FED. ROAD DIST. NO.	STATE	COUNTIES	State PROJ. No.	ROUTE No.	SHEET No.	TOTAL SHEETS
14	S. C.	Georgetown Williamsburg	413-B Parts 1-2-3	S11	1	62

INDEX OF SHEETS

SHEET No. 1 TITLE PAGE
" " 2 TYPICAL CROSS SECTIONS OF IMPROVEMENT
" " 3 ENDWALLS FOR PIPE CULVERTS
" " 4 SUPERELEVATION STANDARD
" " 5-19 PLAN AND PROFILE STA. 186+33.0 TO STA. 633+00.0
" " 20 DOUBLE 8'x6'x32' R.C. BOX CULVERT STA. 260+91.
" " 21 TRIPLE 10'x9'x32' R.C. BOX CULVERT STA. 609+25
" " 22 6'x6'x32' R.C. BOX CULVERT STA. 631+36.
" " 23-62 CROSS-SECTIONS STA. 186+33.0 TO STA. 633+00.0

STATE OF SOUTH CAROLINA

STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED STATE HIGHWAY

STATE PROJECT

NO. 413-B PARTS 1-2-3

RT. NO. S11 41 & 41 BS

GEORGETOWN-WILLIAMSBURG COS.

FROM ANDREWS TOWARD JAMESTOWN

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

SUMMARY OF ESTIMATED QUANTITIES

88.98 8249 85

STATION	SHEET NO.	ITEM	CONCRETE (CU. YD'S.) CLASS "A"	CONCRETE (CU. YD'S.) CLASS "B"	REINFORCING STEEL (LBS.)	EXCAVATION (CU. YD'S.) STRUCTURES	EXCAVATION (CU. YD'S.) WET	EXCAVATION (CU. YD'S.) DRY	PILES (LINEAR FEET) INCISED	PILES (LINEAR FEET) UNTREATED	RIP RAP	
	3	ENDWALLS FOR PIPE CULVERTS		3.10								
260+91	7-20	DOUBLE 8'x6'x32' R.C. BOX CULVERT	73.80		6788	72				480		
		TOTALS 413-B-PART 1	73.80	3.10	6788	72				480		
	3	ENDWALLS FOR PIPE CULVERTS		3.02								
609+25	19-21	TRIPLE 10'x9'x32' R.C. BOX CULVERT	143.34		13562	90				600		
631+36	19-22	6'x6'x32' R.C. BOX CULVERT	37.50		2983	48						
		TOTALS 413-B-PART 2	180.84	3.02	16545	138				600		
	3	ENDWALLS FOR PIPE CULVERTS		0.54								
		TOTALS 413-B-PART 3		0.54								

TOTAL PIPE FOR CULVERTS

DIAM.	PART 1	PART 2	PART 3	REINF. CONCRETE LINEAR FEET
15"	84	84		" "
18"	363	156		" "
24"	12	42	42	" "
36"	72			" "

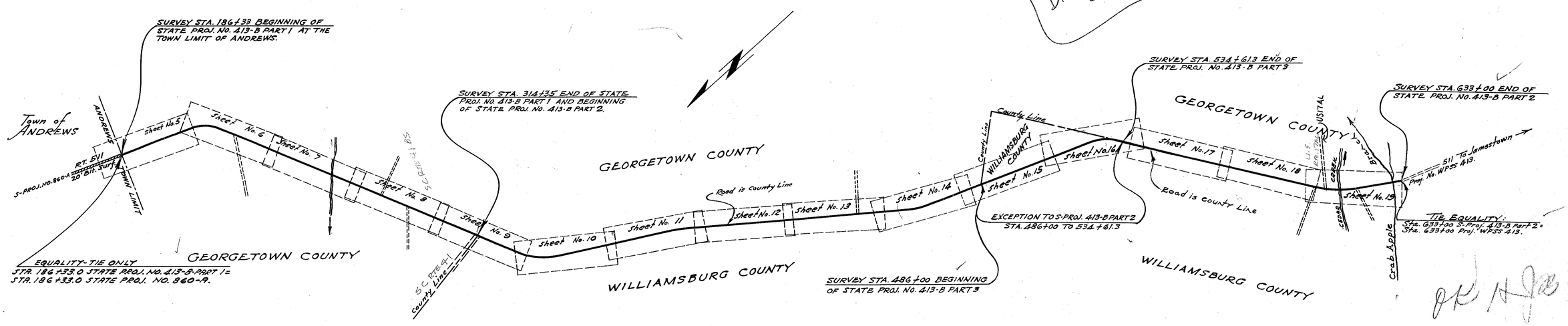
TOTAL FOR RELAID PIPE CULVERTS

DIAM.	PART 1	PART 2	PART 3	LINEAR FEET
15"				" "
18"	64	28		" "
24"			6	" "
30"				" "
36"				" "

TOTALS		PART 1	PART 2	PART 3	
TOTAL	CLEARING AND GRUBBING ON BOR. & MATERIAL PITS	3	8	1	
TOTAL	COMMON EXCAVATION	*18135	†38199	*6483	C.Y.
TOTAL	OVERHAUL ON EXCAVATION MATERIAL	82876	119272	15169	C.Y.X.M.
TOTAL	BITUMINOUS SURFACING	728049	160011	10803	S.Y.
TOTAL	BITUMINOUS (MIXED IN PLACE) BASE COURSE	130171	162991	11343	S.Y.
TOTAL					
TOTAL					
TOTAL					
TOTAL					
TOTAL					

* Includes 300 C.Y. estimated for outfall ditches.
† Includes 300 S.Y. for road intersections
‡ Includes 400 S.Y. for road intersections
¶ Includes 600 C.Y. estimated for outfall ditches.
⊖ Includes 100 C.Y. estimated for outfall ditches.

See letter from Northeastern Dist. Engr. dated 5-16-38



CONVENTIONAL SIGNS

State Line
County Line
City or Town Limits
Property Line
Fence
Retaining Wall
Existing Road
℄ and R.O.W. Lines of
Proposed Road
Railroad
Levee or Embankment
Guard Rail
Point of Intersection (P. I.)
Trolley Poles
Power Poles
Telephone or Telegraph Poles
Marsh
Trees
Brush
Stumps
Buildings
Bridge
Concrete Box Culvert
Pipe Culvert
Drop Inlet and Culvert
Hub on Center Line

LEGEND

PROPOSED PROJECT
OTHER ROADS

LAYOUT

Scale: 1 inch = 1600 feet

	PART 1	PART 2	PART 3	
Net Length of Roadway =	2.425	5.074	0.921	MILES
Net Length of Bridges =	0.000	0.006	0.000	MILES
Net Length of Project =	2.425	5.080	0.921	MILES
Length of Exceptions =	0.000	0.921	0.000	MILES
Gross Length of Project =	2.425	6.001	0.921	MILES

2.425
6.001
.921
9.347

Equalities in Stationing

Sta. 619+20.7 = 620+99.6

Note: All workmanship and material on this project to conform with South Carolina State Highway Department Specifications, Contract and Bond; for Roads and Structures revised July 1st, 1933, as amended and approved by the U. S. Secretary of Agriculture

APPROVED — DATE 5-2-38
J. M. Williamson — STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL — DATE
DISTRICT ENGINEER - BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL — DATE
CHIEF ENGINEER - BUREAU OF PUBLIC ROADS

APPROVED — DATE
DIRECTOR - BUREAU OF PUBLIC ROADS

FED. ROAD DIST. No.	STATE	COUNTY	STATE PROJ. No.	ROUTE No.	SHEET No.	TOTAL SHEETS
14	S.C.	GEORGETOWN WILLIAMSBURG	413-B	511	2	62

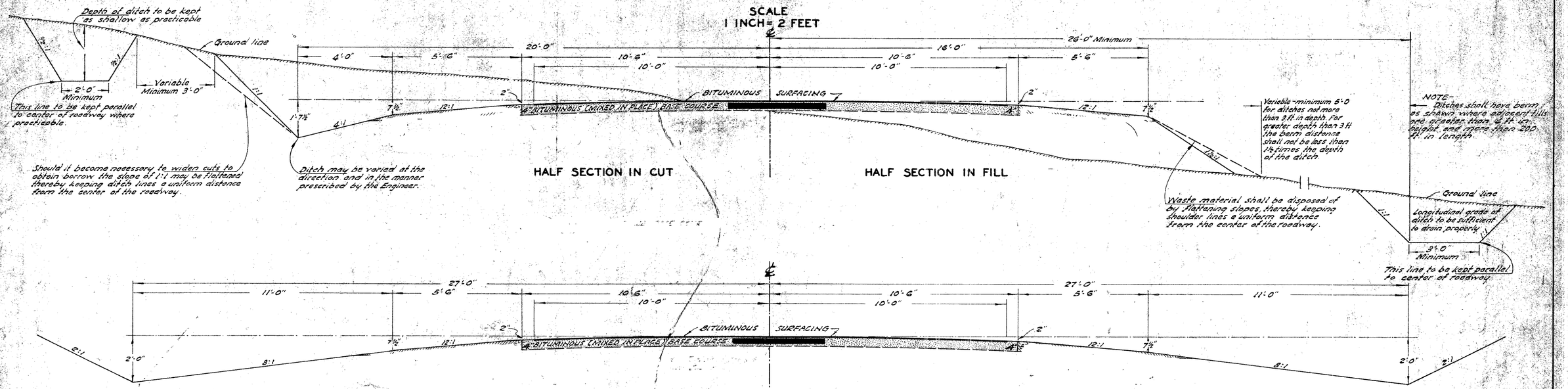
PARTS 1-2&3

SOUTH CAROLINA HIGHWAY DEPARTMENT

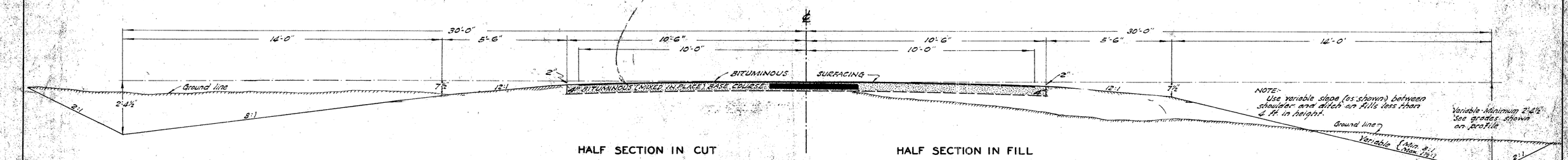
COLUMBIA S. C.

TYPICAL SECTIONS FOR BITUMINOUS SURFACING

SCALE
1 INCH = 2 FEET



54 FT. SPECIAL SECTION



60 FT. SPECIAL SECTION

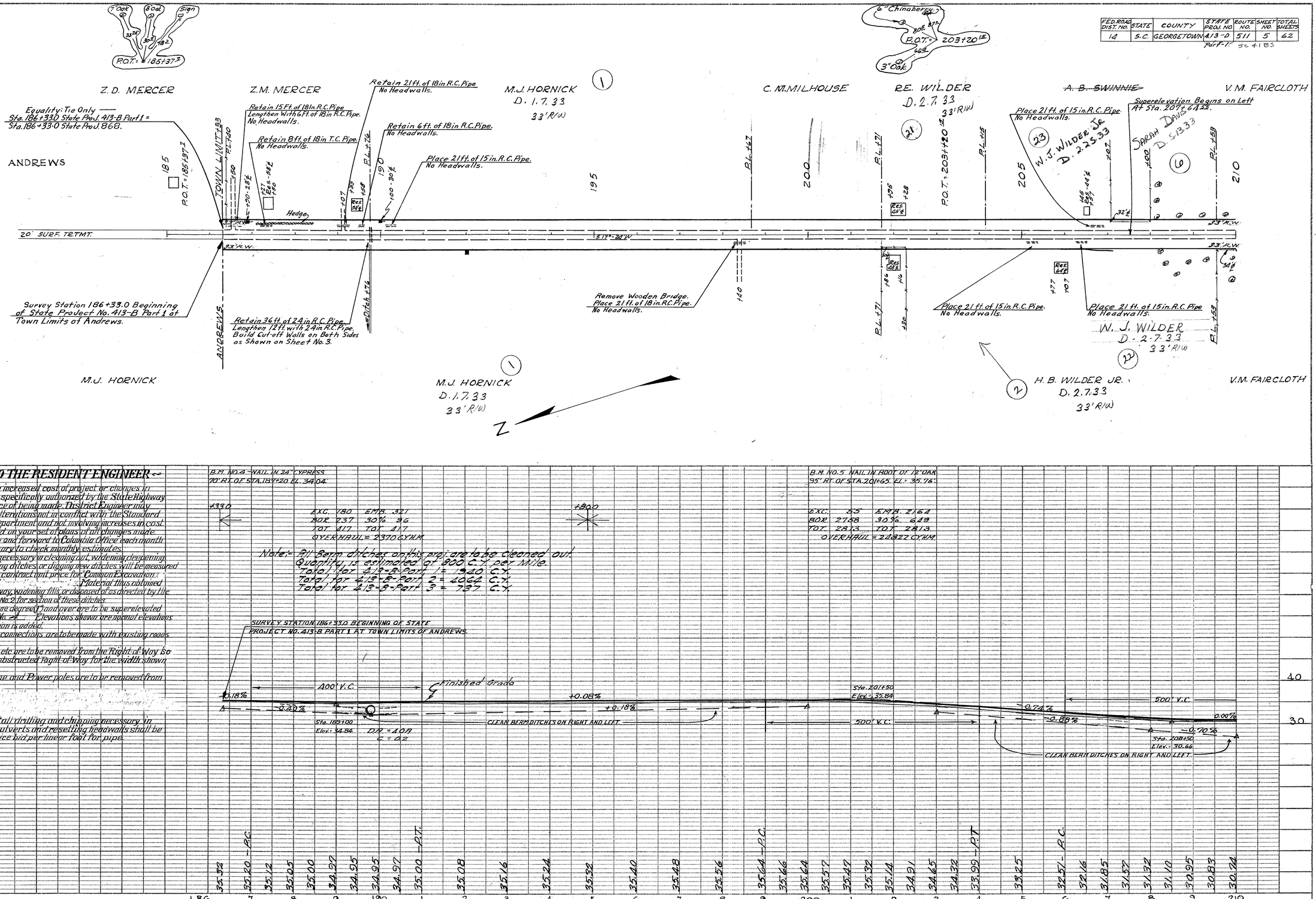
APPROVED J. M. Willimon STATE HIGHWAY ENGINEER

DATE 3-31-37

B.S. DRAWING NO. 5

FED. ROAD DIST. NO.	STATE	COUNTY	STATE PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	GEORGETOWN	413-D Part-1	511	5	62

SC 4183



NOTES TO THE 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 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 or digging new 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. See sheet No. 2 for section of these ditches.

All curves of one degree (1°) and over are to be superelevated as shown on Sheet No. 4. Elevations shown are normal elevations before superelevation 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 unobstructed Right-of-Way for the width shown on the plans.

All Telephone and Power poles are to be removed from the roadway.

The cost of all drilling and chipping necessary in extending pipe culverts and resetting headwalls shall be included in the price bid per linear foot for pipe.

B.M. NO. 4 - NAIL IN 24" CYPRESS
70' RT. OF STA. 189+20 EL. 34.04

B.M. NO. 5 NAIL IN ROOT OF 12" OAK
95' RT. OF STA. 201+65. EL.: 35.76'.

+330

EXC.	180	EMB.	321
BOR.	237	30%	96
TOT.	417	TOT.	417

OVERHAUL = 2370 C.Y.M.

+800

EXC.	65	EMB.	2164
BOR.	2748	30%	649
TOT.	2813	TOT.	2813

OVERHAUL = 24822 C.Y.M.

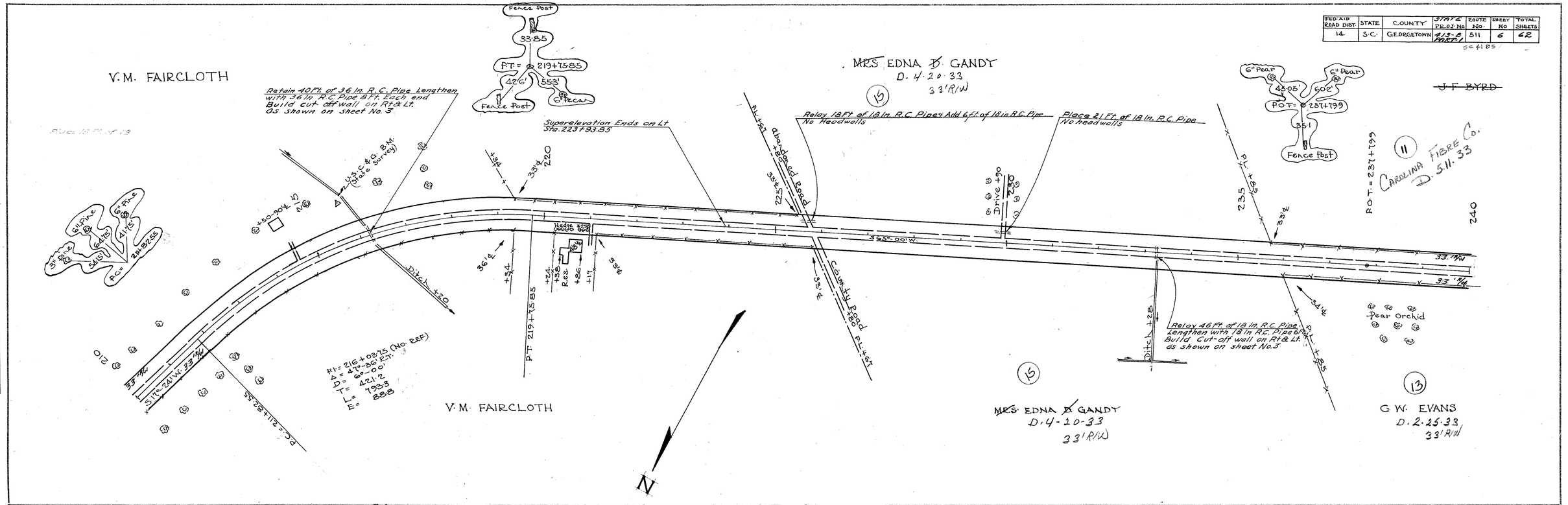
Note:- All Barn ditches on this proj. are to be cleaned out.
Quantity is estimated at 800 C.Y. per Mile.
Total for 413-B-Part 1 = 1920 C.Y.
Total for 413-B-Part 2 = 2064 C.Y.
Total for 413-B-Part 3 = 797 C.Y.

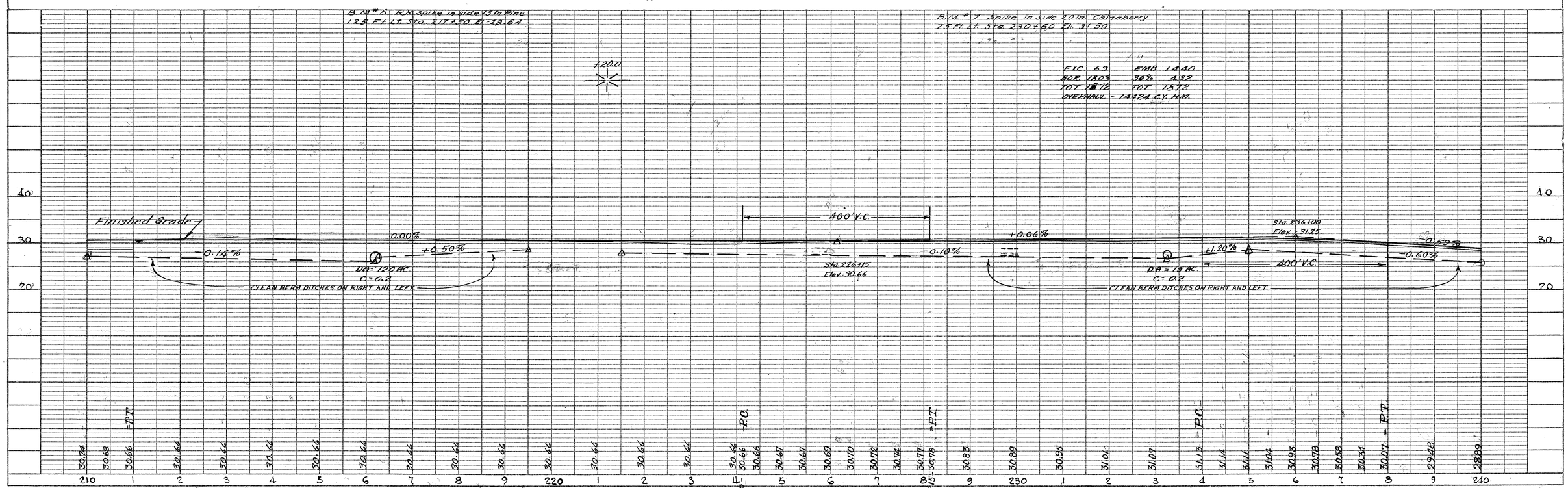
PLAN — NOTE BOOK — NO. — SURVEYED — PLOTTED — ALIGNMENT CHECKED — R/W CHECKED — BY — DATE

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

413-B
GEORGETOWN

FED. AID ROAD DIST.	STATE	COUNTY	STATE PR. OJ. No.	ROUTE No.	SHEET No.	TOTAL SHEETS
14	S.C.	GEORGETOWN	413-B 20672-F	511	6	62





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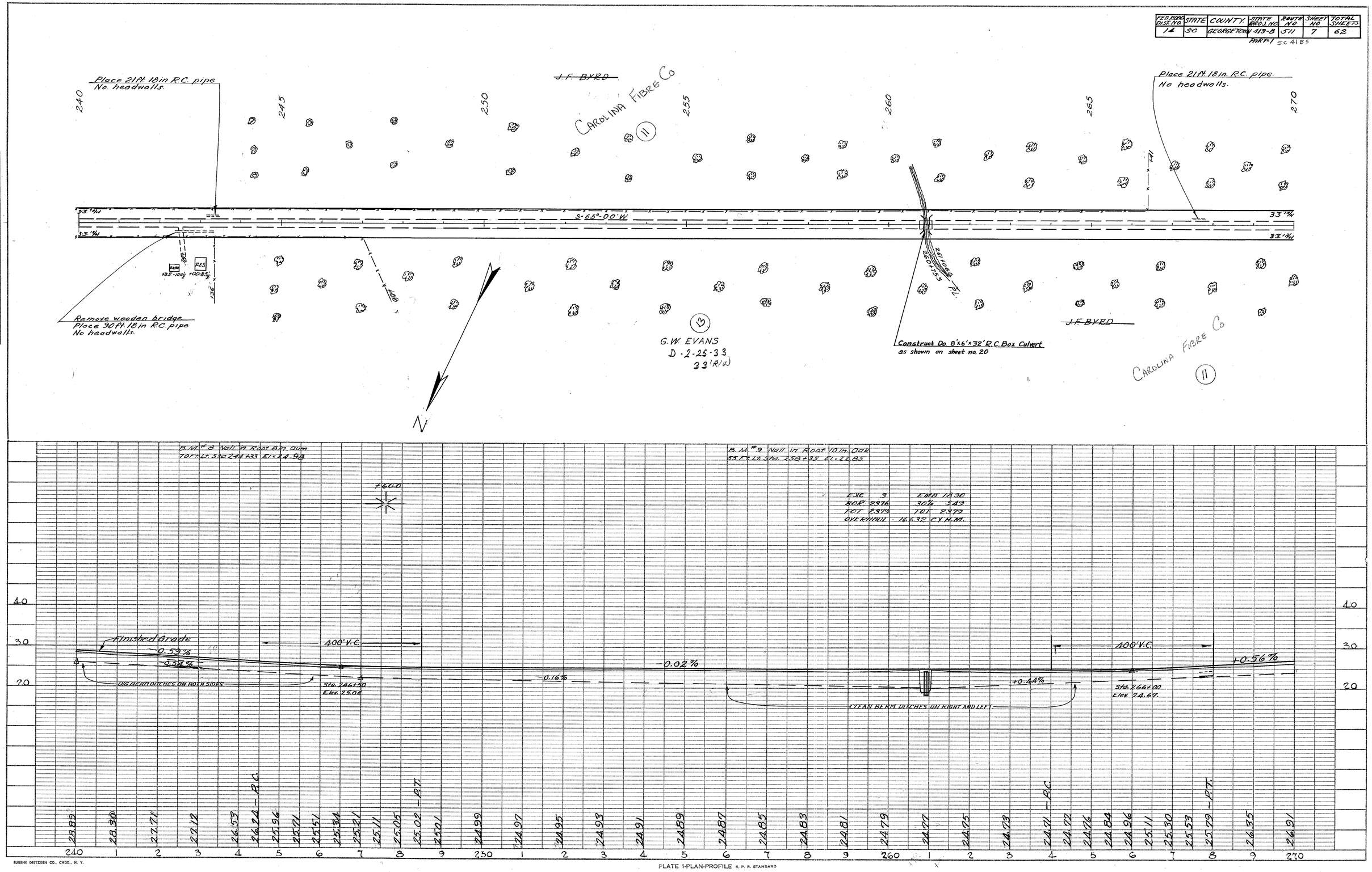
PROFILE — SURVEYED: NOTE BOOK; PLOTTED: F.K.; B.M. & CHECKED: W.A.J.; STRUCTURE NOTE CHECKED: BY: DATE: NO.

413-B
GEORGETOWN

FED. ROAD DIST. NO.	STATE	COUNTY	STATE PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
12	SC	GEORGETOWN	413-B	511	7	62

PART-1 SC 41B5



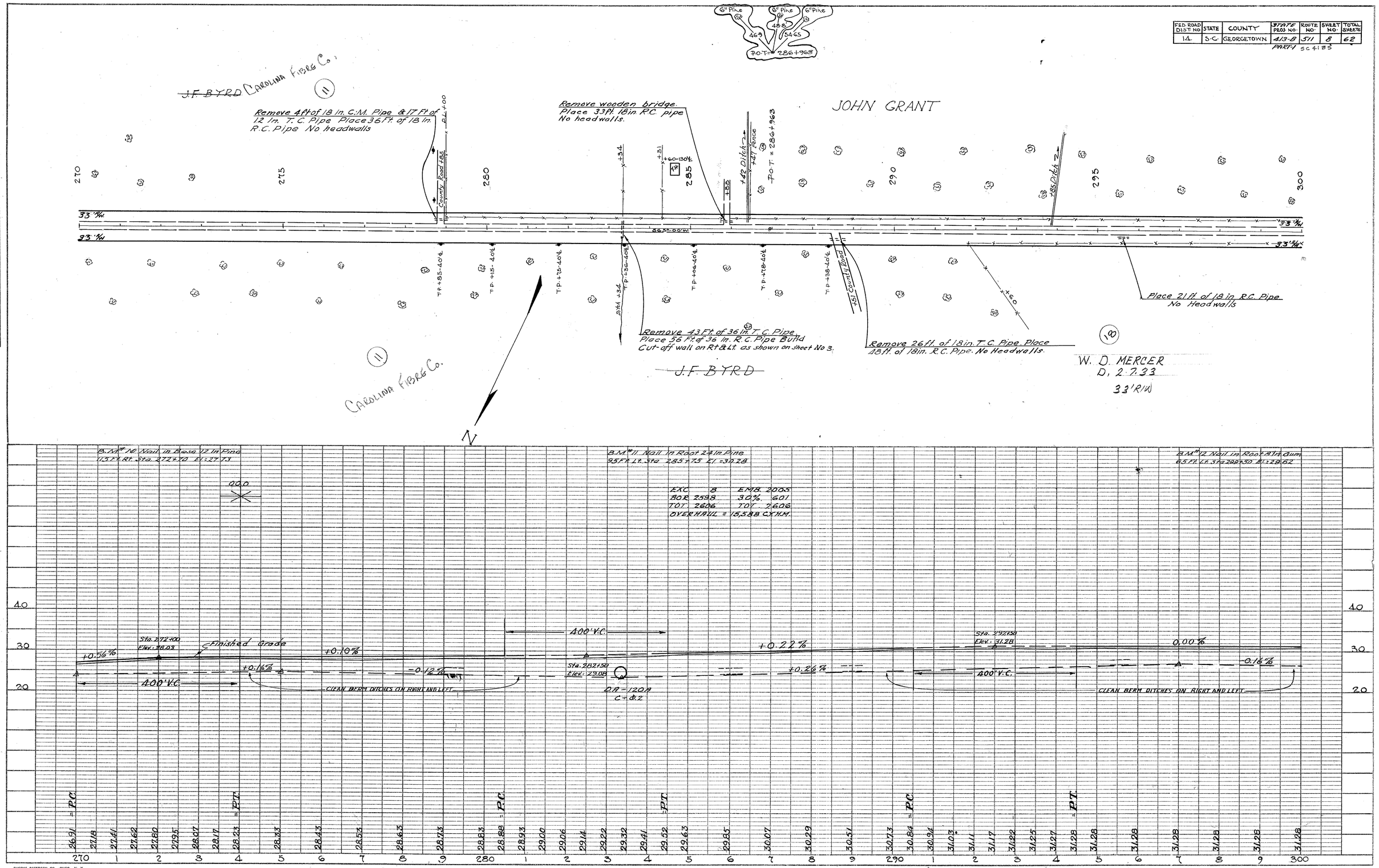
PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

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

413-B
Georgetown

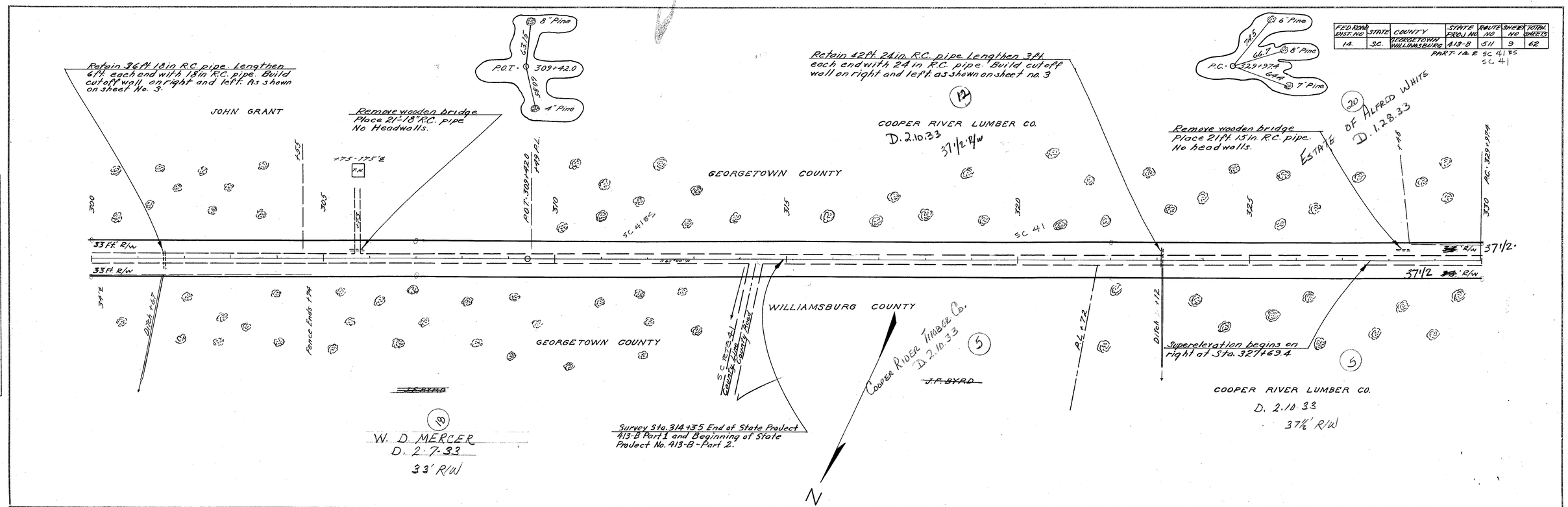
FED. ROAD DIST. NO.	STATE	COUNTY	STA. PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
12	S.C.	GEORGETOWN	413-B	511	8	62

PART I SC 4183



FED. ROAD DIST. NO	STATE	COUNTY	STATE PROJ. NO	ROUTE NO	SHEET NO	TOTAL SHEETS
14.	S.C.	GEORGETOWN WILLIAMSBURG	413-B	511	9	62

PART 1 & 2 SC 41 & 35
SC 41



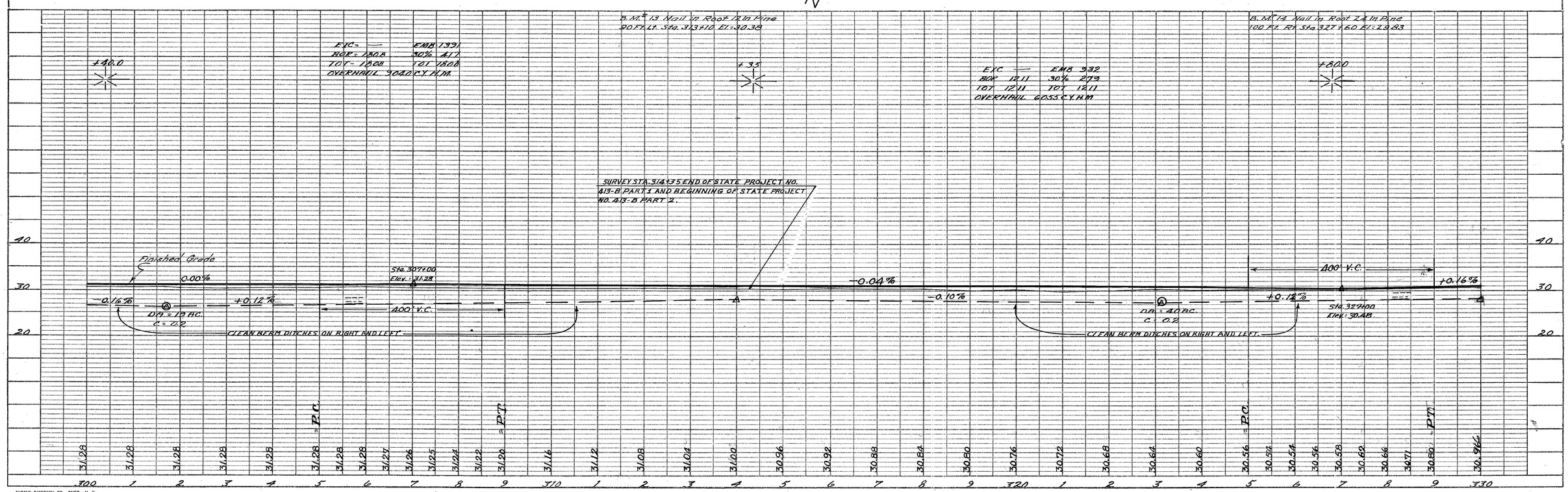
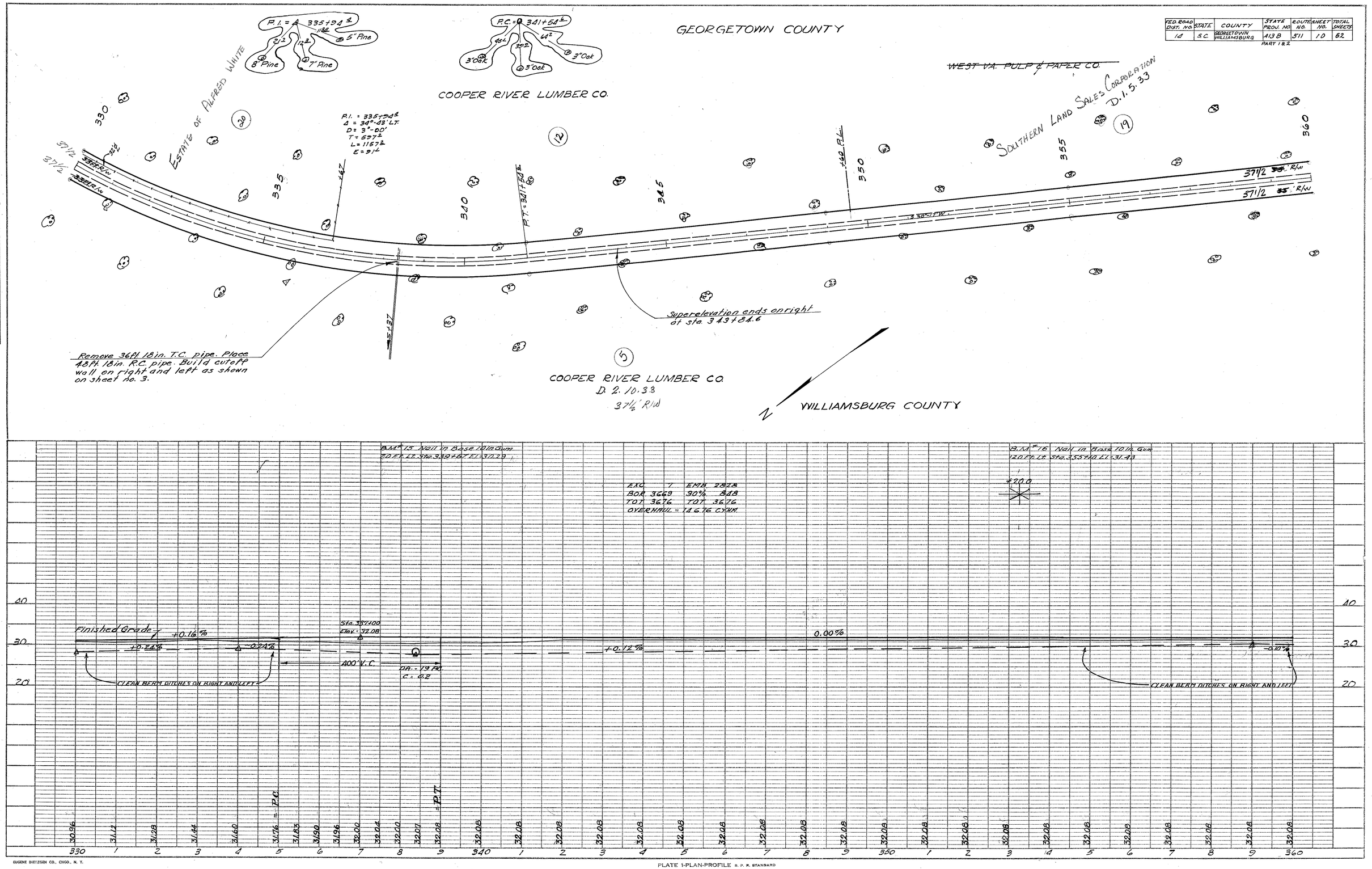


PLATE 1-PLAN-PROFILE B. P. R. STANDARD

EUGENE DIETZGEN CO., CHGO., N. Y.

FED. ROAD DIST. NO.	STATE	COUNTY	STATE PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	GEORGETOWN WILLIAMSBURG	413 B PART 1 & 2	511	10	62



PLAN
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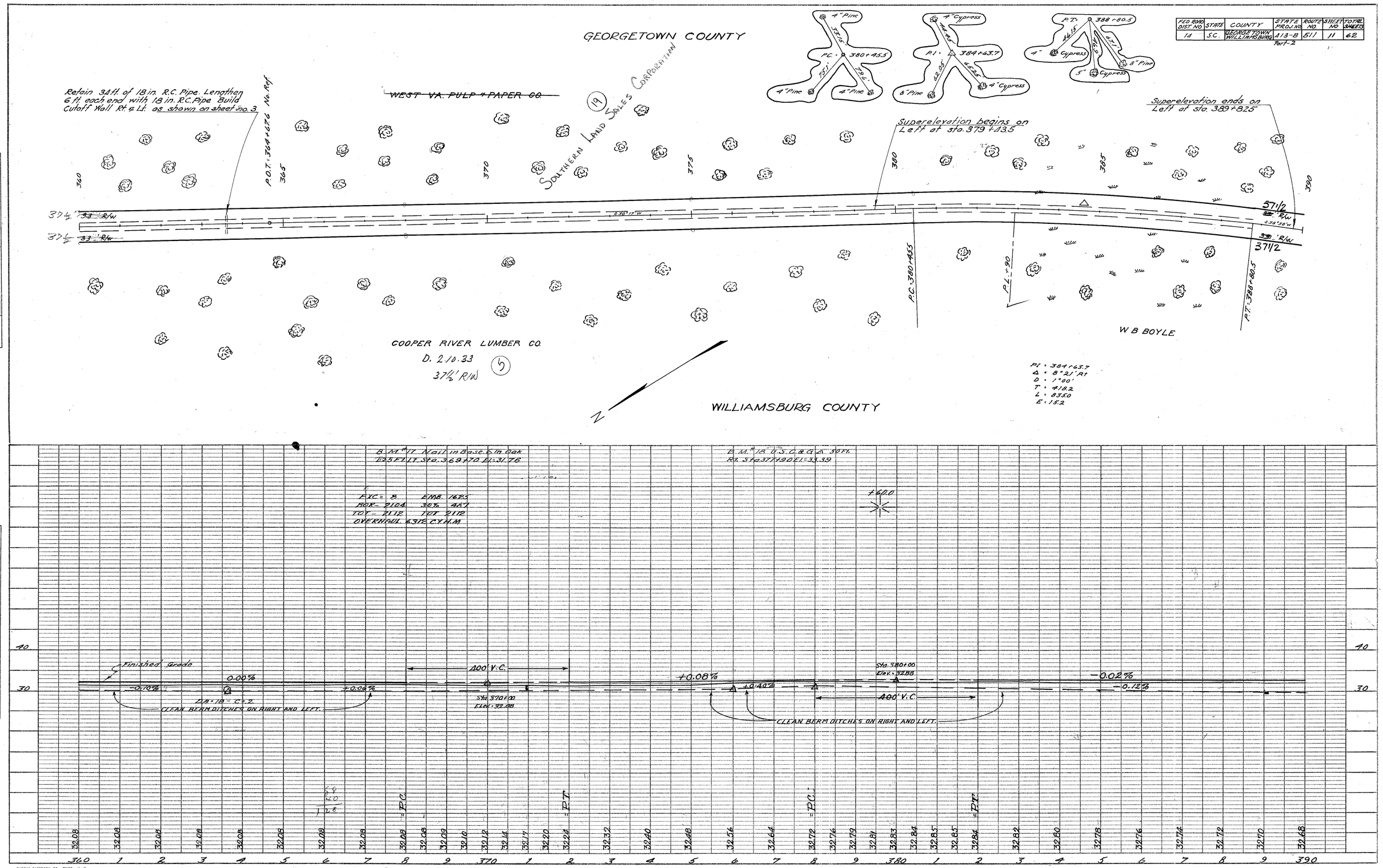
SURVEYED
PLOTTED
GRADES CHECKED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. & CROSS NOTE NOTATIONS CHECKED
BY
DATE

EUGENE DIETZGEN CO., CHGO., N. Y.

PLATE 1-PLAN-PROFILE B. P. R. STANDARD

FED. ROAD DIST. NO.	STATE	COUNTY	STATE PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	GEORGETOWN WILLIAMSBURG	A13-B Part-2	511	11	62



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

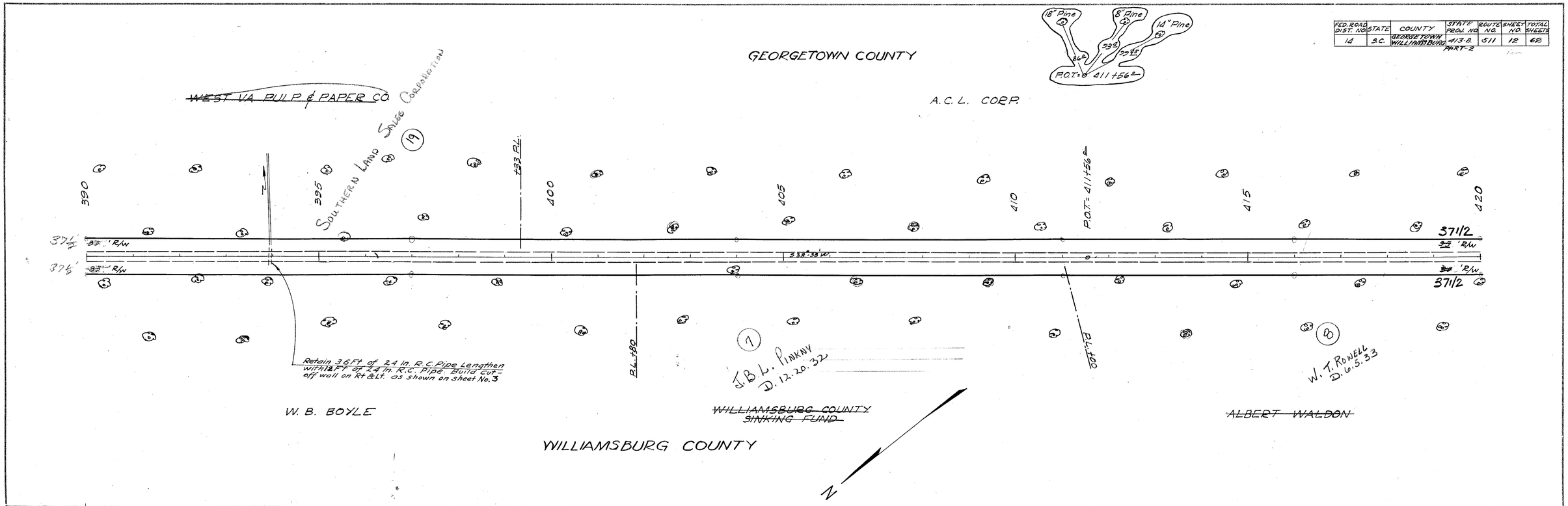
PROFILE — NOTE BOOK NO. — SURVEYED — PLOTTED — GRADES CHECKED — BRIDGE NO. — STRUCTURE NOTATIONS CHECKED — BY — DATE

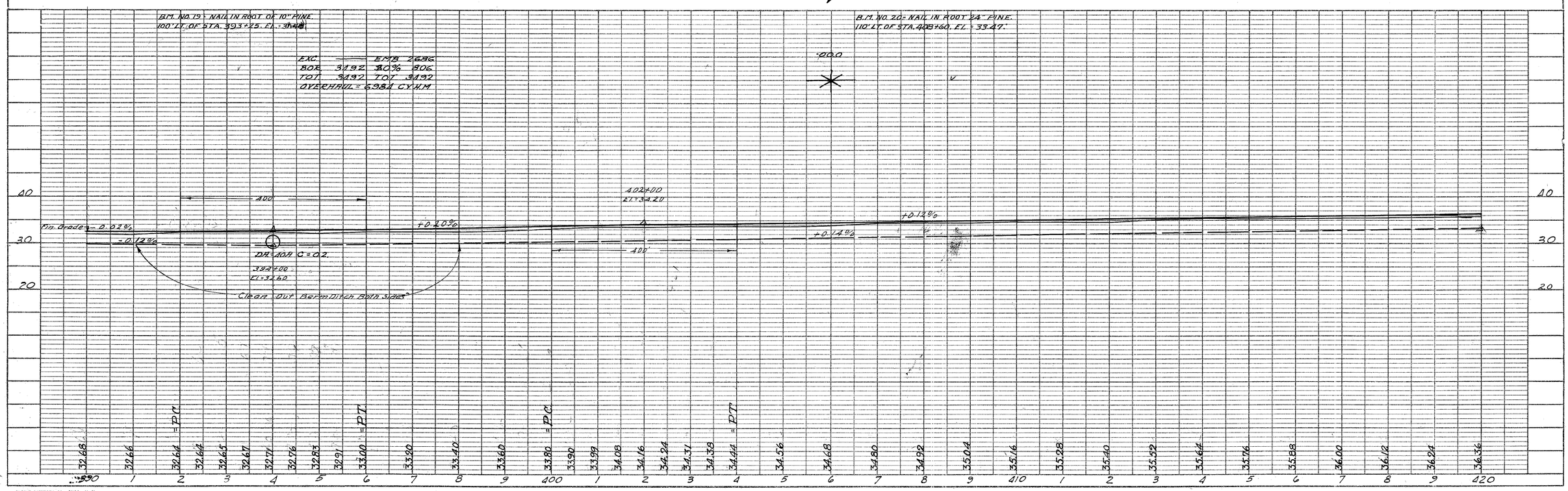
11/13/5 Geo. Gilmore

EUGENE DIETZGEN CO., CHGO., N. Y.

PLATE 1-PLAN-PROFILE B. P. R. STANDARD

FED. ROAD DIST. NO.	STATE	COUNTY	STATE PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	GEORGETOWN WILLIAMSBURG	413-B PART-2	511	12	62





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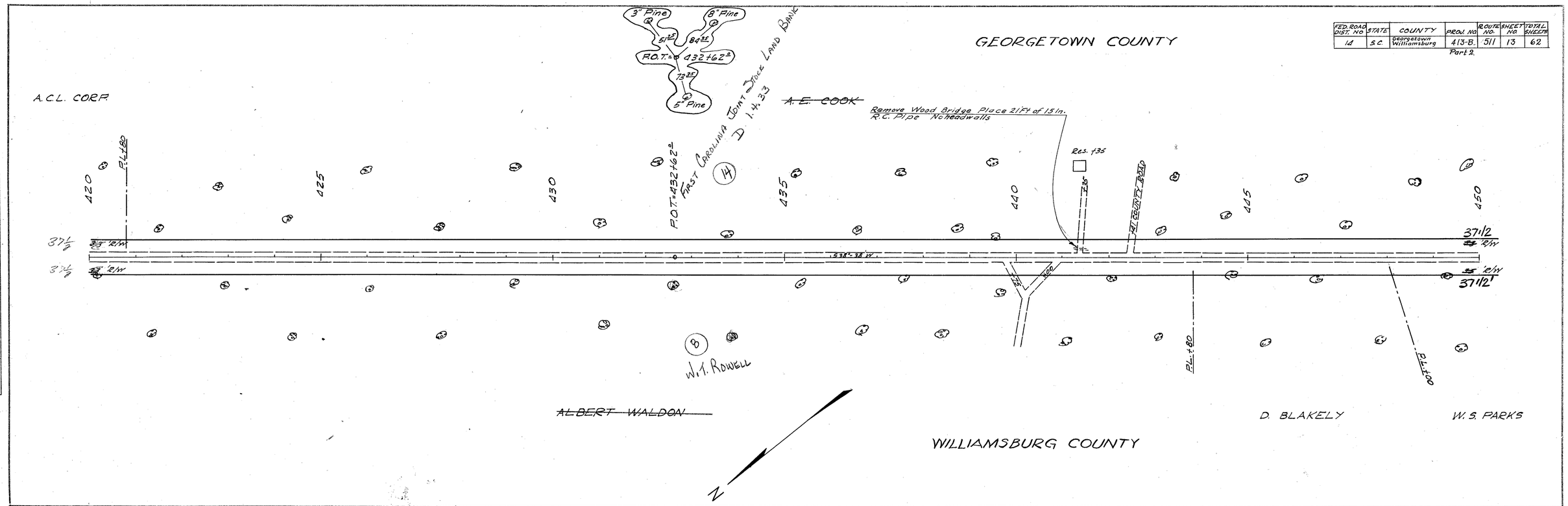
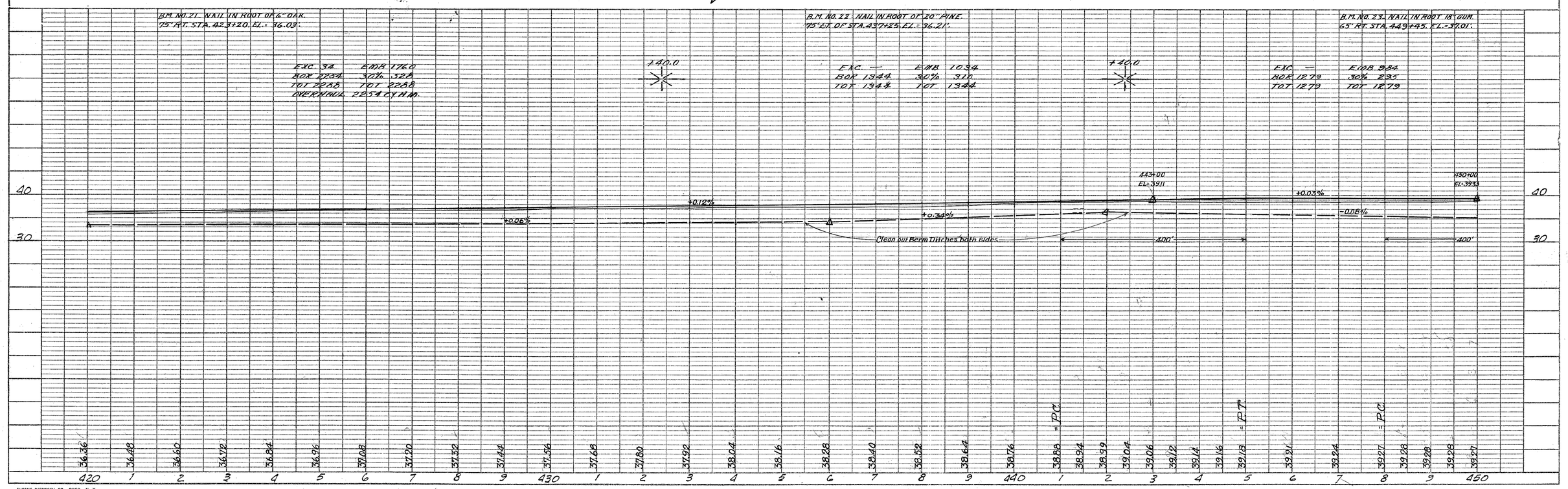
PROFILE — NOTE BOOK — NO. — SURVEYED — PLOTTED — GRADES CHECKED — B.M. NOTED — STRUCTURE NOTE CHECKED — BY — DATE

FED. ROAD DIST. NO.	STATE	COUNTY	PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	Georgetown Williamsburg	413-B	511	13	62

Part 2.





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

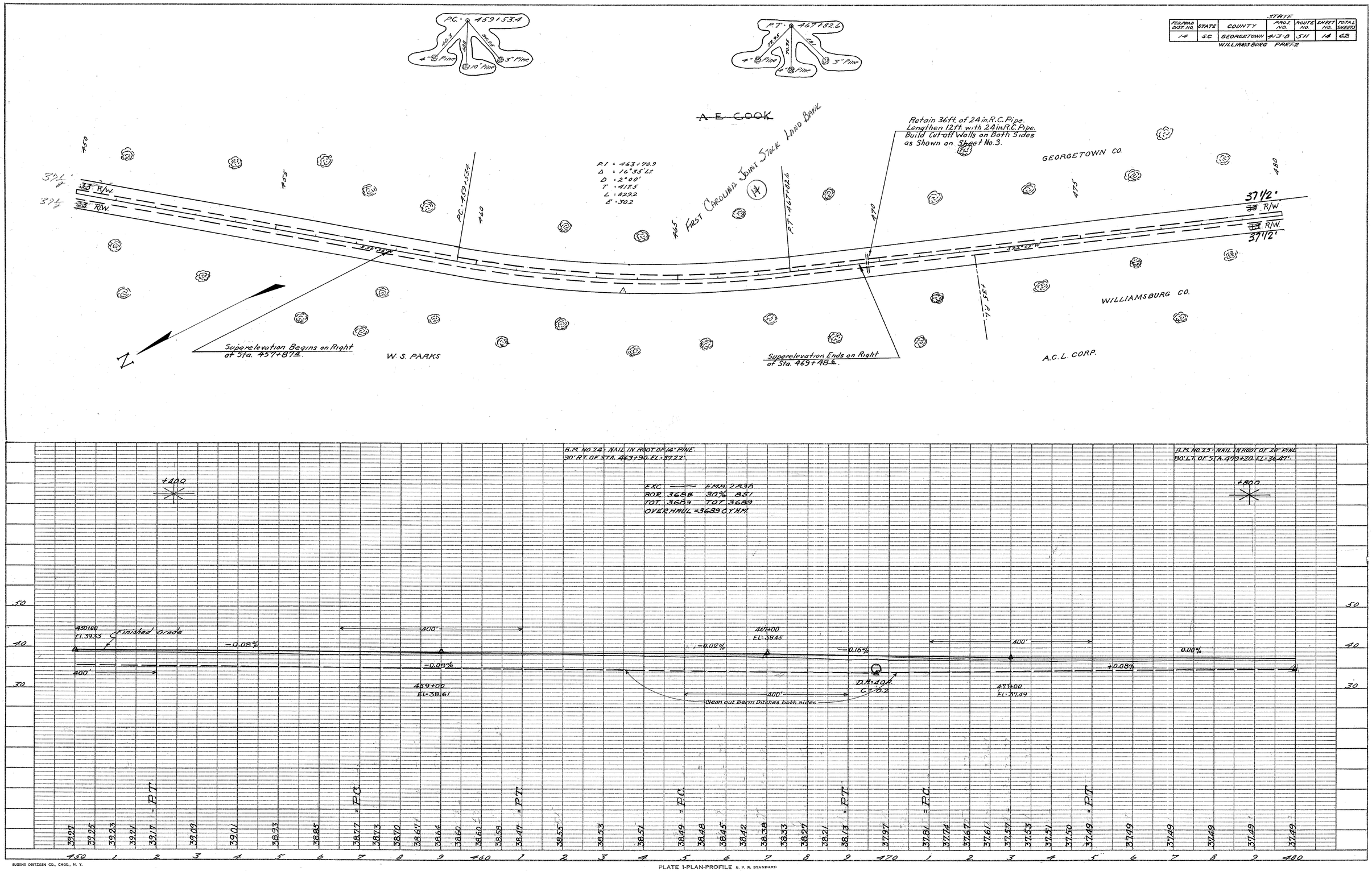
PROFILE — NOTE BOOK NO. — SURVEYED — PLOTTED — GRADES CHECKED — BRIDGE NO. — STRUCTURE NOTATIONS CHKD. — BY — DATE

Georgetown 413-B

FED. ROAD DIST. NO.	STATE	COUNTY	PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	SC	GEORGETOWN	A13-B	511	14	62

STATE

WILLIAMSBURG PART-2



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

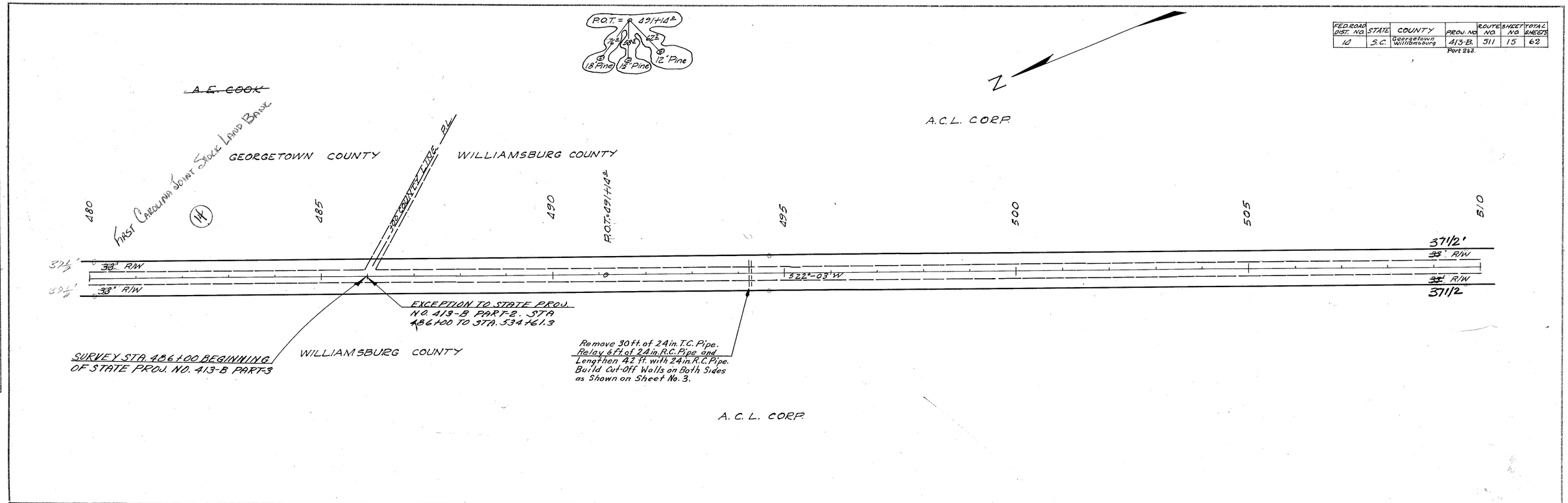
PROFILE — NOTE BOOK — NO. — SURVEYED — PLOTTED — GRADES CHECKED — STRUCTURE NOTATIONS CHECKED — BY — DATE

Georgetown #13-3

EUGENE DIETZGEN CO., CHGO., N. Y.

PLATE 1-PLAN-PROFILE B. P. R. STANDARD

FED. ROAD DIST. NO.	STATE	COUNTY	PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
10	S.C.	Georgetown Williamsburg	413-B. Part 263.	511	15	62

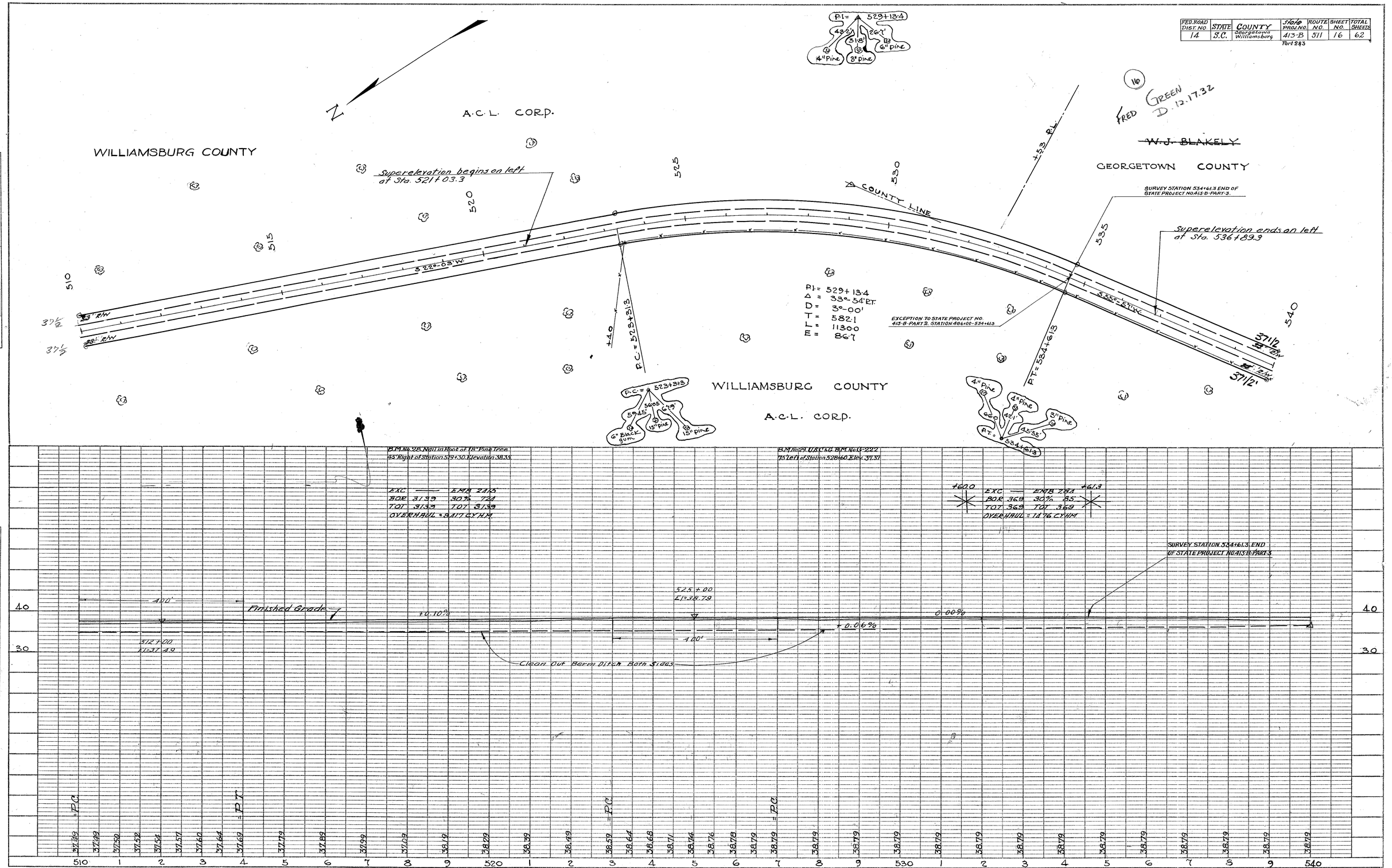


PLAN — NOTE BOOK — NO. — SURVEYED — PLOTTED — GRADES CHECKED — ALIGNMENT CHECKED — RT. OF WAY CHECKED — BY — DATE

PROFILE — NOTE BOOK — NO. — SURVEYED — PLOTTED — GRADES CHECKED — M.H. CHECKED — STRUCTURE NOTATIONS CHKD. — BY — DATE

EUGENE DIETZGEN CO., CHGO., N. Y.

FED. ROAD DIST. NO.	STATE	COUNTY	State PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	Georgetown Williamsburg	413-B Part 2&3	511	16	62



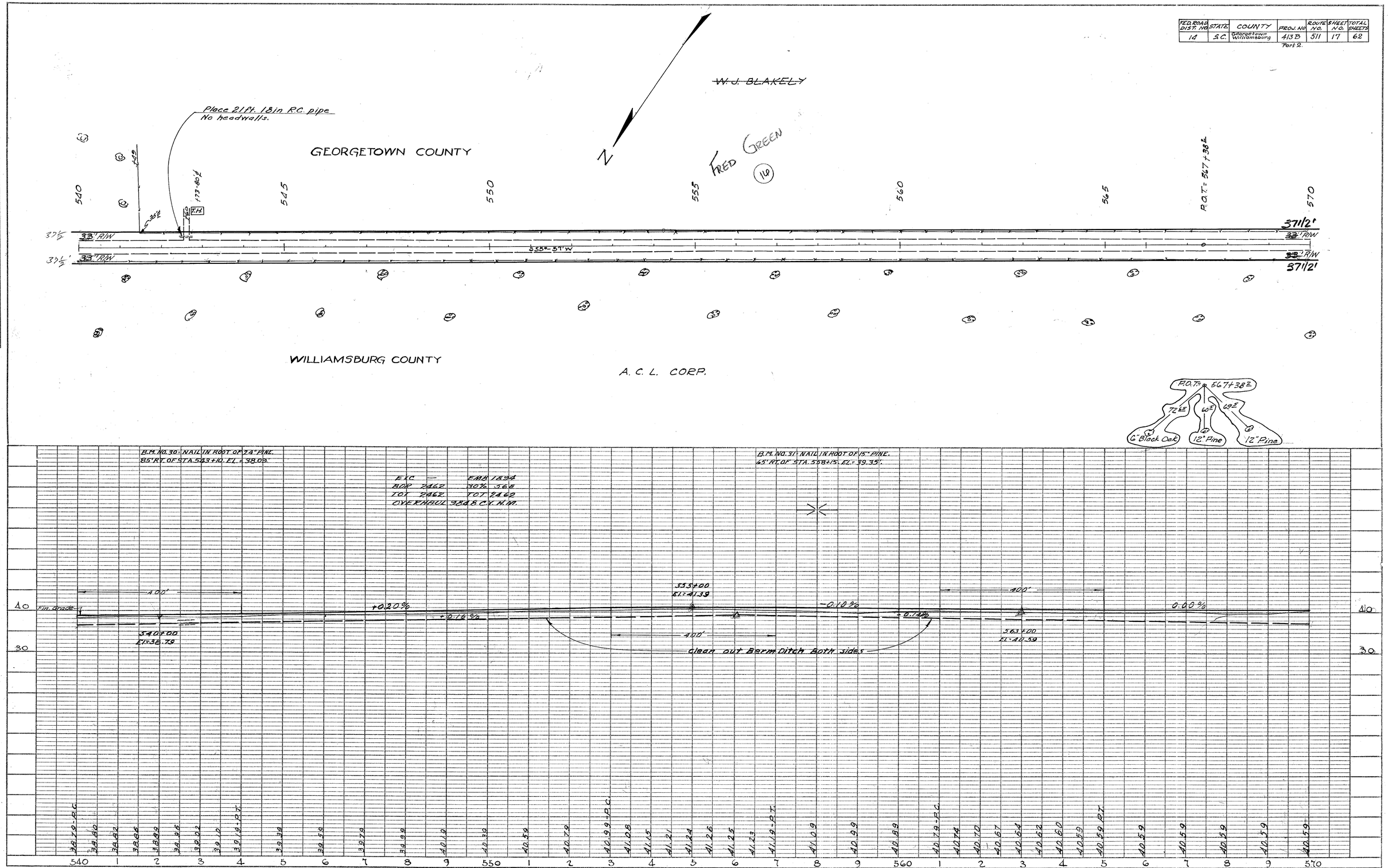
PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. & NOTE
SIGNATURES
BY
DATE

EUGENE DIETZGEN CO., CHGO., N. Y.

PLATE 1-PLAN-PROFILE B. P. R. STANDARD

FED. ROAD DIST. NO.	STATE	COUNTY	PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	Georgetown Williamsburg	413B Part 2.	511	17	62



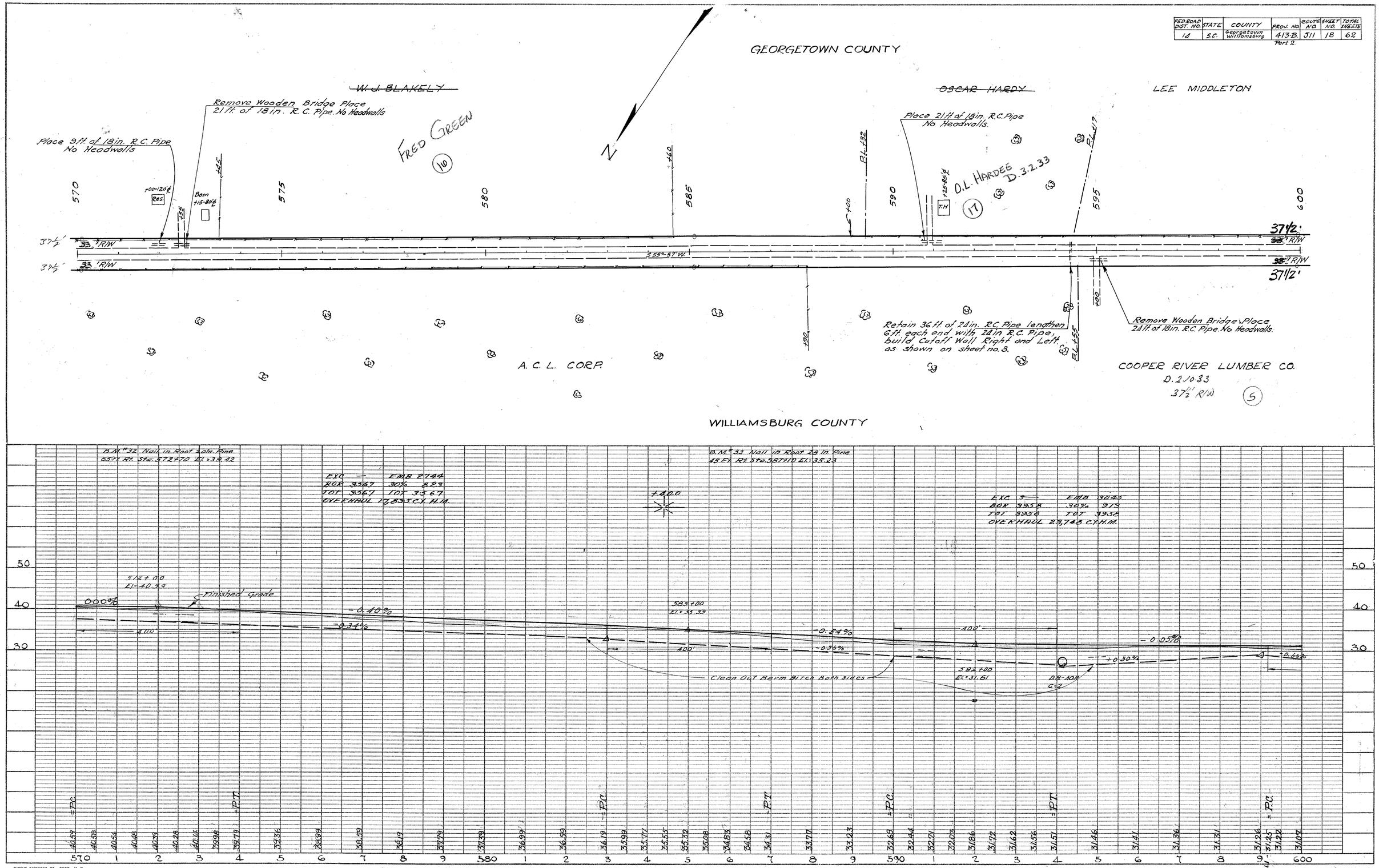
PLAN		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	ALIGNMENT CHECKED		
NO.	RT. OF WAY CHECKED		

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

EUGENE DIETZGEN CO., CHGO., N. Y.

PLATE 1-PLAN-PROFILE S. P. R. STANDARD

FED. ROAD DIST. NO.	STATE	COUNTY	PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1d	S.C.	Georgetown Williamsburg	413-B Part 2	511	18	62



FED. ROAD DIST. NO	STATE	COUNTY	STATE PROJ. NO	ROUTE NO	SHEET NO	TOTAL SHEETS
14	S.C.	GEORGETOWN WILLIAMSBURG	413-B Part 2	511	19	62

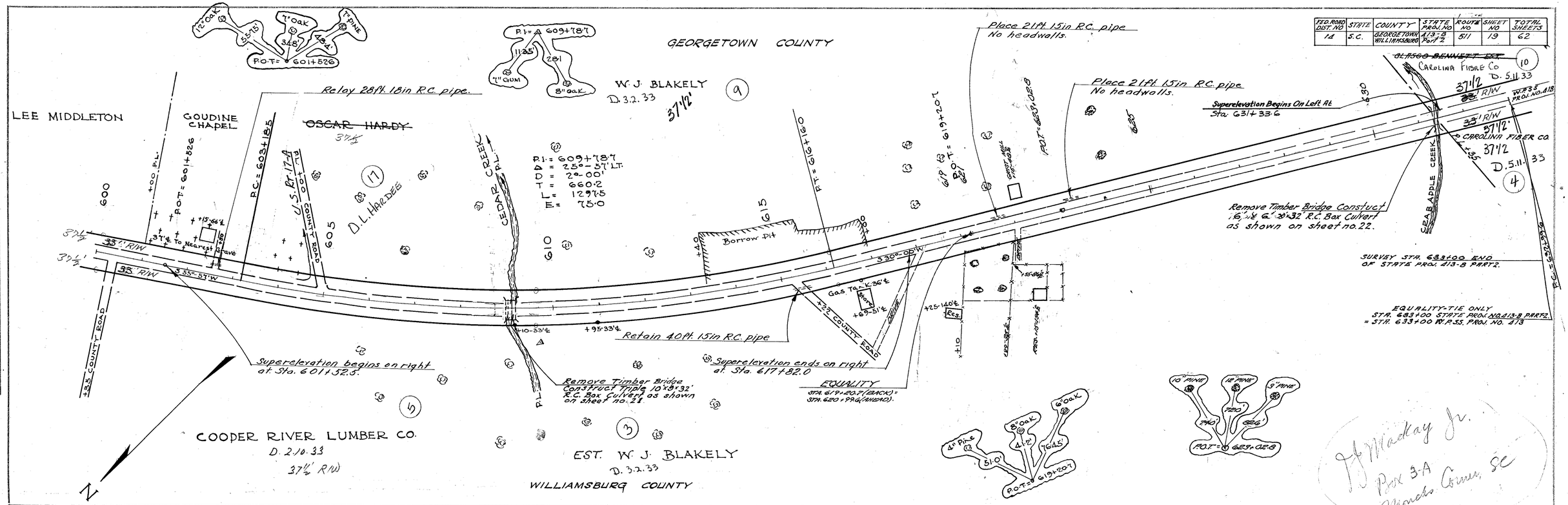
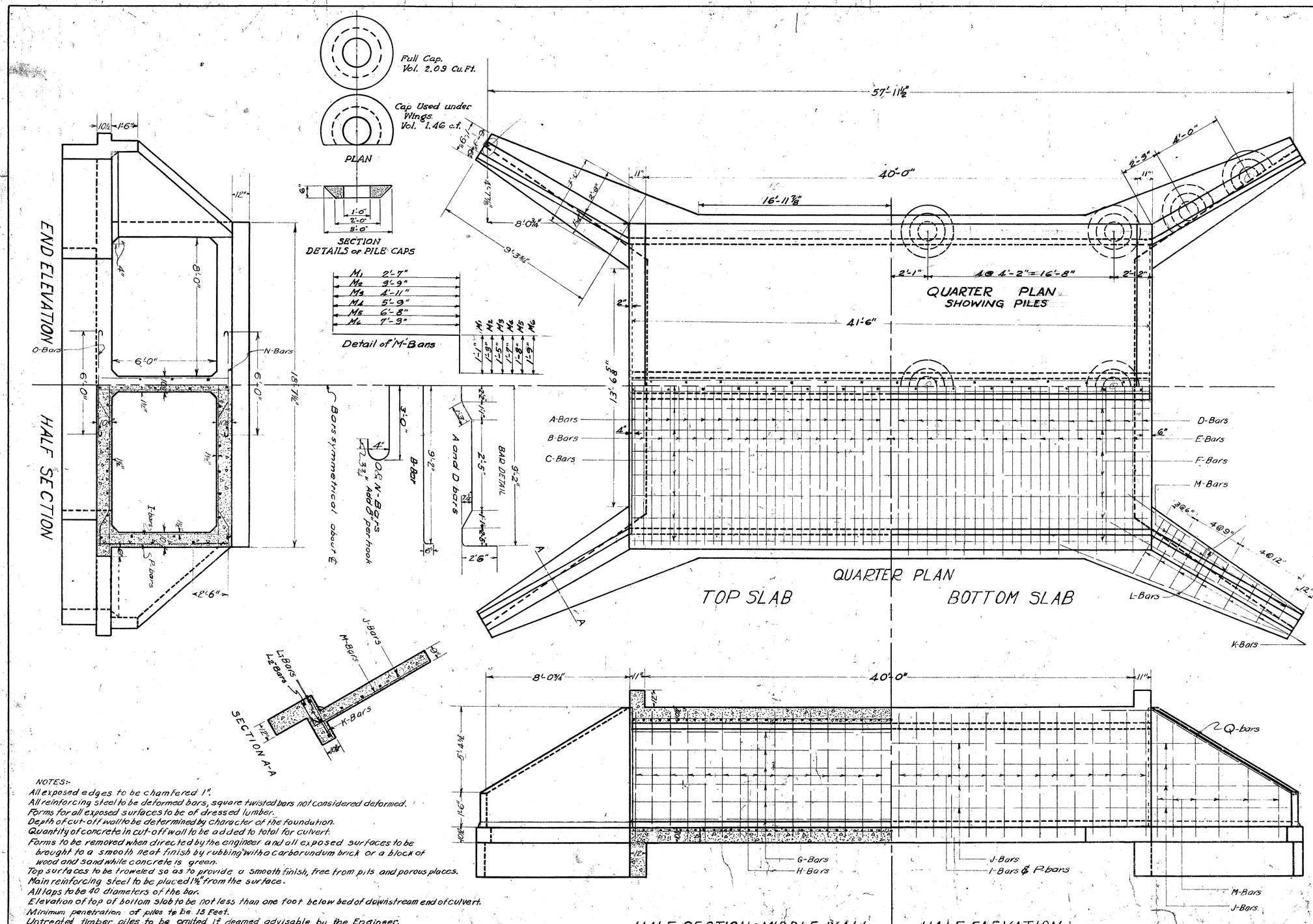


PLATE 1-PLAN-PROFILE B. P. R. STANDARD STA. 619+20.7 = STA. 620+99.6

EUGENE DIETZGEN CO., CHGO., N. Y.

FED. ROAD DIST. NO.	STATE	COUNTY	STATE PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
14	S.C.	GEORGETOWN	413-B	37		



STEEL SCHEDULE

MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	REMARKS
A	36	3/4" ϕ	24'-0"	14" C to C	Top Slab	Bent
B	35	3/4" ϕ	19'-4"	" "	" "	"
C	30	1/2" ϕ	21'-7"	15" "	" "	St.
D	36	3/4" ϕ	24'-0"	14" "	Bottom "	Bent
E	35	3/4" ϕ	19'-4"	" "	" "	St.
F	30	1/2" ϕ	21'-7"	15" "	" "	"
G	12	1/2" ϕ	21'-7"	12" Stg.	Mid. Wall	"
H	42	1/2" ϕ	7'-4"	" "	" "	"
I	56	1/2" ϕ	7'-4"	18" C to C	Side "	"
J	8	1/2" ϕ	30'-0"	15" "	Wings & Side "	Bent
J_1	2	1/2" ϕ	20'-2"	" "	" "	"
J_2	2	1/2" ϕ	24'-10"	" "	" "	"
J_3	2	1/2" ϕ	28'-10"	" "	" "	"
J_4	2	1/2" ϕ	32'-6"	" "	" "	"
K_1	4	1/2" ϕ	1'-11"	24" "	Wings	St.
K_2	4	1/2" ϕ	2'-4"	" "	"	"
K_3	4	1/2" ϕ	2'-9"	21" "	"	"
K_4	4	1/2" ϕ	3'-1"	18" "	"	"
K_5	4	1/2" ϕ	3'-5"	15" "	"	"
K_6	4	1/2" ϕ	3'-8"	12" "	"	"
L_1	12	1/2" ϕ	12'-0"		"	"
M_1	4	1/2" ϕ	3'-8"	24" "	"	Bent
M_2	4	1/2" ϕ	5'-0"	" "	"	"
M_3	4	1/2" ϕ	6'-4"	" "	"	"
M_4	4	1/2" ϕ	7'-4"	18" "	"	"
M_5	4	1/2" ϕ	8'-4"	" "	"	"
M_6	4	1/2" ϕ	9'-0"	12" "	"	"
N	35	5/8" ϕ	7'-4"	14" "	Top Slab	Bent
O	35	5/8" ϕ	7'-4"	" "	Bottom "	"
P	42	1/2" ϕ	7'-4"	24" C to C	Sidewall	St.
Q	8	3/4" ϕ	12'-0"	as shown	Wings	
L2	4	1/2" ϕ	14'-0"	"	"	"

QUANTITIES

Concrete	88.98 Cu. Yd. *
Steel	8249 Lbs
Excavation - P.F.D.	42.2 Cu. Yd.
Excavation - 12" Ft.	[redacted] Cu. Yd.
Untreated Timber Piling	570 Lin. Ft.

Concrete per foot length of barrel = 1.83938 C.Y.
Excavation " " " " " = 0.80093 C.Y.
* Includes 2.76 C.Y. for Pile Caps.

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

CONCRETE CULVERT

REINFORCED BOX TYPE

SIZE: DOUBLE 8' X 6' X 40'

Sta. 260+91 - Sta. [redacted] Project B-[redacted] Georgetown Co.

SCALE: 3/16" = 1'-0" DATE: MAY 1938

CORRECT:- [signature] BRIDGE ENGINEER

APPROVED:- [signature] STATE HIGHWAY ENGINEER

NOTES:-
All exposed edges to be chamfered 1".
All reinforcing steel to be deformed bars, square twisted bars not considered deformed.
Forms for all exposed surfaces to be of dressed lumber.
Depth of cut-off wall to be determined by character of the foundation.
Quantity of concrete in cut-off wall to be added to total for culvert.
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 troweled so as to provide a smooth finish, free from pits and porous places.
Main reinforcing steel to be placed 1½" from the surface.
All laps to be 40 diameters of the bar.
Elevation of top of bottom slab to be not less than one foot below bed of downstream end of culvert.
Minimum penetration of piles to be 15 Feet.
Untreated timber piles to be omitted if deemed advisable by the Engineer.
Specifications:- S.C.H.D. for Roads, Bridges, and Culverts, revised July 1, 1933, with subsequent revisions.

DRAWN BY:- J. J. Roberts DATE Nov. 30 1921
TRACED BY:- J. J. Roberts DATE Dec. 5 1921
CHECKED BY:- [signature] DATE Dec. 7 1921

Worked Up by:- G.F.D. 5-17-38.
Checked by:- L.A.P. & D.F.D. 5/21/38

Revised - J.C.A. 1-15-31 O.&N. - J.T.H. - 2-14-31 - CK - J.C.A. - 2-16-31
Checked - T.H.B. 1-15-31 Wings Rev. L.H. 2-18-36 - CK - C.F. 2-28-36 ; CK. [illegible] 3-6-36

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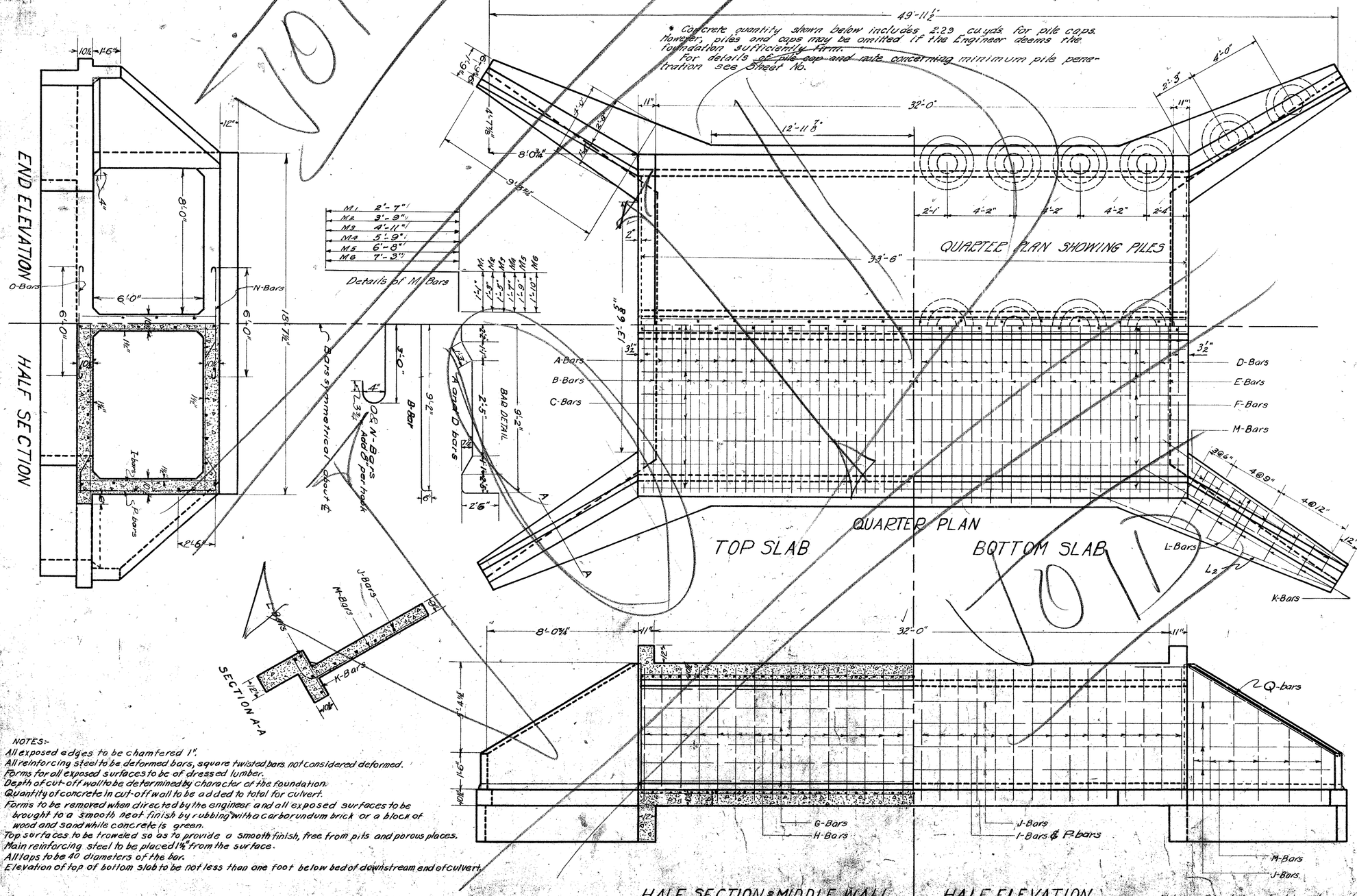
FED. ROAD DIST. NO.	STATE	COUNTY	STATE PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	GEORGETOWN	413-B			

VOID



* Concrete quantity shown below includes 2.29 cu.yds. for pile caps. However, piles and caps may be omitted if the Engineer deems the foundation sufficiently firm.
For details ~~of pile cap and note~~ concerning minimum pile penetration see Sheet No.

STEEL SCHEDULE						
MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	REMARKS
A	29	3/4" ϕ	24'-0"	14" C to C	Top Slab	Bent
B	29	3/4" ϕ	19'-4"	" "	" "	"
C	15	1/2" ϕ	33'-4"	15" "	" "	St.
D	29	3/4" ϕ	24'-0"	14" "	Bottom "	Bent
E	29	3/4" ϕ	19'-4"	" "	" "	St.
F	15	1/2" ϕ	33'-4"	15" "	" "	"
G	6	1/2" ϕ	33'-0"	12" Stg.	Mid. Wall	"
H	34	1/2" ϕ	7'-4"	" "	" "	"
I	46	1/2" ϕ	7'-4"	18" C to C	Side "	"
J	8	1/2" ϕ	26'-0"	15" "	Wings & Side	Bent
J_1	2	1/2" ϕ	15'-6"	" "	" " "	"
J_2	2	1/2" ϕ	20'-0"	" "	" " "	"
J_3	2	1/2" ϕ	24'-0"	" "	" " "	"
J_4	2	1/2" ϕ	25'-0"	" "	" " "	"
K_1	4	1/2" ϕ	1'-11"	24" "	Wings	St.
K_2	4	1/2" ϕ	2'-4"	" "	"	"
K_3	4	1/2" ϕ	2'-9"	21" "	"	"
K_4	4	1/2" ϕ	3'-1"	18" "	"	"
K_5	4	1/2" ϕ	3'-5"	15" "	"	"
K_6	4	1/2" ϕ	3'-8"	12" "	"	"
L_1	12	1/2" ϕ	12'-0"		"	"
M_1	4	1/2" ϕ	3'-8"	24" "	"	Bent
M_2	4	1/2" ϕ	5'-0"	" "	"	"
M_3	4	1/2" ϕ	6'-4"	" "	"	"
M_4	4	1/2" ϕ	7'-4"	18" "	"	"
M_5	4	1/2" ϕ	8'-5"	" "	"	"
M_6	4	1/2" ϕ	9'-0"	12" "	"	"
N	29	5/8" ϕ	7'-4"	14" "	Top Slab	Bent
O	29	5/8" ϕ	7'-4"	" "	Bottom "	"
P	36	1/2" ϕ	7'-4"	24" C to C	Sidewall	St.
Q	8	3/4" ϕ	12'-0"	as shown	Wings	
L_2	4	1/2" ϕ	14'-6"	"	"	"

QUANTITIES	
* Concrete	73.90 Cu.Yd.
Steel	6788 Lbs
Excavation - P.F.D.	[illegible] Cu.Yd.
Excavation - [illegible] Ft.	72 Cu.Yd.
UNTREATED PILING	480 Lin. Ft.

Concrete per foot length of barrel = 1.83938 C.Y.
Excavation " " " " " = 0.80093 C.Y.

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

CONCRETE CULVERT

REINFORCED BOX TYPE

SIZE: DOUBLE 8'x6'x32'

PROJ. NO. 413-B GEORGETOWN CO.

SCALE: 3/8" = 1'-0" DATE 4/27/38

STA. 260 + 91

CORRECT:- [signature] BRIDGE ENGINEER

APPROVED:- [signature] STATE HIGHWAY ENGINEER

NOTES:-
All exposed edges to be chamfered 1".
All reinforcing steel to be deformed bars, square twisted bars not considered deformed.
Forms for all exposed surfaces to be of dressed lumber.
Depth of cut-off wall to be determined by character of the foundation.
Quantity of concrete in cut-off wall to be added to total for culvert.
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 troweled so as to provide a smooth finish, free from pits and porous places.
Main reinforcing steel to be placed 1½" from the surface.
All laps to be 40 diameters of the bar.
Elevation of top of bottom slab to be not less than one foot below bed of downstream end of culvert.

Note - Steel is not drawn to scale.

DRAWN BY: J.T. Elliott DATE Dec. 30 1921
TRACED BY: J.T. Elliott DATE Dec. 5 1921
CHECKED BY: [illegible] DATE Dec. 7 1921

Adopted to this project by: [illegible] 4/27/38
Checked by: J.M.G. 4/28/38

Revised - J.C.A. 1-15-31 O&N - J.T.H. - 2-14-31 - CK - J.C.A. - 2-16-31
Checked - T.H.B. 1-15-31 Wings Rev. W.L.H. 2-18-36 - CK - C.P.S. 2-20-36 ; CK. [illegible] 3-6-36

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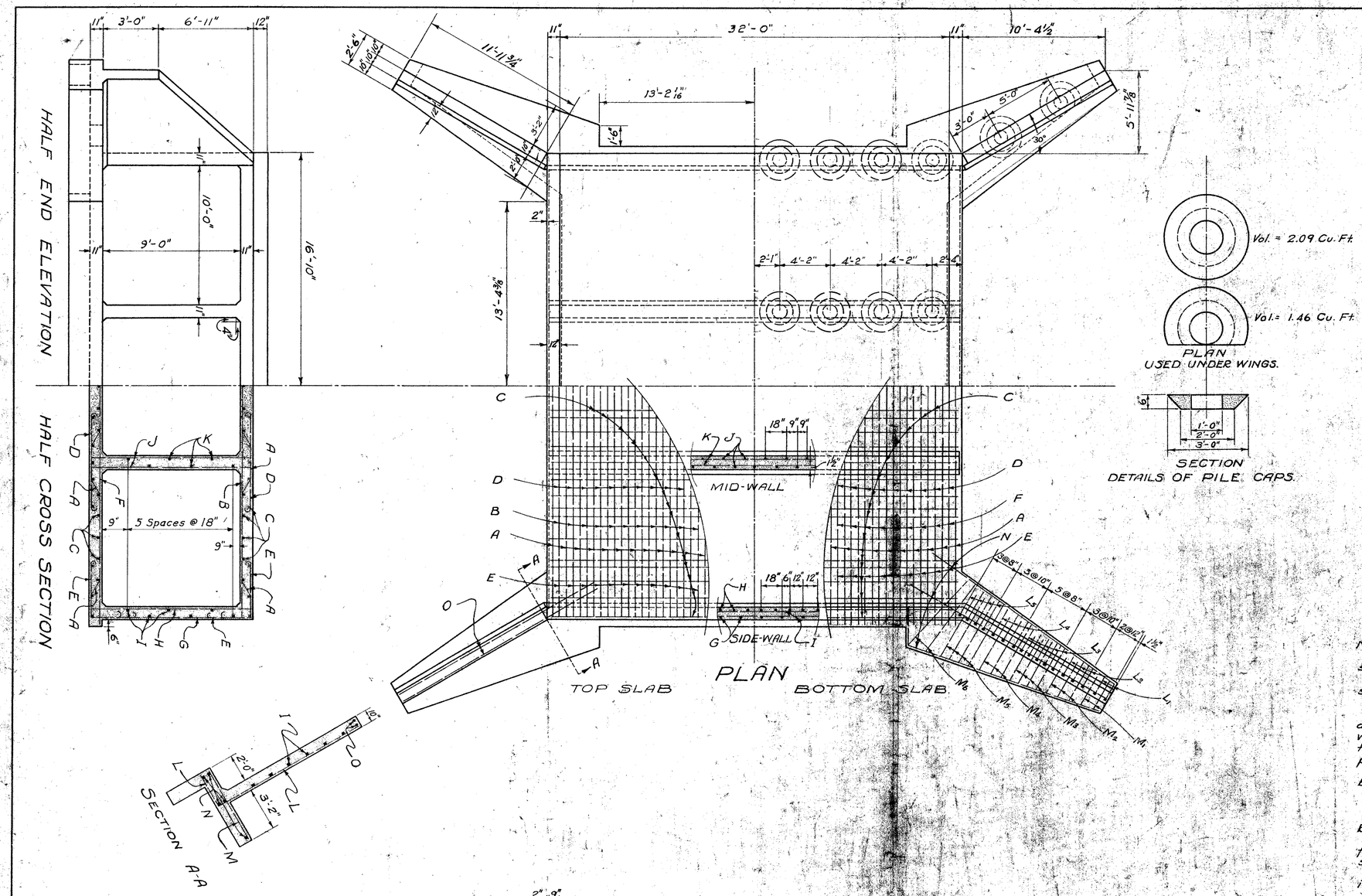
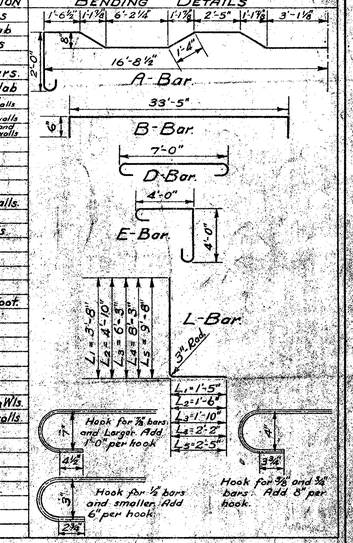
FED. ROAD DIST. NO.	STATE	COUNTY	STATE PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	Georgetown	413-B	511	21	62



STEEL SCHEDULE

Mark	No	Size	Length	Spacing	Location
A	68	5/8"ø	39'-10"	12" c to c.	Slabs
B	33	5/8"ø	34'-5"	"	Top slab
C	62	1/2"□	33'-2"	As shown	Slabs
D	132	3/4"ø	8'-4"	12" c to c.	"
E	132	1/2"ø	9'-0"	"	Corners.
F	33	5/8"ø	34'-5"	"	Bot. slab
G	46	1/2"ø	10'-7"	18" c to c.	outside Side walls
H	68	1/2"□	10'-7"	12" c to c.	Inside Side walls
I1	2	1/2"□	39'-0"	18" Stgd	Wings and Side walls
I2	4	1/2"□	23'-3"	"	"
I3	4	1/2"□	25'-9"	"	"
I4	4	1/2"□	28'-6"	"	"
I5	8	1/2"□	29'-10"	"	"
J	90	1/2"ø	10'-7"	9" Stg'd.	Mid-walls.
K	12	1/2"□	33'-2"	18" Stgd.	"
L1	8	1/2"□	5'-0"	As shown	Wings.
L2	12	1/2"□	6'-3"	"	"
L3	20	1/2"□	8'-0"	"	"
L4	12	3/4"ø	10'-4"	"	"
L5	16	3/4"ø	12'-0"	"	"
M1	8	1/2"□	2'-5"	"	Wing Foot.
M2	12	1/2"□	3'-0"	"	"
M3	16	1/2"□	3'-8"	"	"
M4	12	3/4"ø	4'-6"	"	"
M5	16	3/4"ø	5'-2"	"	"
M6	8	3/4"ø	6'-0"	"	"
N	20	1/2"□	15'-0"	"	"
O	8	3/4"ø	16'-0"	"	Top Wing Wls.
P	4	3/4"ø	33'-4"	"	Headwalls.

BENDING DETAILS



SUMMARY QUANTITIES

*Concrete.-	143.34	Cu. Yds.
Steel.-	13,562	Lbs.
Excavation.-½ = 90.		Cu. Yds.
Piling.-Untreated-600		Lin. Ft.

Concrete P.F.L. = 3,567.0 Cu. Yds.
Excav. P.F.L.-P.F.D. = 1.3580 Cu. Yds.
Cut-off Walls - P.F.D. = 4.3503 Cu. Yds.
Excava. per Ft. Depth = 61.0 Cu. Yds.
*Includes 3.00 Cu. Yds. for Pile Caps.

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 1" 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.

Minimum penetration of Piles to be 15 feet.

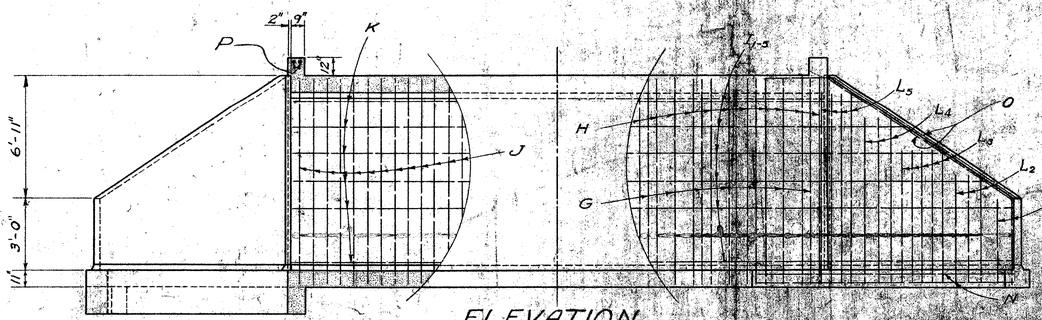
Specifications:- S.C.H.D. for Roads, Bridges, and Culverts revised July 1, 1933 with subsequent revisions.

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

CONCRETE CULVERT
REINFORCED BOX TYPE
TRIPLE 10'X 9'X 32'

Sta. 609+25 State Proj. 413-B Georgetown Co.
SCALE:- ¼" IN. = 1 FT. - DATE - APRIL 1938

CORRECT:- John M. Barnwell Jr.
BRIDGE ENGINEER
APPROVED:- Don H. Moorefield
STATE HIGHWAY ENGINEER



Drawn by:- J.C.A. 5/6/31
Traced by:- F.M. Joye.
Checked by:- J.C.A. 5/9/31 & F.M.J.

Worked up by Perry 4-25-38
Checked by 4/26/38

Section on Center Line showing steel in Mid-wall.

Side Elevation showing steel in Side Wall and Wings

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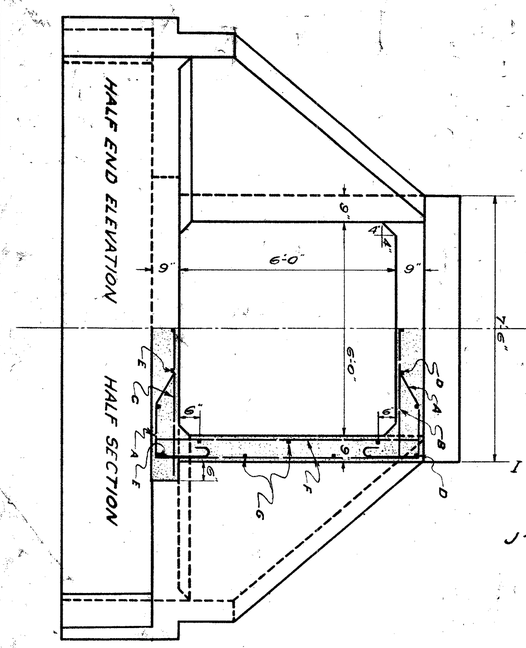
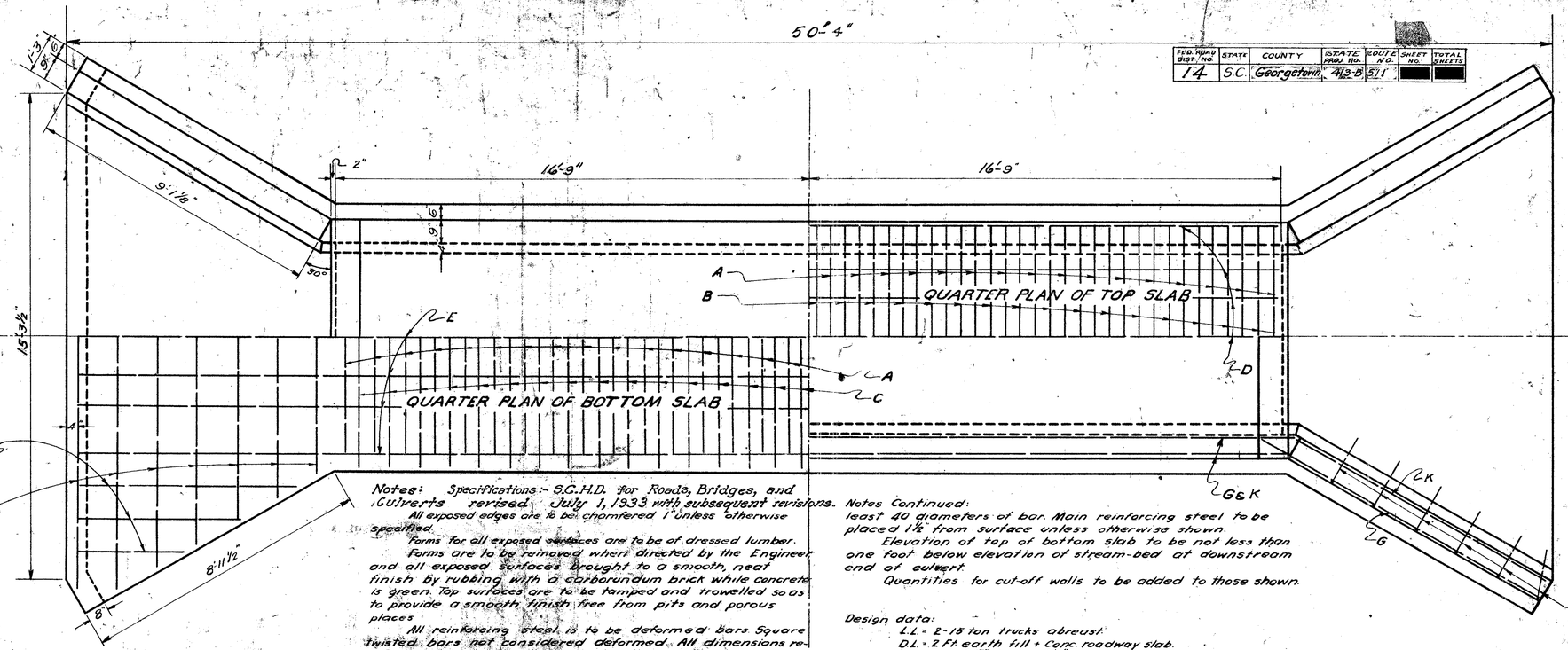
FED. ROAD DIST. NO.	STATE	COUNTY	STATE PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S.C.	Georgetown	412-B	521		





Notes: Specifications:- S.C.H.D. for Roads, Bridges, and Culverts revised July 1, 1933 with subsequent revisions.

All exposed edges are to be chamfered 1" unless otherwise specified.

Forms for all exposed surfaces are 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 finish free from pits and porous places.

All reinforcing steel is to be deformed bars. Square twisted bars not considered deformed. All dimensions relating to steel are to centers of bars. Make all laps at least 40 diameters of bar. Main reinforcing steel to be placed 1½" from surface unless otherwise shown.

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

Quantities for cut-off walls to be added to those shown.

Design data:
L.L. = 2-15 ton trucks abreast.
D.L. = 2 Ft. earth fill + conc. roadway slab.
f_s = 16,000 #/□", f_c = 650 #/□"
Investigate design if fill over 6.0 Ft.

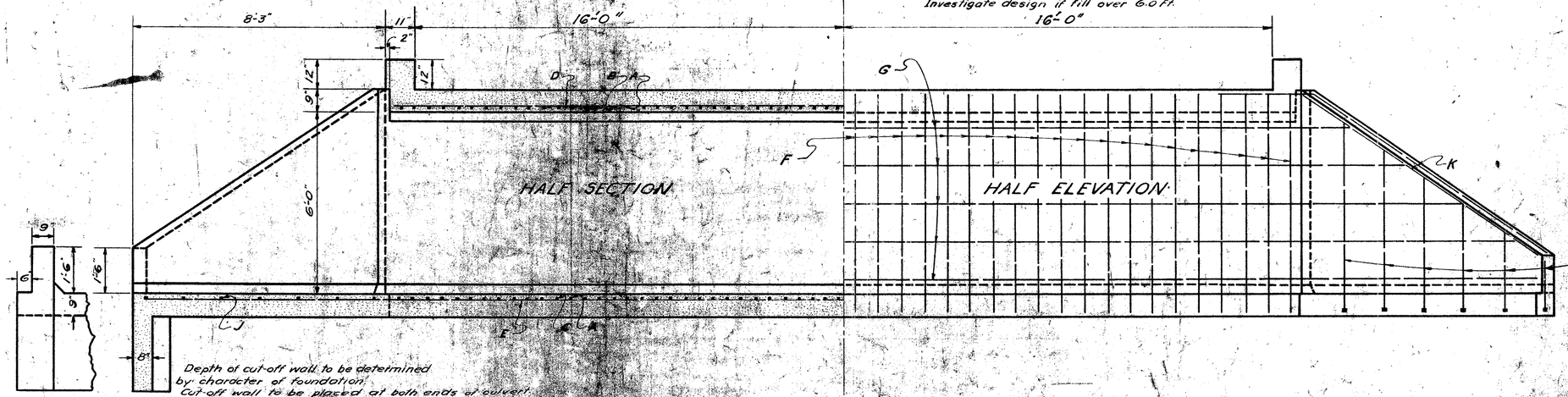
STEEL SCHEDULE

MARK	NO.	SIZE	LENGTH	SPACING	LOCATION
A	82	½"	11'-6"	11" C. to C.	Slabs
B	36	½" □	8'-3"	"	Top slab
C	36	½" □	8'-3"	"	Bot. "
D	7	½" □	33'-2"	As shown	Top "
E	14	½" □	28'-10"	"	Bot. "
F	90	½" ⊕	7'-3"	9" Stgd	Walls
G	6	½" ⊕	40'-0"	15" "	Walls & Wings
G_1	2	½" □	9'-8"	" "	"
G_2	2	½" □	4'-2"	" "	"
G_3	2	½" □	8'-6"	" "	"
G_4	2	½" □	12'-10"	" "	"
G_5	2	½" □	14'-0"	" "	"
H_1	4	½" □	3'-6"	18" C. to C.	Wing & Apron
H_2	4	½" □	4'-5"	" "	"
H_3	4	½" □	5'-2"	" "	"
H_4	4	½" □	6'-0"	" "	"
H_5	4	½" □	6'-11"	" "	"
H_6	4	½" □	7'-9"	" "	"
I_1	4	½" □	7'-1"	12" C. to C.	Apron
I_2	4	½" □	5'-4"	" "	"
I_3	4	½" □	3'-8"	" "	"
J_1	4	½" □	16'-0"	15" C. to C.	"
J_2	2	½" □	14'-6"	" "	"
J_3	2	½" □	13'-2"	" "	"
J_4	2	½" □	11'-8"	" "	"
J_5	2	½" □	10'-2"	" "	"
J_6	2	½" □	8'-10"	" "	"
K	8	⅝" ⊕	13'-4"	As shown	Wings

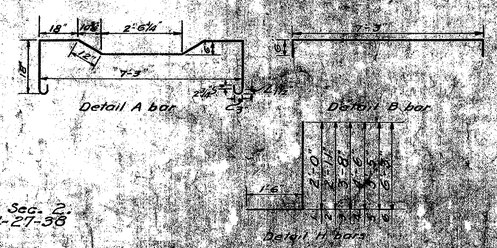
QUANTITIES

Class "A" Concrete	37.5	CU. YD.
Reinforcing Steel	2963	LBS.
Excavation 2 Ft.	264	CU. YD.

Conc. P.F.L. = .7860 Cu. Yd.
Exc. P.F.L. = .3889 Cu. Yd.



Depth of cut-off wall to be determined by character of foundation. Cut-off wall to be placed at both ends of culvert.



		DATE
DRAWN BY	W.P. Turbeville	12/10/19
TRACED BY	"	12/12/19
CHECKED BY	"	12/10/19

Revised by: J.C.A. - 11/18/30
Retraced by: " "
Checked by: J.T.H. - 11-20-30

Copied from Proj. 8R Sec. 2.
Worked by: W.C.B. 4-27-38
Checked by: [illegible]

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

CONCRETE CULVERT

REINFORCED BOX TYPE
SIZE 6 × 6 × 32

Sta. 6 31+38 S-413-B Georgetown Co.

SCALE: ¼ INCH = 1 FOOT. DATE 11-27-42

Designed: J. V. Bennwell Jr. Bridge Engineer
Approved: Roy Jones State Highway Engineer
Revised since: [illegible]

Revised [illegible]

B 105