FED. ROAD DIV. NO.	STATE	COUNTY	[redacted] NO.	F. A. PROJ NO.	ROUTE NO	SHEET NO	TOTAL SHEETS
3	S. C.	FAIRFIELD & NEWBERRY	2036.411	BRF-FG-064(72)	SC34	1	42

INDEX OF SHEETS

1. TITLE SHEET
2. WELDING SYMBOLS AND TEST SPECIMENS
3. STANDARD NOTES
4. STANDARD DETAILS
4a. TYPICAL SECTION FOR APPROACHES
5.-6. BRIDGE PLAN AND PROFILE
7. BENTS NO. 1 & NO. 2
8. PIERS A & J
9. PIER B & H
10. PIERS C
11. PIER D
12. PIER E
13. PIER F
14. PIER G
15. PIER I
16-21. SUPERSTRUCTURE - 190' CONTINUOUS UNIT
22.-28. SUPERSTRUCTURE - 990' CONTINUOUS UNIT
29.-35. SUPERSTRUCTURE - 341' CONTINUOUS UNIT
36. & 37. FRAMING DIAGRAM
38. EXPANSION DAM AT PIERS B & H
39. JOINT DETAILS
40. & 41. APPROACH SLAB
42. RIPRAP STANDARD

SOUTH CAROLINA
STATE HIGHWAY DEPARTMENT
COLUMBIA

PLAN AND PROFILE OF PROPOSED STATE HIGHWAY

F.A. PROJ. NO. BRF-FG-064(72)
FILE NO. 2036.411
S.C. ROUTE NO. 34
FAIRFIELD - NEWBERRY COUNTIES
BRIDGE OVER BROAD RIVER
AND SOUTHERN RAILWAY

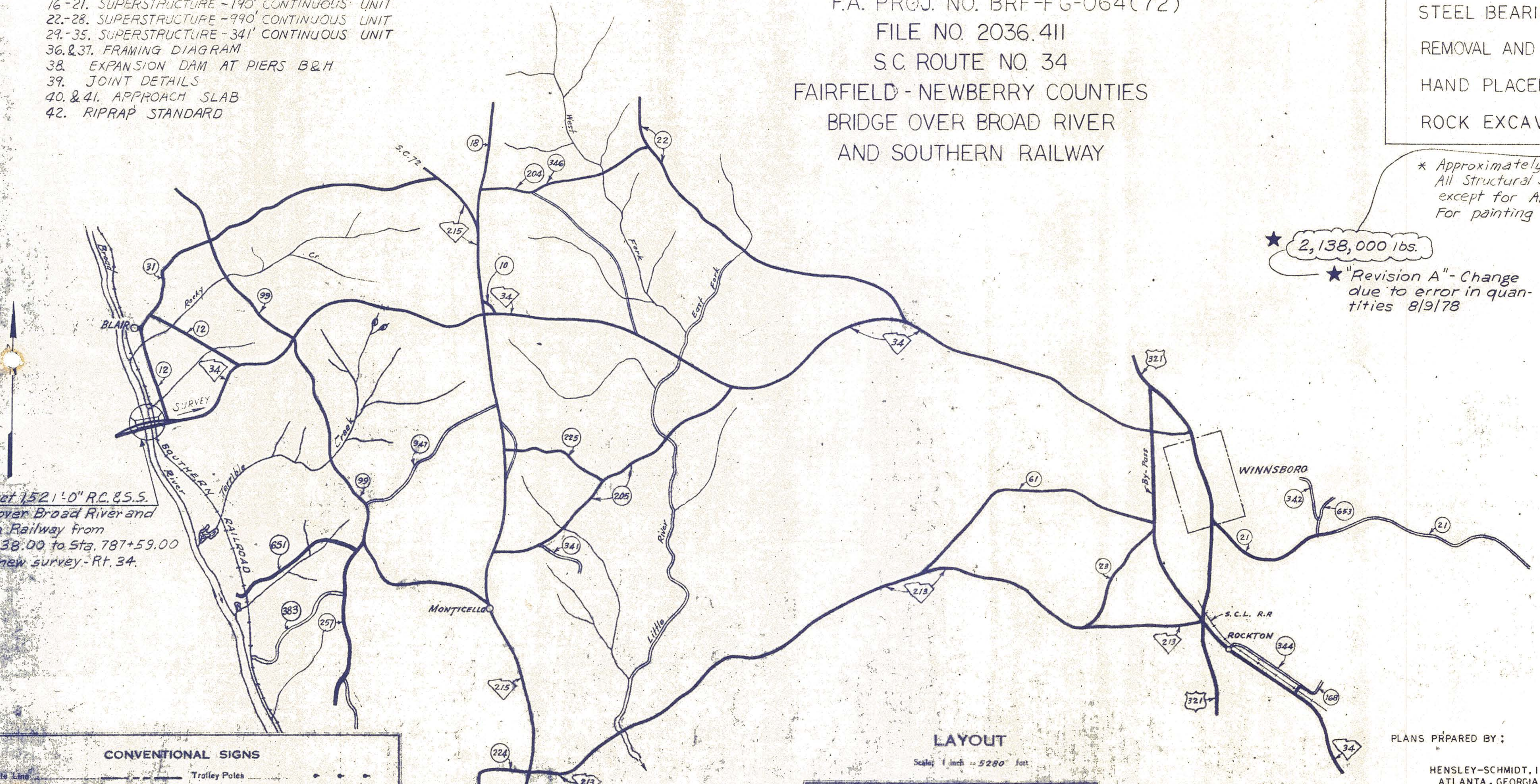
SUMMARY OF ESTIMATED QUANTITIES

"WET" EXCAVATION	850	CY.
"DRY" EXCAVATION	940	CY.
COFFERDAMS FOR PIERS D, E, F & G	4	EA.
CONCRETE CLASS "A"	4024.9	CY.
REINFORCING STEEL	985,416	LBS.
STRUCTURAL STEEL	*NECESSARY	L.S.
STEEL BEARING PILES (HP10x42)	5,312	LF.
REMOVAL AND DISPOSAL OF EXISTING BRIDGE	NECESSARY	L.S.
HAND PLACED RIPRAP	85	CY.
ROCK EXCAVATION	116	CY.

* Approximately ~~1,935,500 lbs~~
All Structural Steel shall comply with latest A.S.T.M. Spec. A-36 Steel
except for Armor Plates and expansion dams
For painting & galvanizing see sheet No. 3

★ 2,138,000 lbs.

★ "Revision A" - Change due to error in quantities 8/9/78



Construct 1521'-0" R.C. & S.S. Bridge over Broad River and Southern Railway from Sta. 772+38.00 to Sta. 787+59.00 along ℄ new survey - Rt. 34.

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 = 5280 feet

Net Length of Roadway =	0.000 Miles
Net Length of Bridges =	0.287 Miles
Net Length of Project =	0.287 Miles
Length of Exceptions =	0.000 Miles
Gross Length of Project =	0.287 Miles

Equations in Stationing

Note: All workmanship and material on this project to conform with South Carolina State Highway Department Standard Specifications for Highway Construction dated [illegible]

RECOMMENDED BY:
JM Coleman 7-12-78
BRIDGE ENGINEER DESIGN DATE

PLANS PRPARED BY:

HENSLEY-SCHMIDT, INC.
ATLANTA, GEORGIA

No. 4134

SUBMITTED BY:

Joseph F. Bork Jr.
JOSEPH F. BORK, JR.

APPROVED:
E S Coffey 7-13-78
STATE HIGHWAY ENGINEER DATE

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
RECOMMENDED FOR APPROVAL:
[redacted] [redacted]
DISTRICT ENGINEER DATE
[redacted]
[redacted] [redacted]
[redacted]

FED. ROAD DIV. NO.	STATE	COUNTY.	~~PROJECT~~ FILE NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C	NEWBERRY FAIRFIELD	2036. 411	BRF-FG-064(72)	SC 34	5	42

STATION AND FINISHED GRADE FOR PIER ℄'S		
LOCATION	STA.	FIN. GR.
Pier A	773+33.00	320.020
B	774+28.00	316.220
C	775+68.50	311.397
D	777+45.75	307.589
E	779+23.00	306.320
F	781+00.25	307.589
G	782+77.50	311.397
H	784+18.00	316.220
I	785+23.00	320.420
J	786+53.00	325.620

P.T. 767+85.9
7.00'
6.15'
8"PINE
1"PINE
4"ASH
3"ELM
13.32'
13.65'
P.O.T. 769+22.3
@ PARR SHOALS PROJECT BY S.C.E.&G. CO.
765
770
775
780
Drain Spacing, Typ. Both Curbs
See Drain Details, Type 1,
Standard Details Sheet 4
196-20'± WELL PUMP
4 Spa. @ 23'-9"
4 Spa. @ 23'-9"
4 Spa. @ 35'-1½"
4 Spa. @ 44'-3¾"
16 Spa. @ 22'-1⅞"
CLEARED FOR LAKE
157
BROAD RIVER
New R/W
Appro. Slab
Shoulder
Pvmt.
Beg. Bridge +38
Boring B3
Sta. 776+70
Boring B4
Sta. 777+80,
12' Left
75'
SURVEY ℄ 75' R/W
℄ Pier
℄ Pier
℄ Expan. Dam.
To Newberry
Pres. 37½' R/W
Pres. 37½' R/W
Shoulder
Boring B1
Sta. 774+30
Boring B2
Sta. 775+50
NEWBERRY CO.
Boring R3
Sta. 779+25
Boring B8
Sta. 772+35
75.0
19
19
Pres. 37½' R/W
BIT. SURF.
1 S.F. STORE
@ PROJECT BOUNDARY LINE
Existing 1459'± × 22'± Steel Truss with
Reinforced Concrete Approaches. Bridge
shall be removed by Contractor.
See Special Provision.
Pres. 75' R/W
Pres. 75' R/W
Match Line
ENT.
175
150
767+85.9 P.T.
172-105'± P.POLE
152-125'± P.POLE
170-125'±
183-121'± EDGE BLDG.
194-115'± GAS PUMP
119-115'± GAS PUMP
128-121'± EDGE BLDG.
163-45'± T.POLE & J. BOX
172-114'± P.POLE
186.7-75'± END BRIDGE (EXIST.)
101-104'± P.POLE
Note: For Pier ℄ Sta. & F.G. Elevation
See Table This Sheet.
1,521'-0" New Bridge
190'-0" Cont. Span (Rolled Beams)
990'-0" Cont. Span (Plate Girders - Welded)
B.M. No. 4 Nail in Base 12" Elm
10' Lt. Sta. 772+36 Elev. 327.04
B.M. No. 5 Nail in Base 8" Gum
26' Lt. Sta. 774+12 Elev. 266.34
2 spans @ 95'-0"
140'-6"
P.C. +28.00, Elev. 316.220
Avg. F.G. El. Exist. Br. = 322.0±
4 spans @ 177'-3"
P.I. Sta. 779+23.00
Elev. 296.420
990' V.C.
30' Approach Slab
EXPAN.
EXPAN.
EXPAN.
EXPAN.
-.400%
FIX
FIX
FIX
℄ Beg. Br. 772+98.00
F.G. Elev. 323.820
MATCH
360
350
340
320
310
300
290
280
270
260
250
Bot. Steel Exist. Truss El. = 291.0±
Top Exist. Pier El. = 289.2±
R.C. Hammerhead Piers
*H.W. El. = 285.8
Max. Flood of Record 287.8 (1929)
*1929 Flood prorated for effect of Parr Shoals Dam and clearing for lake.
** Hard Rock, Cored With 85% Recovery
W.L. = 258.1 (date of survey)
B8
16
55
95
Red Micaceous Sand & Clay
Sand & Clay & Rock Fragments (Saprolite)
@ PROJECT BOUNDARY LINE CROSSES HERE
100 Yr. H.W. affected by Parr Shoals Dam = 286.8
Steel H Bearing Piles Typ. @ Bent № 1 and Piers № A, B, C, & D.
Steel H Bearing Piles The right is reserved to omit these Piles if deemed advisable by the Engineer.
Bent No. ①
Reddish-Brown Clay W/Silt & Sand
Tan Sandy Clay
Grey Clay
Pier No. Ⓐ
Ⓑ
Ⓒ
Ⓓ
Ⓔ
B1
B2
B3
B4
R3
7
13
50 in 0.4'
1
3
0
1
17
Fine Tan Micaceous Sand W/Some Clay
Grey Clayey Sand
Red Micaceous Clay & Sand (Saprolite)
Rock or Boulder Unable to auger further, Typ.
Coarse Micaceous Sand
5
3
50 in 0.1'
Elev. 222±
5
2
1
2
Coarse Grey Micaceous Sand
50 in 0.2'
Decomposed Rock, Hard to Auger
1
2
3
2F
261
Soft Silty Muck
Tan to Brown Coarse Alluvial Sand W/Gravel & Lenses of Muck
White to Green Silty Glaucanitic Sand W/Rock Fragments
**
SECTION ON ℄ SURVEY
765+00
6
7
8
9
770+00
1
2
3
4
5
6
7
8
9
780+00
PLAN
PROFILE
NOTE BOOK
REW. D.C.B.
6-25-77

HYDROLOGY DATA:
D.A. = 4570 sq. mi.
Q_{1929} = 224,000 cfs
Area furnished under H.W. El. 285.8
= 29,500 sq. ft.
V = 7.6 ft./sec.
Q_{100} = 242,000 cfs
Area furnished under Elev. 286.8
= 30760 sq. ft.
Vel. = 7.87 Ft./sec.

SUMMARY OF QUANTITIES

ITEM	NO.	EXCAVATION C.Y.			COFFERDAM EA.	CONC. CLASS "A" C.Y.	STRUCTURAL STEEL Lbs.	STEEL BRG. PILES HP10x42 L.F.	HAND PLACED RIPRAP C.Y.	REINF. STEEL Lbs.
		WET	DRY	ROCK						
Bent No. 1	1					9.2		85		1,528
Bent No. 2	1					23.8		420	85	3,744
Pier A	1		212			156.9		832		28,416
Pier B	1		96			152.8		390		29,342
Pier C	1	11	132			170.3		777		31,239
Pier D	1	185	62		1	244.6		1,152		57,749
Pier E	1	222		34.2	1	198.5		—		57,861
Pier F	1	240		44.4	1	237.7		—		66,863
Pier G	1	192		37.0	1	210.2		—		39,428
Pier H	1		88			122.7		520		24,662
Pier I	1		202			211.4		432		32,825
Pier J	1		148			148.0		704		27,083
190' Cont. Unit	1					260.0	274,500			70,705
990' Cont. Unit	1					1331.0	1,319,200			365,052
341' Cont. Unit	1					458.0	341,800			125,695
30' Approach Slabs	2					89.8				23,224
Total		850	940	115.6	4	4024.9	1,935,500	5,312	85	985,416

★ 253,600
1,483,800
400,600

★ 2,138,000

△ The number of blows per foot shown at borings were obtained with a 140 lb. hammer falling 30" driving a 2"⌀ Split Spoon Sampler.

★ "Revision A" - Change due to error in quantities (8/9/78.)

PLATE 1. PLAN-PROFILE

FED ROAD DIV NO	STATE	COUNTY	FILE NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	NEWBERRY- FAIRFIELD	2036.411	BPF-FG-064(72)	SC 34	6	42

PLAN
NOTE BOOK
No.
REW. DCB
6-21-77
PROFILE
P.O.T. = 783+90.3
NO REFERENCE
TO SPARTANBURG
SOUTHERN RAILWAY MAIN LINE
SIDE TRACK
P.O.T.: 788+05.1
3" PINE
15" PINE
13.78'
29.55'
2" PINE
2" PINE
19.70'
22.15'
P.O.T. 788+98.4
3" LOCUST
10" PINE
12.00'
8.27'
P.C. 790+99.6
780
785
790
795
BROAD RIVER
16 Spa. @ 22'-1 7/8"
4 Spa. @ 44'-3 3/4"
4 Spa. @ 35'-1 1/2"
4 Spa. @ 26'-3"
75' New R/W
Branch
54" G.I. PIPE
190-150'± Rt.
150-82'± T.G.P.
15'-0"
℄ New Bridge & Roadway
Boring B5, Sta. 785+50, 25 Lt.
℄ Pier
℄ Survey
℄ Pier
℄ Pier
Expan. Dam
Boring R2
Sta. 781+00
Boring R1
Sta. 782+75
Boring B6
Sta. 784+00
Boring B7
Sta. 786+50
Exist Piers
15'-0" Min. Horiz. Clear.
75'
38'-0"
1'-8"
19'
19'
1'-8"
75.0'
Match Line
Exist. R.C. & S.S. Bridge to be removed
Hand Placed Rip Rap
Approx. Toe Fill
End Bridge +59
Appro. Slab
Guardrailing
End Rip Rap
Pres. 37 1/2' R/W
WOODS ROAD
To Winnsboro
790+99.6 P.C.
162.1± P.POLE
P.I. = 794+01.7
Δ = 15°01' Lt
D = 2°30'
T = 302.1'
L = 600.7
E = 19.8'
Pres. 37 1/2' R/W
Pres. 37 1/2' R/W
COUNTY ROAD
130.4± G WIRE
137.3± G WIRE
181.10± G WIRE
185.13± G WIRE
FAIRFIELD CO.
@ PROJECT BOUNDARY LINE
1,521'-0" New Bridge
990'-0" Cont. Span (Plate Girders - Welded)
341'-0" Cont. Span (Plate Girders - Welded)
195.55± T.G.P.
101.06± T.G.P.
185.81' TO MILE POST
TO COLUMBIA
TO STROTHERS
+479.75± END BRIDGE (EXIST.)
End Br. 787+59.2
F.G. Elev. 329.860
Pres. 100' R.R. R/W
105'-0"
130'-0"
106'-0"
4 spans @ 177'-3"
140'-6"
P.T. +18.00
Elev. 316.220
+1.00%
+4.00%
EXPAN.
FIX
B.M. No. 6 U.S.G.S. B.M. No. 40
90 Rt. Sta. 786+40 Elev. 290.364
B.M. Stamped "N40 1954"
B.M. No. 7 Nail in Base 15" Pine
122' Lt. Sta. 788+75 Elev. = 326.47
23.0' Min. Vert. Cl.
R.C. Hammerhead Piers
50 Year Frequency Flood El. = 284.2 - affected by Parr Shoals Dam
Q50 = 200,000 cfs
Full Pool El. = 266.0
Low Pool El. = 256.0
@ PROJECT BOUNDARY LINE CROSSES HERE
Reddish Brown Silt & Fine Sand
Red Clayey Sand W/Rock Fragments
Red to Tan Micaceous Clay & Sand (Saprolite)
Brown Micaceous Silty Sand
Rock or Boulder - Unable to Auger Further
Existing Ground
Loose Alluvial Coarse Sand W/Lenses of Soft Muck
Weathered Rock
Hard Rock, Cored 98% Recovery
Grey Fine Silty Sand & Muck - Gravel & Muck
Hard Rock, Cored 96% Recovery
R2
B6
B5
B7
F
G
H
I
J
2
50 in 0.2
50 in 0.4'
MATCH
30' Appro. Slab
Hand Placed Rip Rap
3'-0" Min.
1 1/2:1
Steel H Bearing Piles, Typ. @ Bent No. 2 and Piers H, I & J
SECTION ON ℄ SURVEY
310
300
290
280
270
260
250
350
340
330
320
310
300
780+00
790+00
795+00

Note:
Design L.L. = HS 20-44
All struct. steel to be ASTM A-36, except expansion dams.

RAILROAD DATA

	STA	ELEV
1st RAIL	786+05.40	290.89
2nd RAIL	786+10.56	290.64
3rd RAIL	786+20.36	289.52
4th RAIL	786+25.46	289.25

△ The number of blows per foot shown at borings were obtained with a 140 lb. hammer falling 30" driving a 2"ϕ split spoon sampler.

Notes:

During construction the min vertical clearance shall be 23' above the highest rail and horizontal clearance shall be 12' from ℄ track. The contractor shall arrange his materials and equipment so that they will not interfere with railway traffic at any time.

The contractor shall notify the Senior Assistant Chief Engineer, Southern Railway Co., 99 Spring St. S.W. Atlanta, Ga. 30303, in writing, at least 10 days in advance advising the date when he proposes to begin work on RR. right-of-way.

All work affecting the safety of trains during contruction of this project shall be approved by the Southern Railway System.

For Standard Notes See Sheet No. 3

Elev. 258.1 shall be taken as the dividing plane for Wet & Dry Excavation

BRIDGE OVER BROAD RIVER & SOU. RWY.
SC RT. 34
FAIRFIELD - NEWBERRY COS.

Rev., Added Borings & Drains By: A.N.A.
Rev., Added Quantities By: R.M.A.
DR. JULY 4, 1977
BY: JRC

PLATE 1, PLAN-PROFILE