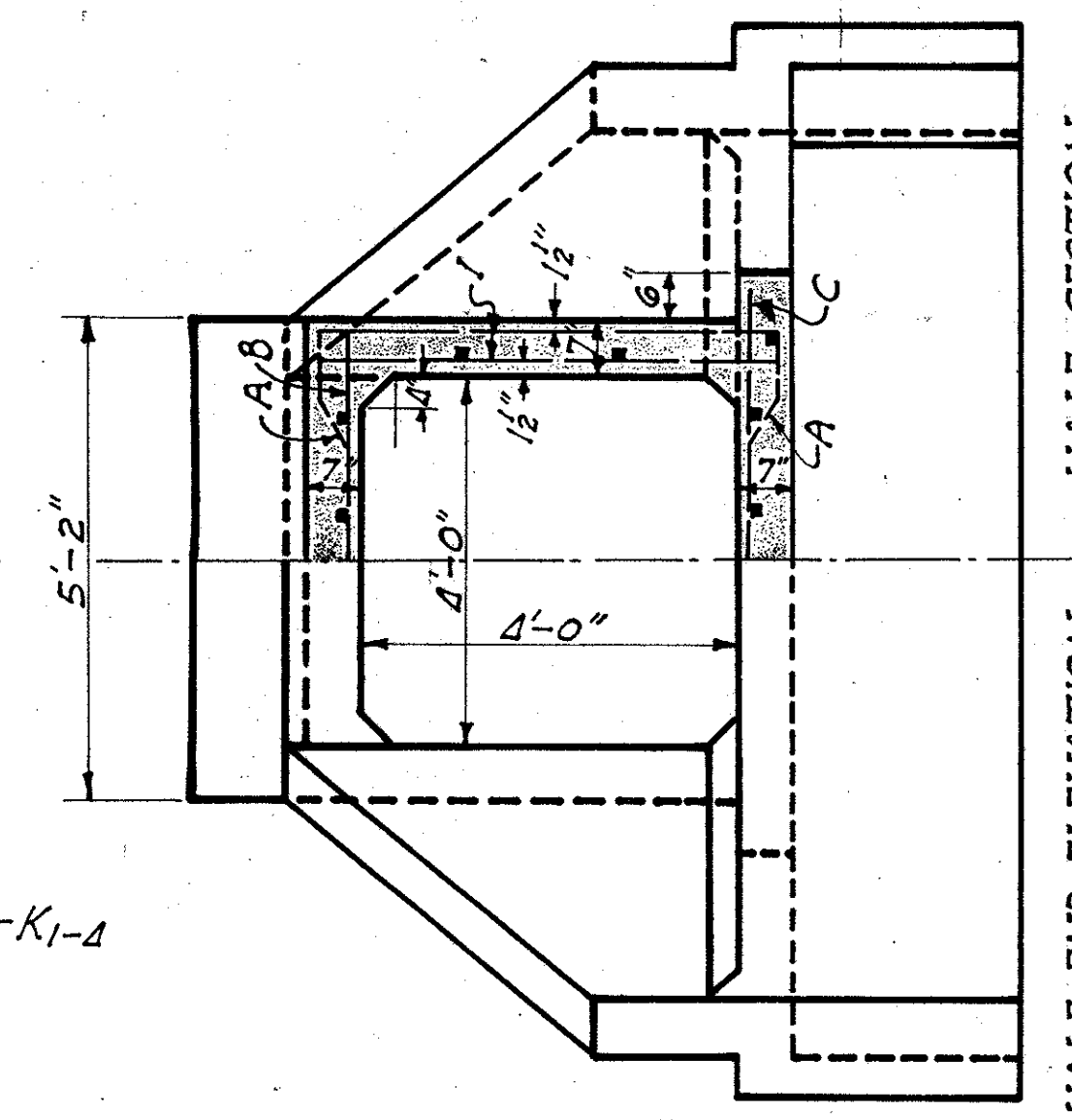
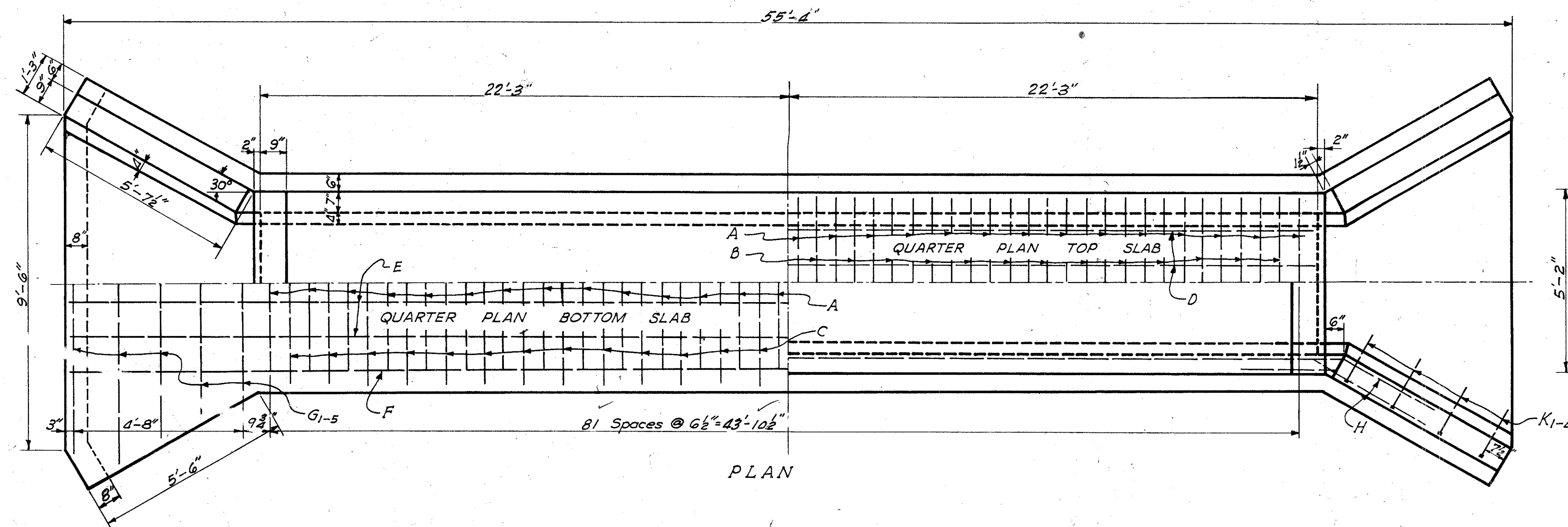
STEEL TABLE									
Mark	No	Size	Length	Spacing	Location	Mark	No	Size	Length
A	34	3/4"	23'-1"	14" cloc	Top Slab	Ks	4	1/2"	2'-9"
B	34	3/4"	19'-5"	" "	"	Kt	4	1/2"	2'-4"
C	15	1/2"	39'-4"	15" cloc	"	L	12	1/2"	12'-6"
D	34	3/4"	23'-1"	14" cloc	Bottom Slab	M1	4	1/2"	10'-2"
E	34	3/4"	19'-5"	" "	"	M2	4	1/2"	9'-6"
F	15	1/2"	39'-4"	15" cloc	"	M3	4	1/2"	8'-10"
G	38	1/2"	8'-4"	12" stgd	Mid Wall	M4	4	1/2"	7'-10"
H	6	1/2"	39'-0"	" "	"	M5	4	1/2"	6'-10"
I	160	1/2"	8'-4"	6" stgd	Side Wall	M6	4	1/2"	5'-7"
J	10	1/2"	32'-0"	15" stgd	"	M7	4	1/2"	4'-3"
J1	2	1/2"	13'-0"	" "	"	N	38	3/4"	7'-4"
J2	2	1/2"	18'-4"	" "	"	O	38	1/2"	7'-4"
J3	2	1/2"	23'-4"	" "	"	P	4	3/4"	18'-5"
J4	2	1/2"	27'-10"	" "	"	Q	8	3/4"	13'-0"
J5	2	1/2"	29'-10"	" "	"				
K1	4	1/2"	3'-10"	12" cloc	Wings				
K2	4	1/2"	3'-7"	" "	"				
K3	4	1/2"	3'-4"	" "	"				
K4	4	1/2"	3'-1"	18" cloc	"				
						Excavation total = 225.0 cu yd			
						Total Steel 8581 lbs			
						Concrete 87.00 C.V.			

CONCRETE PER FOOT LENGTH BARREL = 1.9501 C.V.
 EXCAVATION " " " " = 0.8025 "
 CUT OFF WALLS PER FOOT DEPTH = 2.80 " (2 Ends)
 Excavation per foot depth of culvert = 42.08 "

NOTES:
 All exposed edges to be chamfered 3/4".
 All reinforcing steel to be deformed bars square twisted bars not considered deformed.
 Forms for all exposed surfaces to be of dressed lumber.
 Foundation to be modified and Cut-off wall to be constructed if deemed necessary by the Engineer and quantities adjusted accordingly.
 Forms to be removed when directed by the Engineer and all exposed surfaces to be brought to a smooth neat finish by rubbing with a carborundum brick.
 Top surface to be tamped and troweled so as to provide a smooth finish free from pits and porous places.
 Main reinforcing steel to be placed 1 1/4" clear from surface.
 Make all laps 40 diameters of bar.

Design checked for 40 fill and 15 live load
 n=10 F=300 F=16000

SC STATE HIGHWAY DEPARTMENT
 COLUMBIA, SC
CONCRETE CULVERT
 REINFORCED BOX TYPE
 SIZE DOUBLE 8' X 11' X 38'
 DOCK NO. 22-215
 DATE 12-21-39
 SCALE 1/4" = 1' FOOT
 CORRECT: [Signature]
 APPROVED: [Signature]
 STATE HIGHWAY ENGINEER



NOTES:

Chamfer all exposed edges $\frac{3}{4}$ "
 All dimensions relating to reinforcing steel are to centers of bars.
 Cut-off walls shall be placed at both ends of culvert and depth of cut-off wall shall be determined by the Resident Engineer and quantities added to those shown.
 Elevation of top of bottom slab at downstream end of culvert shall be at least one foot below elevation of stream bed.
 Main reinforcing steel shall be placed $\frac{1}{2}$ " from surface.

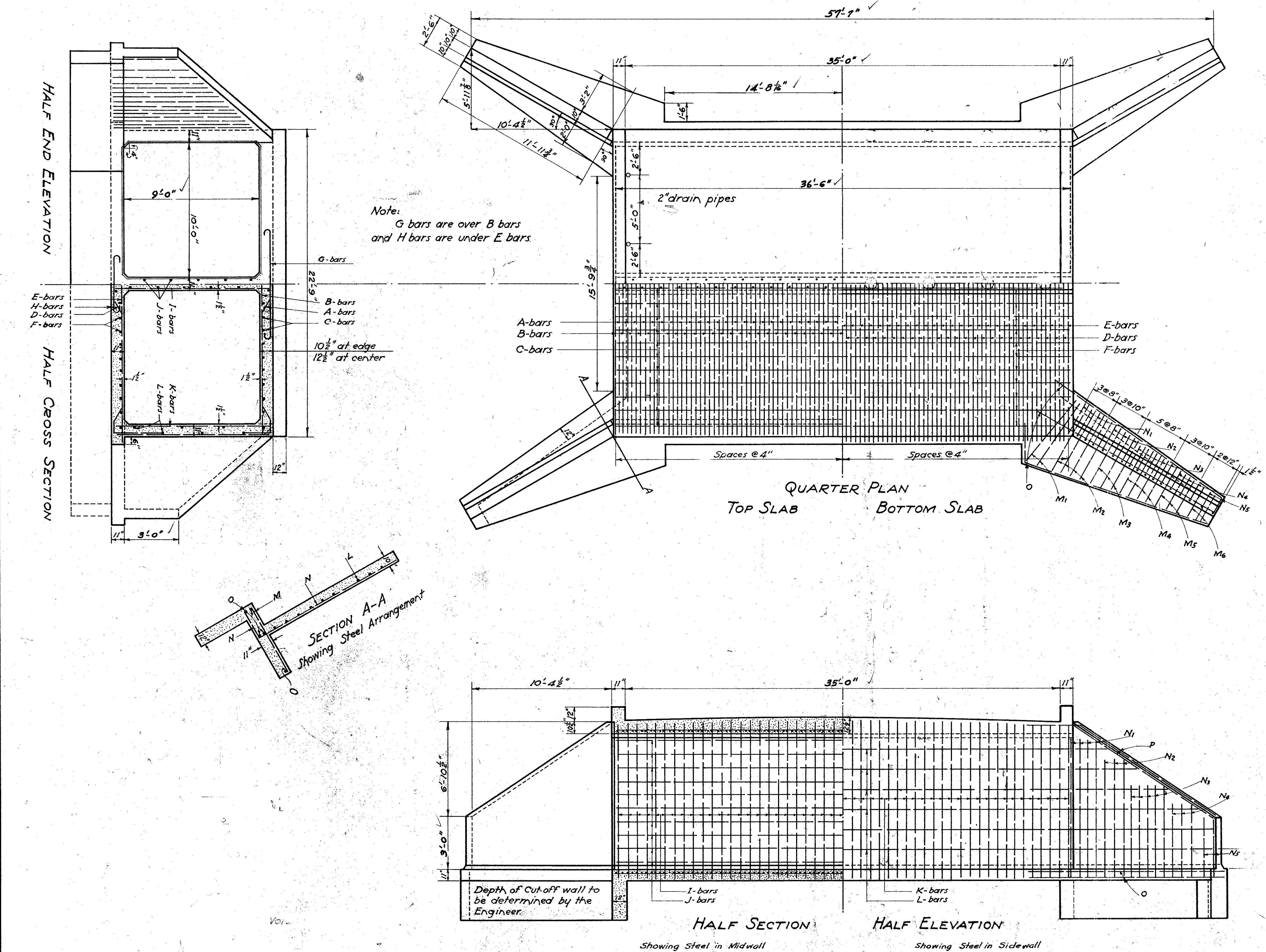
TOTAL QUANTITIES

Class "A" concrete	23.69 Cu. yds.
Reinforcing steel 12-2250	Lbs.
Excavation 3' depth	75 Cu. yds.

Concrete per foot length of barrel = .4258 Cu. yds.
 Excavation per foot length, per foot depth of barrel = .3024 Cu. yd.
 Excavation per foot depth = 18.8 Cu. yds.
 Conc. P.F.D. of Cutoff Wall = 0.58 Cu. yds. (Both Ends)

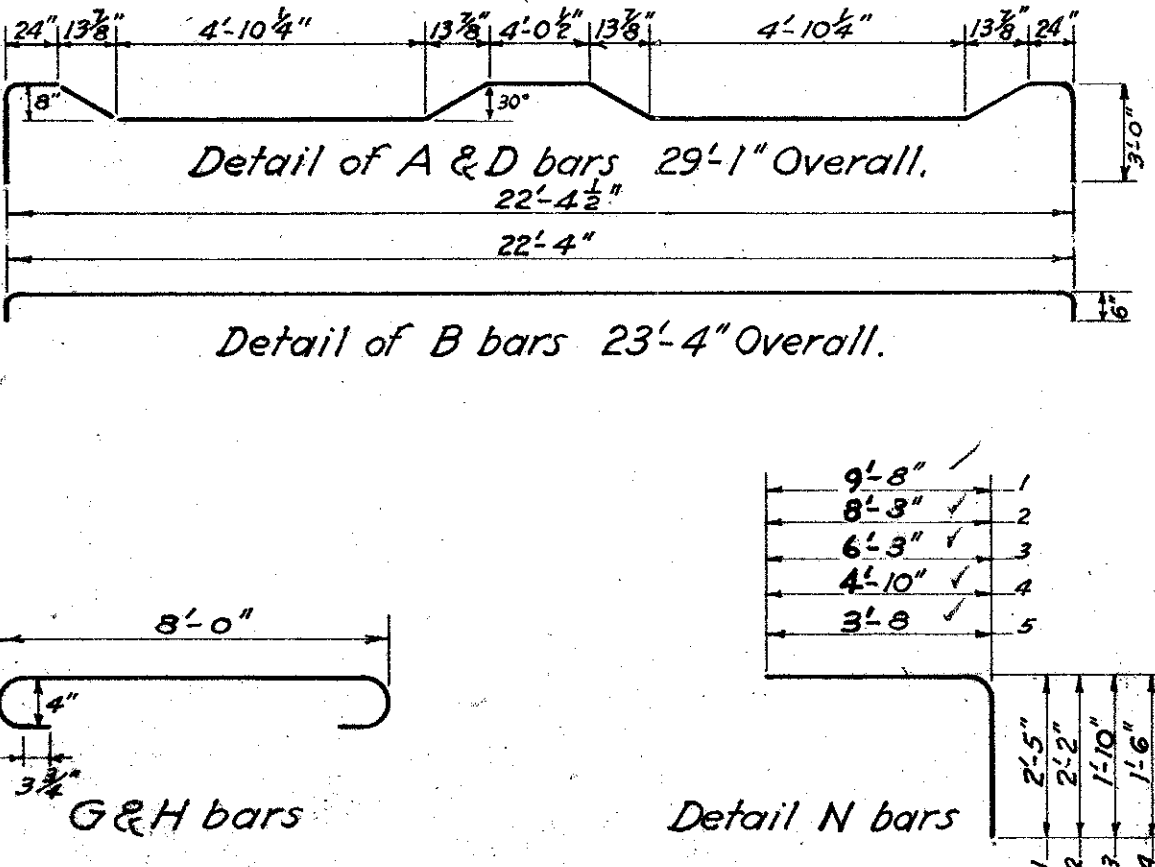
SCHEDULE OF REINFORCING STEEL

MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	DETAIL
A	82	12" a	8'-1"	13" c. to c.	Top and Bot. Sl.	Symm. about
B	41	12" a	4'-11"	"	Top slab	
C	41	12" a	5'-11"	"	Bot. "	
D	8	12" a	28'-1"	As shown	Top "	
E	8	12" a	28'-6"	"	Bot. "	
F	4	12" a	28'-6"	"	" of Bot. slab	
G ₁	2	12" a	6'-4"	14" c. to c.	Apron	
G ₂	2	12" a	7'-8"	"	"	
G ₃	2	12" a	9'-0"	"	Apron	
G ₄	2	12" a	10'-4"	"	"	
G ₅	2	12" a	9'-8"	"	"	
H	8	5/8" o	5'-6"	As shown	Wings & Walls	
J	118	12" a	4'-11"	9" Stgd.	Walls	
K ₁	8	12" a	26'-10"	18" c. to c.	Wings & Walls	
K ₂	4	12" a	3'-8"	"	Apron	
K ₃	4	12" a	4'-6"	"	Wings & Apron	
K ₄	4	12" a	5'-4"	"	"	
K ₅	4	12" a	6'-3"	"	"	



Mark	No.	Size	Length	Spacing	Location	Mark	No.	Size	Length	Spacing	Location
A	55	3/8"	29'-4"	8" c/c	Top Slab	N1	16	3/4"	12'-0"	As Shown	Wings
B	54	3/8"	23'-4"	8" c/c	Top Slab	N2	12	3/4"	10'-4"	As Shown	Wings
C	22	1/2"	36'-4"	12" c/c	Top Slab	N3	20	1/2"	8'-0"	As Shown	Wings
D	55	3/8"	29'-4"	8" c/c	Bot. Slab	N4	12	1/2"	6'-3"	As Shown	Wings
E	55	3/8"	23'-4"	8" c/c	Bot. Slab	N5	8	1/2"	5'-0"	As Shown	Wings
F	22	1/2"	36'-4"	12" c/c	Bot. Slab	N6	20	1/2"	16'-0"	As Shown	Wings
G	54	3/4"	9'-4"	8" c/c	Top Slab	P	8	3/4"	18'-0"	As Shown	Wings
H	55	3/4"	9'-4"	8" c/c	Bot. Slab						
I	55	1/2"	10'-5"	8" Stgd.	Mid. Wall						
J	10	1/2"	36'-0"	12" Stgd.	Mid. Wall						
K	148	1/2"	10'-5"	6" Stgd.	Side Wall						
L	12	1/2"	25'-0"	18" Stgd.	Side Wall						
L1	2	1/2"	19'-4"	18" Stgd.	Side Wall						
L2	2	1/2"	26'-4"	18" Stgd.	Side Wall						
L3	2	1/2"	29'-10"	18" Stgd.	Side Wall						
L4	2	1/2"	34'-4"	18" Stgd.	Side Wall						
L5	4	1/2"	36'-6"	18" Stgd.	Side Wall						
M1	8	3/4"	6'-0"	As Shown	Wings	Conc. per Foot Length of Barrel = 2.5469 C.Y.					
M2	16	3/4"	5'-2"	As Shown	Wings	Excav. " " " " " " = 9537 C.Y.					
M3	12	3/4"	4'-6"	As Shown	Wings	Total Excav. " " " " " " = 200. C.Y.					
M4	16	1/2"	3'-8"	As Shown	Wings	Excav. per Foot of Depth = 49.4 C.Y.					
M5	12	1/2"	3'-0"	As Shown	Wings	Total Concrete "A" = 113.01 C.Y.					
M6	8	1/2"	2'-5"	As Shown	Wings	Total Steel = 13,116 Lbs.					

Conc. P.F.D. Cutoff Wall (Both Ends) = 3.3 Cu. Yds.



Notes:
All exposed edges to be chamfered 3/4".
All reinforcing steel to be deformed bars, square twisted bars not considered deformed.
Forms for all exposed places to be of dressed lumber.
Foundation to be modified and Cut-off Wall to be constructed if deemed necessary by the Engineer and quantities to be adjusted accordingly.
Forms to be removed when directed by the Engineer and all exposed surfaces to be brought to a smooth neat finish by rubbing with a carborundum brick or a block of wood and sand while concrete is green.
Top surfaces to be tamped and trowelled so as to provide a smooth finish, free from pits and porous places.
Main reinforcing steel to be placed 1 1/2" clear from surface.
Make all laps 40 diameters of bar.
Elevation of top of bottom slab to be not less than one foot below bed of stream at downstream end of Culvert.

S. C. STATE HIGHWAY DEPARTMENT
COLUMBIA, S. C.

CONCRETE CULVERT
REINFORCED BOX TYPE
DOUBLE 10'X 9'X 35'

DOCKET 22-215 45-219	GEORGETOWN WILLIAMSBURG	COUNTY	Sta. 482+61.3
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SCALE: 1/4" = 1 FT. DECEMBER 1939.

Drawn by: H. J. B. 6-20-21
Traced by: H. J. B. 6-21-21
Checked by: T. R. M. 6-30-21
Retraced by: A. H. F. 9-24-38
Tr. ckd. by: D. F. D. 1-18-39

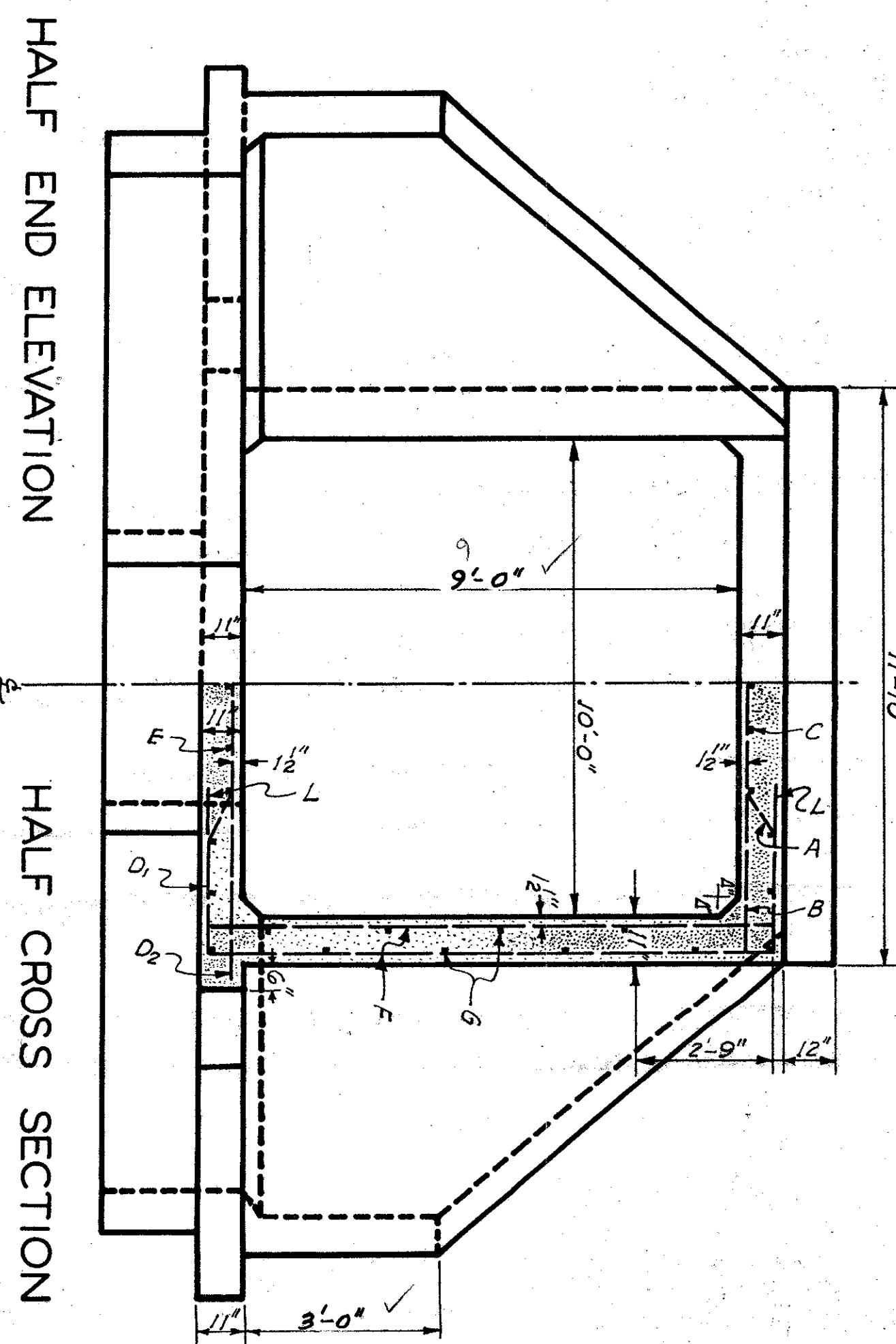
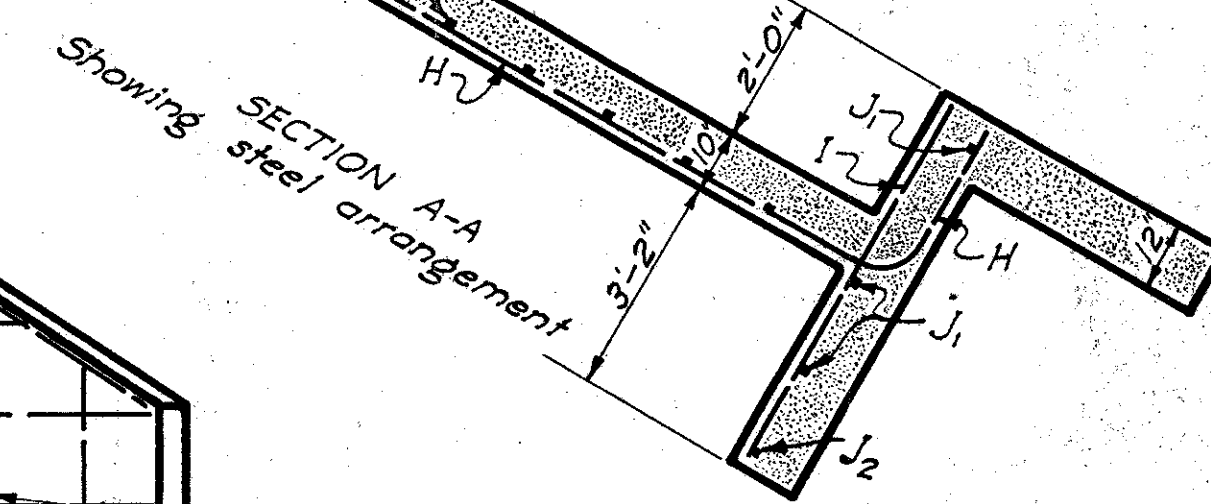
WORKED UP BY: PEELE 12/28/39
CHECKED BY: HARRIS 1-11-40

Date of last revision 2-14-36

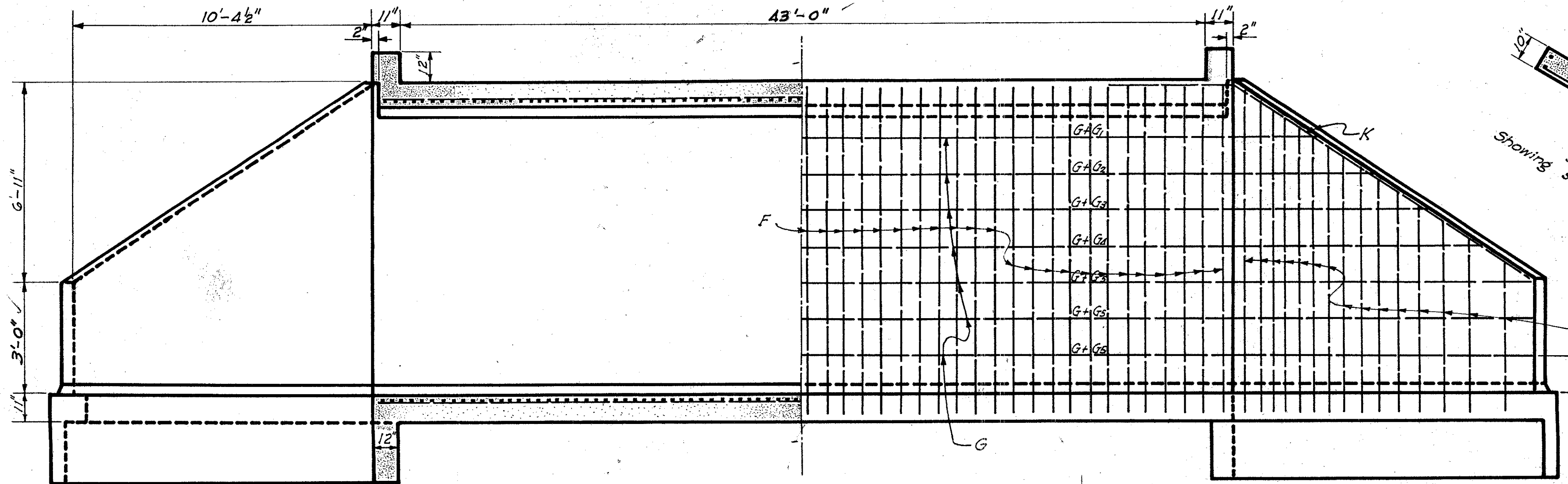
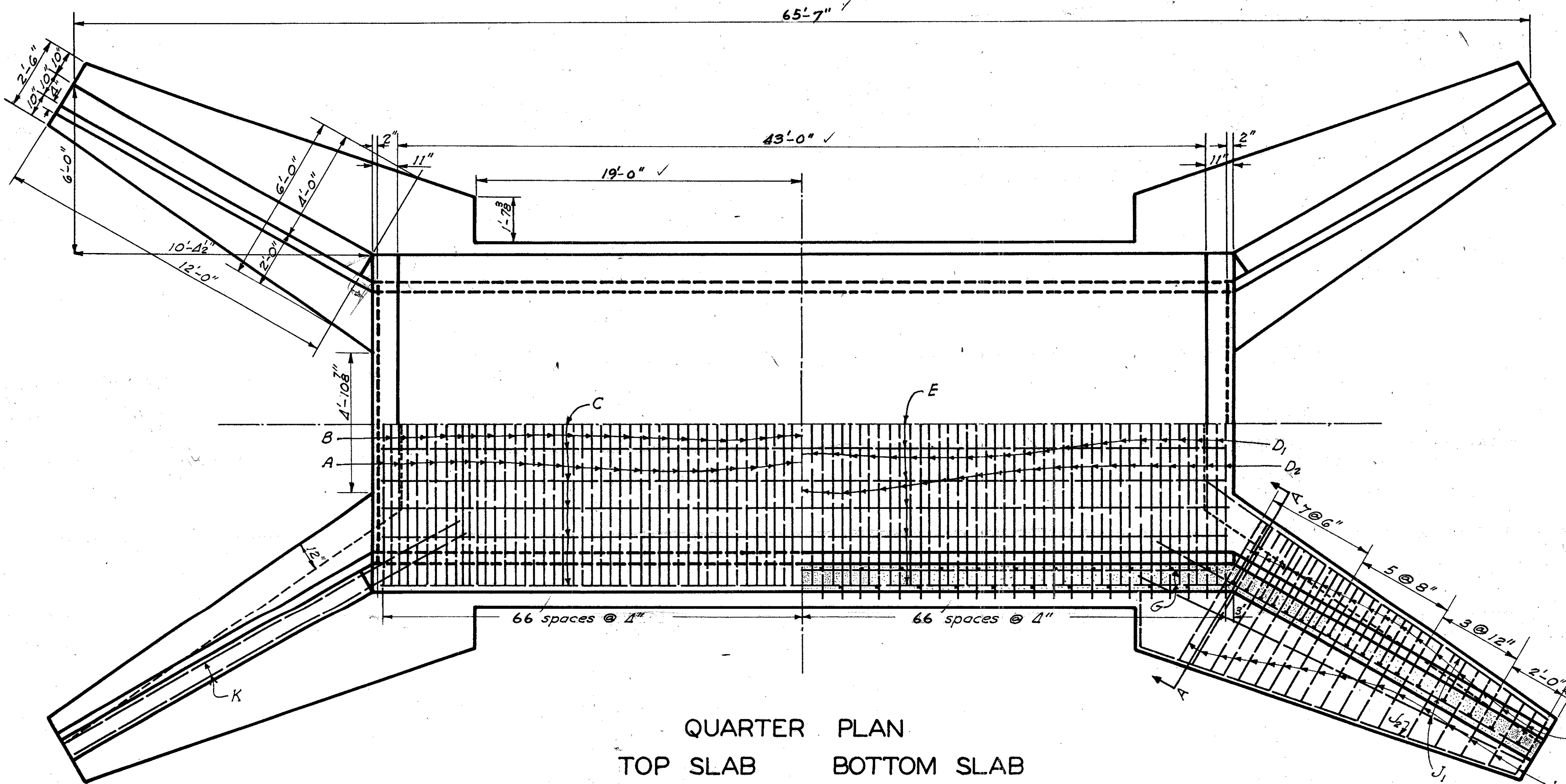
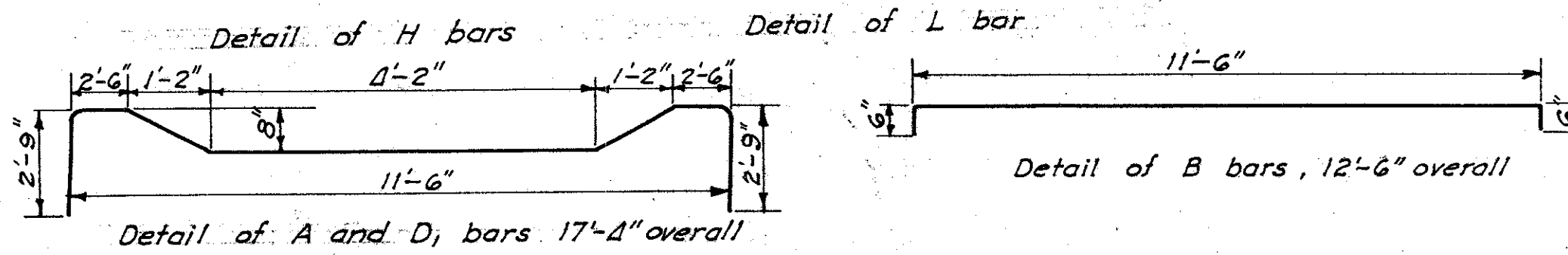
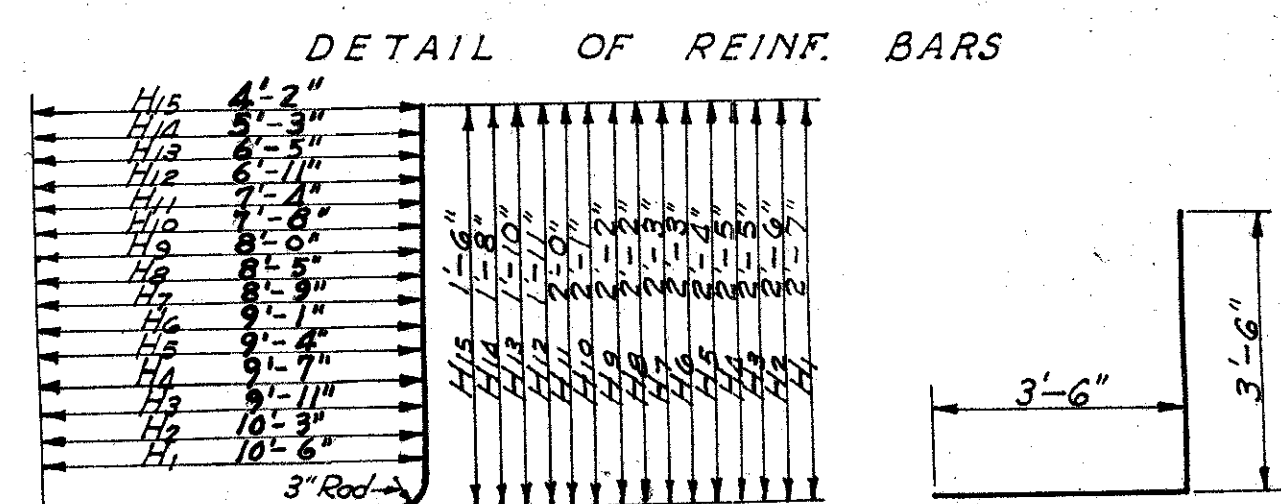
STEEL TABLE					
MARK	NO.	SIZE	LENGTH	SPACING	LOCATION
A	67	58'0"	17'-4"	8" c.to.c.	Top slab
B	66	58'0"	12'-6"	"	"
C	22	12'0"	23'-2"	12" "	"
D ₁	67	58'0"	17'-4"	8" "	Bot. "
D ₂	66	58'0"	12'-6"	"	"
E	22	12'0"	23'-2"	12" "	"
F	194	12'0"	10'-5"	8" Stgd	Side walls
G	14	12'0"	37'-0"	15" "	"
G ₁	2	12'0"	16'-6"	"	"
G ₂	2	12'0"	21'-0"	"	"
G ₃	2	12'0"	25'-0"	"	"
G ₄	2	12'0"	29'-6"	"	"
G ₅	6	12'0"	33'-0"	"	"
H ₁	4	12'0"	13'-0"	6" c.to.c.	Wings
H ₂	4	12'0"	12'-8"	"	"
H ₃	4	12'0"	12'-3"	"	"
H ₄	4	12'0"	11'-11"	"	"
H ₅	4	12'0"	11'-7"	"	"
H ₆	4	12'0"	11'-3"	"	"
H ₇	4	12'0"	10'-11"	7" c.to.c.	"
H ₈	4	12'0"	10'-6"	8" "	"
H ₉	4	12'0"	10'-1"	"	"
H ₁₀	4	12'0"	9'-8"	"	"
H ₁₁	4	12'0"	9'-3"	"	"
H ₁₂	4	12'0"	8'-9"	10" "	"
H ₁₃	4	12'0"	8'-2"	12" "	"
H ₁₄	8	12'0"	6'-10"	"	"
H ₁₅	8	12'0"	5'-7"	18" c.to.c.	"
I	4	12'0"	5'-9"	6" c.to.c.	"
I ₁	4	12'0"	5'-7"	"	"
I ₂	4	12'0"	5'-6"	"	"
I ₃	4	12'0"	5'-4"	"	"
I ₄	4	12'0"	5'-2"	"	"
I ₅	4	12'0"	5'-2"	"	"
I ₆	4	12'0"	5'-0"	"	"
I ₇	4	12'0"	4'-11"	"	"
I ₈	4	12'0"	4'-9"	"	"
I ₉	4	12'0"	4'-7"	8" c.to.c.	"
I ₁₀	4	12'0"	4'-4"	"	"
I ₁₁	4	12'0"	4'-2"	"	"
I ₁₂	4	12'0"	4'-0"	"	"
I ₁₃	4	12'0"	3'-10"	"	"
I ₁₄	4	12'0"	3'-6"	12" "	"
I ₁₅	4	12'0"	3'-2"	"	"
I ₁₆	4	12'0"	2'-11"	"	"
I ₁₇	8	12'0"	2'-4"	12" c.to.c.	"
J ₁	12	12'0"	14'-9"	As Shown	"
J ₂	8	34'0"	18'-0"	"	"
K	264	12'0"	7'-0"	8" c.to.c.	Corners
L	4	12'0"	17'-0"	As Shown	Wings

Class "A" concrete 83.92 Cu. yds.
 Reinforcing steel 9780 lbs.
 Excavation 3' depth 150. Cu. yds.

Concrete per foot length of barrel = 1.4568 C.Y.
 Excavation P.F.L. and P.F.D. " " = 5.494 C.Y.
 Excavation P.F.D. of culvert = 38.0 Cu. yds.
 Conc. P.F.D. Cutoff Wall (Both Ends) = 2.5 Cu. Yds.



NOTES:
 All exposed edges shall be chamfered 3/4".
 Elevation of top of bottom slab shall be at least one foot below elevation of stream bed at downstream end of culvert.
 All dimensions relating to reinforcing steel are to centers of bars.
 Depth of cut-off wall shall be determined by the Engineer.
 Quantity for cut-off wall shall be added to "quantities" shown.
 If earth fill on culvert is greater than 12' the design must be revised.



COLUMBIA S.C.
 SC STATE HIGHWAY DEPARTMENT
 CONCRETE CULVERT
 REINFORCED BOX TYPE
 SIZE 10' X 9' X 43'

DOCK NO'S 22.215 45.219
 STA. 496+258
 GEORGETOWN WILLIAMSBURG COUNTYS.
 DATE: DEC. 1939.

SCALE: 3/8" = 1'-0" B129