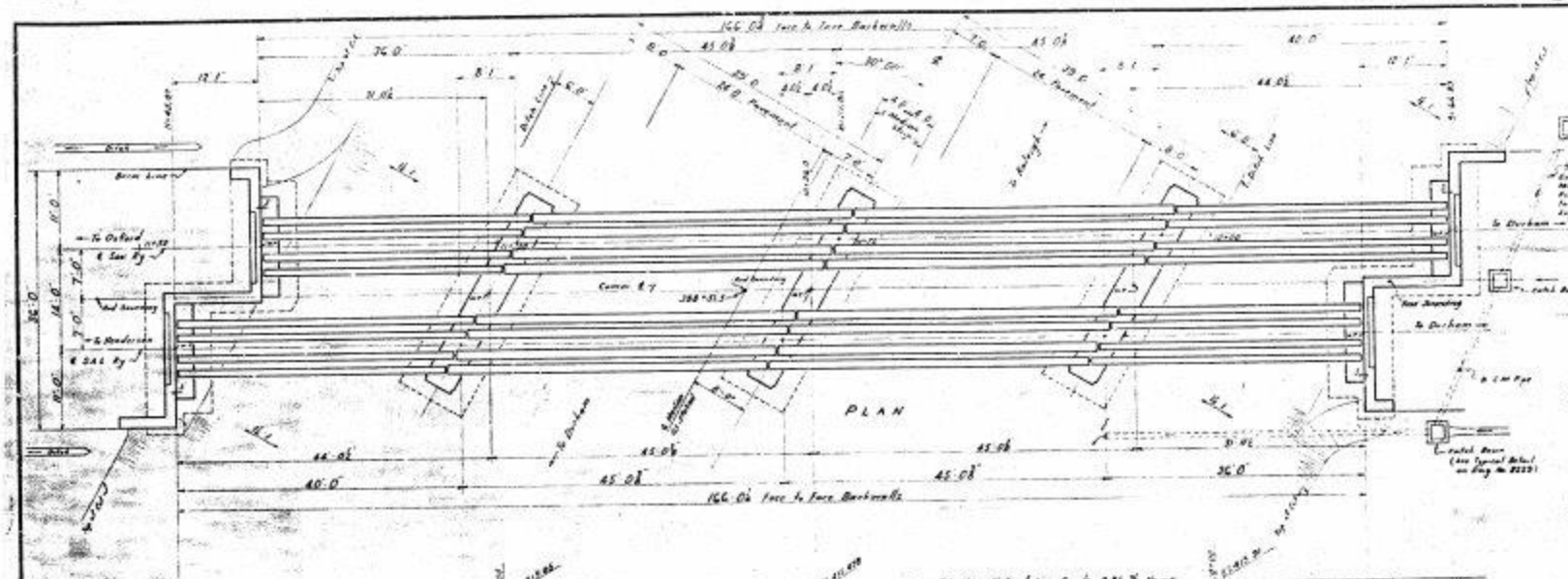
Brg #131

Fed. Aid Proj. No.	State	Project No.	Sheet No.	Total Sheets
3	N.C.	4175	3-B	3-B

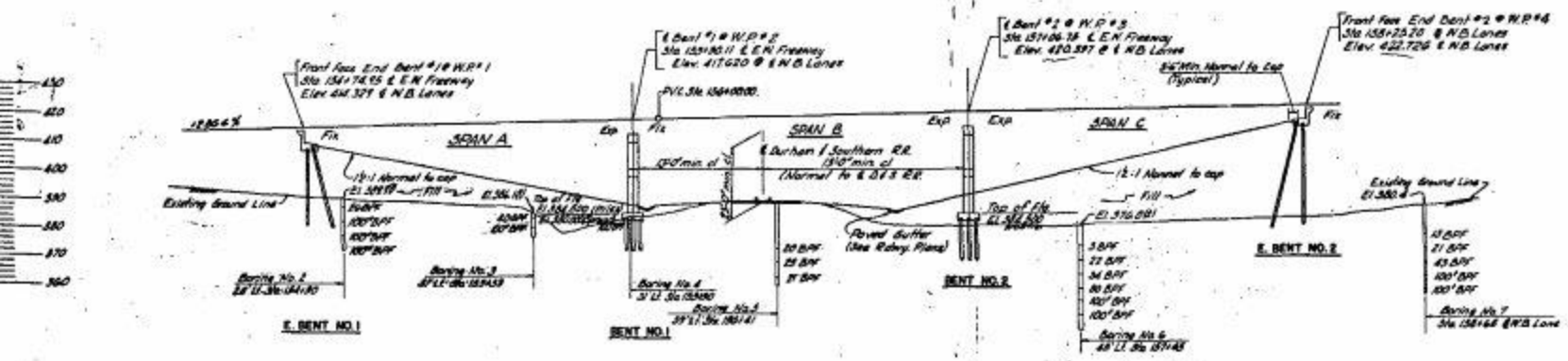
Federal Aid Project No. S-4-(4)(3)(4)

Sheet 37


PLAN
ELEVATION
Pier 1
Pier 2
Pier 3
Abut A
Abut B
166.0' Face to Face Backwalls
Centerline of Road
To Durham
To Henderson
To Oxford
Rail Standing
Rail Standing
Rail Standing

N.C.	8.1413202	5-95
F.A. PROJ. NO.	SUF-58-1(108)	

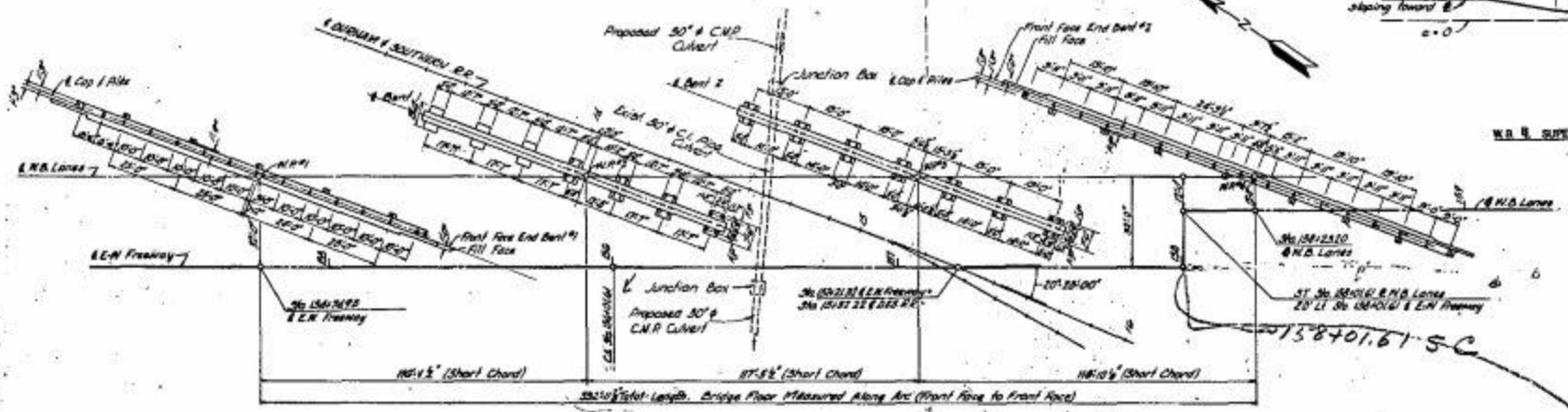
Note: For Curve Layout, Notes and Total Bill of Material see Bridge Dwg. 2.



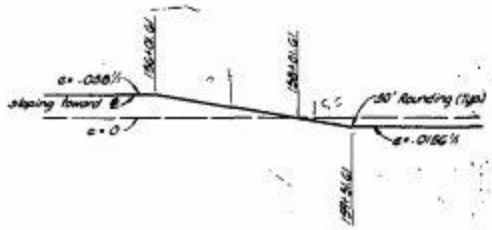
SECTION ALONG ℄ W.B. LANES

CURVE DATA
℄ EAST-WEST FREEWAY

PI = 159+76.60
Δ₁ = 1° 00' 03.1"
Δ₂ = 1° 30' 00.0"
Δ₃ = 01 29' 56.9"
Δ₄ = 1° 30' 00.0"
Δ₅ = 0° 29' 56.9"
Δ₆ = 1.434 16'
→ Rₑ = 3414.78' 1479.16
Lₑ = 200.00'
U = 125.03'
V = 74.99'
Rₙ = 0.79'



PLAN



W.B. ℄ SUPERELEVATION

NC
147
~~40~~-35-190 W.B.

PROJECT NO. 8.1413202

DURHAM COUNTY

STATION: 157+21.32 ℄ E-W FREEWAY

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

GENERAL DRAWING FOR
BRIDGE ON W.B. LANES E-W FREEWAY
OVER DURHAM & SOUTHERN R.R.
BETWEEN ELLIS RD. & BRIGGS AVE.

REVISIONS							
NO.	BY	DATE	NO.	BY	DATE		
1	K.B.P.	4-8-69	3				
2			4				

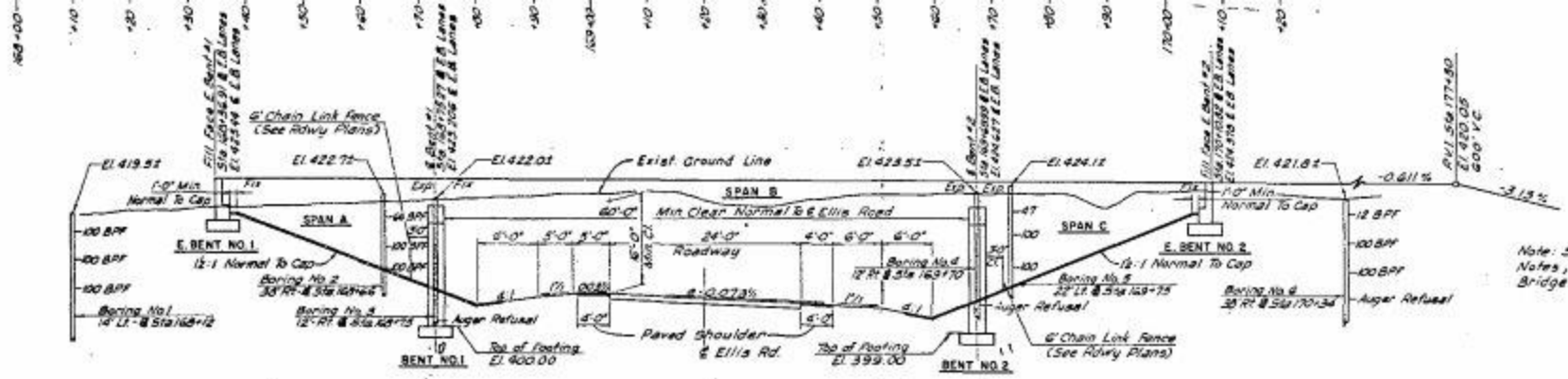
SHEET NO. 5-95
TOTAL SHEETS 212

DESIGNED BY A. TRIMBLE DATE MAY 1968
DRAWN BY D. BADWICK DATE FEB. 1969
TRACED BY DATE
CHECKED BY C. HUDSON DATE MAY 1968

REV. No. 1 - TO CHANGE R_1 AND R_2 IN CURVE DATA. V. G.T.R.

SPECIAL

B.1413202	S-74	
F.A. PROJ. NO. SUF-58-1(108)		

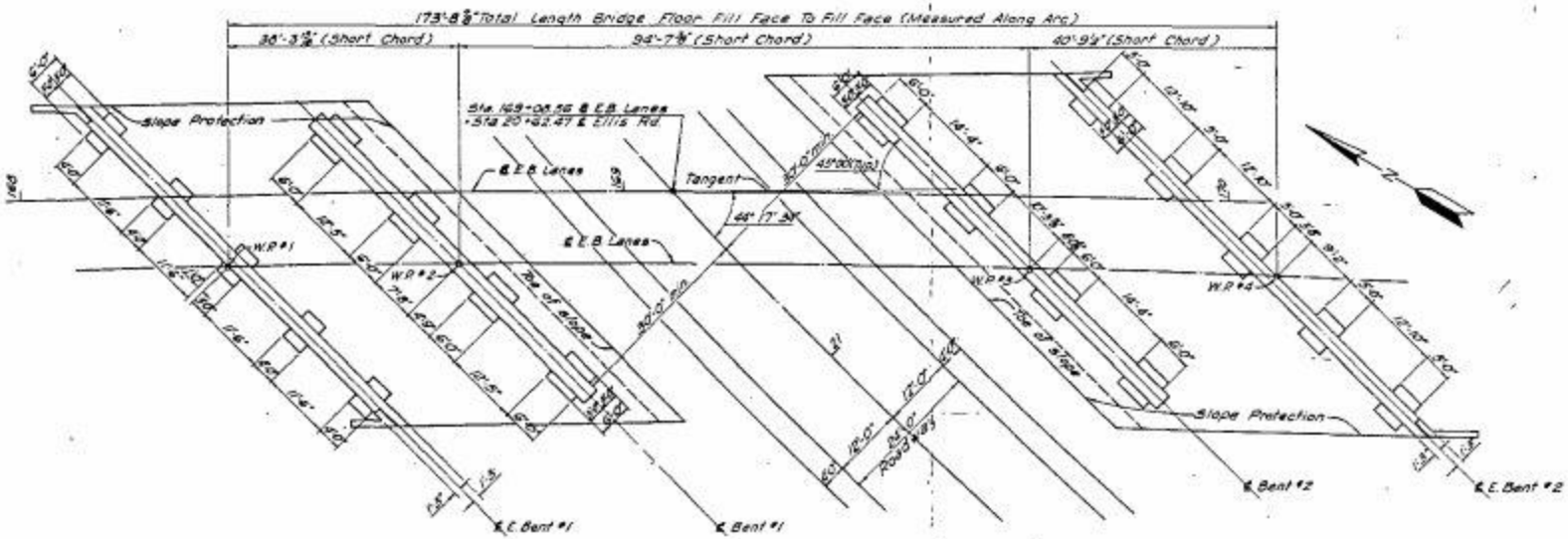


Note: See Bridge Dwg. 2 of 21 for Notes, Total Bill of Materials and Bridge Layout Sketch.

ELEVATION

CURVE DATA

PI Sta. = 192+66.51
Δc = 33° 38' 50.0"
Dc = 0° 30' 00"
Lc = 6729.49'
Tc = 3464.90'
Rc = 11459.16'



PLAN

NC 147
40-35-200 E.B.

PROJECT NO. B.1413202

DURHAM COUNTY

STATION: 169+08.56 ℄ E.B. LANES

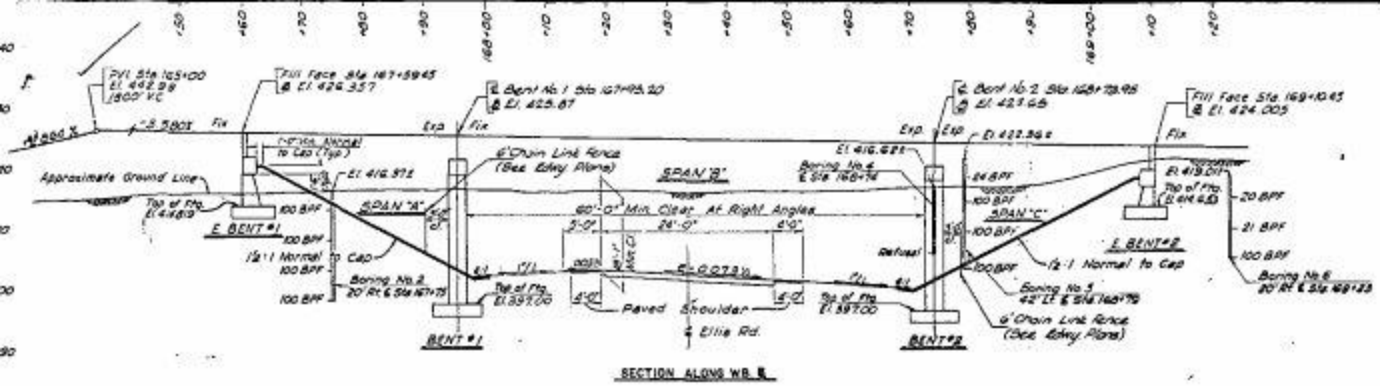
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

GENERAL DRAWING FOR
BRIDGE ON E.B. LANES E-W FREEWAY
OVER ELLIS ROAD (NORTH)
BETWEEN BRIGGS AVE. AND GLOVER RD.

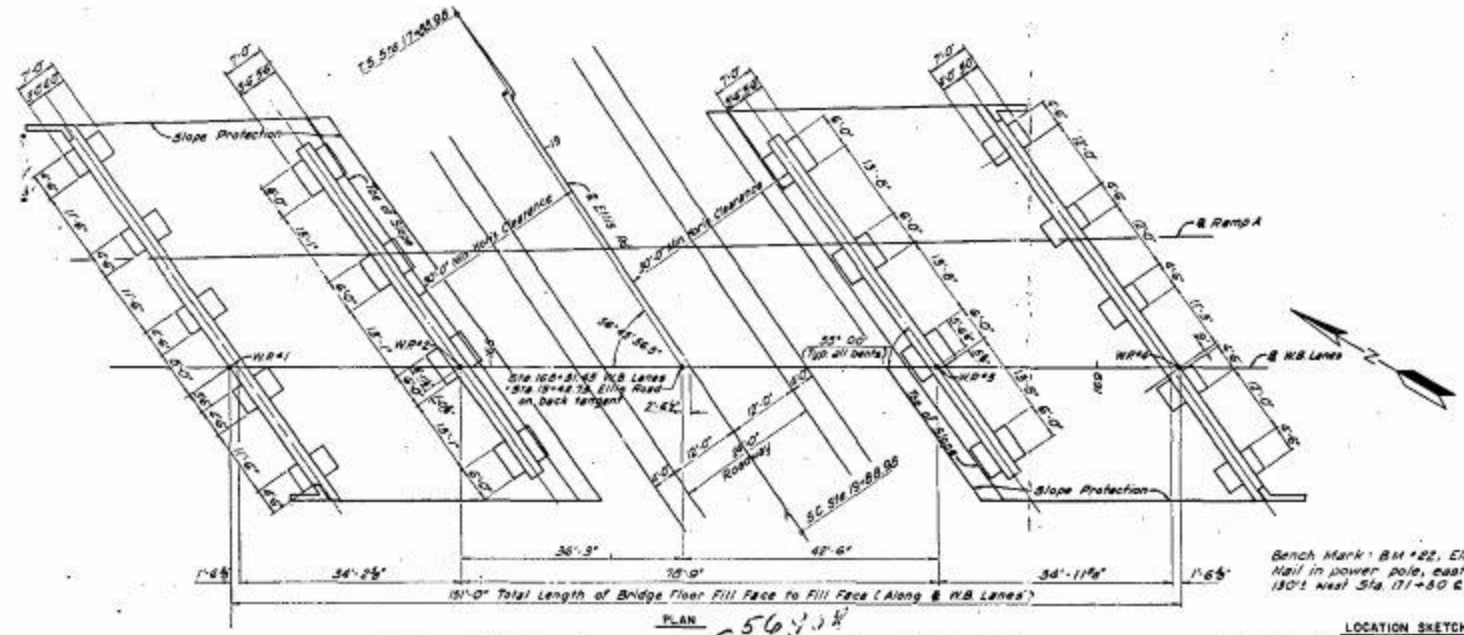
REVISIONS							
NO.	BY	DATE	NO.	BY	DATE	SHEET NO. S-74	
1			3			TOTAL SHEETS 212	
2			4				

DESIGNED BY		DATE
DRAWN BY		DATE
TRACED BY		DATE
CHECKED BY		DATE

H.C.	8.1413202	3-65
F.A. PROJ. NO.	BUCT 98-1(109)	



SECTION ALONG W.B. ℄



PLAN

Bench Mark: BM #22, Elev 422.455
Nail in power pole, east side of Ellis Rd.
130'± west Sta. 171+80 ℄ E.B. Lanes E.W. Freeway

NOTES

1. Assumed Live Load: HS 20-44, or Alternate Loading.
2. For other Design Data and General Notes See Sheet 3.N.
3. Class AA Concrete shall be used in the superstructure and Class A Concrete shall be used in all other portions of the structure. See Special Provisions & Specifications.
4. Computed foundation load for all bents and end bents equals 3.51 Tons per sq ft.
5. Footings founded on rock to be carried at least 6" into rock with minimum thickness as shown on plans.
6. Unclassified Structure excavation to be measured from surface of roadway cut for interior bents, and from existing ground line for end bents.
7. Traffic is to be maintained. See Rdwy Plans.
8. For measurement and payment of Concrete Handrail, See Special Provisions.
9. Work is not to be started on structure until after the roadway section has been paved by the Roadway Contractor.

PROFILE ELLIS ROAD

NK 14740-35-200 W.B.

PROJECT NO. 8.1413202

DURHAM COUNTY

STATION: 168+31.45 ℄ W.B. LANES

TOTAL BILL OF MATERIAL

	Class A Concrete Cu. Yds.	Class AA Concrete Cu. Yds.	Reinforcing Steel Lbs.	Structural Steel Approx. Lbs.	Unclassified Str. Excav. Cu. Yds.	Concrete Handrail Lin. Ft.	6" Conc. Slope Protection Sq. Yds.	Liquid Oil Concrete Protection Gallons*
Superstructure		249.5	56,854	224,600		305		20
E. Bent #1	33.9		8,732		40		550	
Bent #1	61.4		13,700		120			
Bent #2	60.5		13,685		95			
E. Bent #2	38.8		4,963		95		370	
Curved End Block		0.6	64					
Total	200.6	250.1	96,118	224,600	350	305	700	20

56,918

* See Special Provisions for method of curing bridge deck and mixing and applying the linseed oil solution.

LOCATION SKETCH

Rev. No. 3 To change reinf. in B.M.#1 and B.M.#2 only

Rev. #2 To change reinf. in Superstructure (by VWJ)
Rev. #1 To change reinf. in E.B.#2. (by AKR)

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

GENERAL DRAWING FOR
BRIDGE ON W.B. LANES E-W FREEWAY
OVER ELLIS ROAD (NORTH)
BETWEEN BRIGGS AVE. AND GLOVER RD.

REVISIONS						SHEET NO. 3-65
NO.	BY	DATE	NO.	BY	DATE	TOTAL SHEETS 2/2
1	K.G.P.	8-20-68	3	E.G.A.	6-12-70	
2	K.A.K.	10-24-68				

DESIGNED BY	E. Perry	DATE	7-67
DRAWN BY	F. Rodgers	DATE	8-67
TRACED BY		DATE	
CHECKED BY	H. Perry	DATE	1-68

CAMBER DIAGRAM

SPAN-A

SPAN-B

SPAN-C

END BENT #1

BENT #1

BENT #2

END BENT #2

SECTION ALONG ℄ OF BRIDGE

PLAN

LOCATION SKETCH

NOTES

Live Load H15-S32-44.

f_c = 20,000 lbs per sq. in.

For other Design Data and "General Notes" see Sheet 2 of 2.

Test piles will not be required. Piles set to be based on pile driving formula [illegible]

CAPACITY OF PILES: Piles for End Bent #1 and #2 [illegible] to a minimum bearing capacity of 27 tons each.

CONDITION OF FOUNDATION LEVEL: Bent #1 = [illegible] tons per sq. ft. Bent #2 = [illegible] tons per sq. ft.

All concrete surfaces to be finished in accordance with the Specifications.

Bents #1 & #2 are to be built before any fill is placed. Do not place approach fill [illegible] Bents #1 & #2 are to be constructed from natural ground. See Special Provisions.

NOTES

All beams in Spans A & B are parallel to ℄ Sheet in respective spans. See profile sheet for beams in Span C.

Railings to be omitted at least 2' [illegible] with minimum thickness as shown.

All bents to be built plumb.

NOTE: All [illegible] shown

TOTAL FILL OF MATERIAL

	Class "A" Concrete	Reinf. Steel	Class "A" Concrete	Structural Steel	Structural Steel Bridge Rivets	Reinf. Steel Bridge Rivets	Metal Railing
	Cu. Yds.	Lbs.	Cu. Yds.	Lbs.	Lbs. Pts.	Lbs. Pts.	Lin. Ft.
Superstructure	242.5	25,010	10,070				84
End Bent #1	53.5	3,935	3				
Bent #1	47.0	8,620				48,201	
Bent #2	47.0	8,620				48,201	
End Bent #2	53.5	3,935					
Approach Slabs	21.3	2,400					
TOTAL	396.5	51,510	10,070			96,402	84

PROJECT NO. [illegible]

WAKE COUNTY

STATION [illegible] (℄ SPAN C)

STATE HIGHWAY COMMISSION
PUBLIC WORKS COMMISSION

GENERAL DRAWING
FOR BRIDGE OVER
EAST BOUND LANE OF U.S.
BETWEEN RALEIGH & DURHAM
AND U.S.

70B-35.50'W