

INDEX OF SHEETS  
 Sheet No. 5-0 Title Page  
 5-1 thru 5-10 Structure Plans

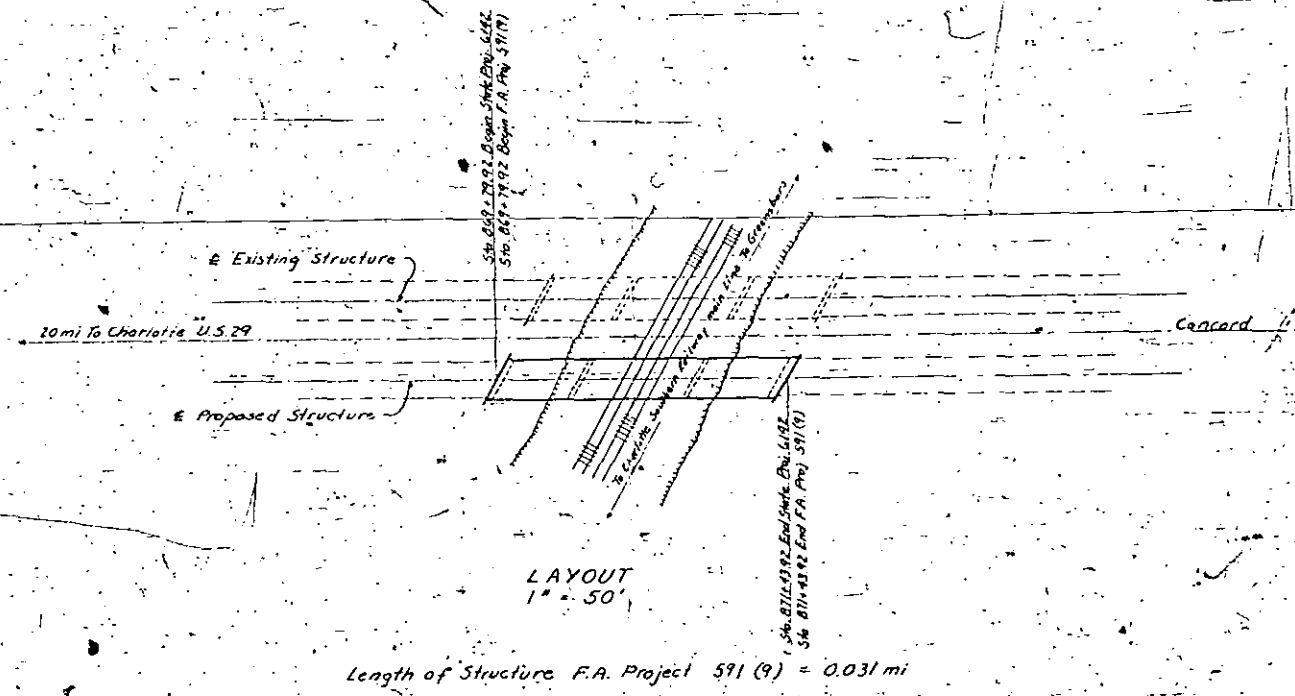
STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND PUBLIC WORKS COMMISSION  
 PLAN AND PROFILE OF PROPOSED  
 STATE HIGHWAY  
**CABARRUS COUNTY**

FED. ROAD DIST. NO.	STATE	STATE PROJ. NO.	TOTAL PROJ. MILES	SHEET NO.	TOTAL SHEETS
	NC	6742		53	10
F.A. Proj 591(9)					

CONVENTIONAL SIGNS

- County Line .....
- Township Line .....
- City or Town Line .....
- Right of Way Line .....
- Survey Line .....
- Property Line .....
- Wire Fence .....
- Board Fence .....
- Frontal Traveled Road .....
- Railroad .....
- Grade Elevation .....
- Ground Elevation .....
- Pipe Culvert .....
- Box Culvert .....
- Woods .....
- Telephone or Telegraph Pole .....
- Tower Pole and Line .....
- Power Pole .....

SHIPPING POINT  
 CONCORD, N.C.



APPROVED: *[Signature]*

DEPARTMENT OF COMMERCE  
 BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL:

DISTRICT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED:

DIVISION ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

Prepared in Office of  
 STATE HIGHWAY AND PUBLIC WORKS COMMISSION  
 RALEIGH, N. C.

Reviewed by:  
 Date: Nov. 1950

1946  
 State Standard Specifications  
 Approved by Bureau Control

Right of Way on this Project is 120' Wide

455/15 66

INDEX

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" 2-13	STRUCTURE PLANS
" 14	CROSS SECTIONS BENT #1
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" 16	PILE DATA
" 17	SUMMARY QUANTITIES
" 18	THE FINAL ESTIMATE

FINAL ESTIMATE ON NORTH CAROLINA STATE PROJECT NO. 6142  
FOR STRUCTURE ON U.S. ROUTE NO. 29  
BETWEEN CHARLOTTE AND CONCORD  
CABARRUS COUNTY  
DIVISION NO. 7

CONTRACTOR-W.F. BRINKLEY & SON CONST. CO., INC.  
GRANITE QUARRY, N.C.  
Contract Let- 12-19-50  
Work Started- 7-12-51  
Work Completed- 5-22-52  
M.E. BEATTY- DIVISION ENGINEER  
R.K. JEWELL - RESIDENT ENGINEER  
J.L. COCHRANJR- MASONRY INSPECTOR

TABLE OF OVERRUNS AND UNDERRUNS

ITEM	ORIG. EST.	FINAL EST.	OVERRIDE	UNDER RUN
Unclassified Str. Excavation cy.	290	260.4		29.6
Class "A" Concrete Cu yds	297.0	296.4		0.6
Reinforcing Steel Lbs.	55,540	55,785	245	
Structural Steel Lbs.	138,200	138,200		
Creosoted Timber Piles L. Ft.	2070	705.33		1364.67
Creosoted Timber Pile Cut off LF		391.25		
Wrought Iron Blast. Plates Lbs.	3400	3400		
Method "A" Water Proofing Sq yds	28	28		

FOR EXPLANATIONS ON OVERRUNS & UNDER RUNS SEE LETTER

Note: The final note books properly marked and described herewith as a part of this final estimate are as follows  
1. Diary Showing Resident Engineers daily record of forces and Equipment working days, weather conditions, and all important events connected with work.  
1. Masonry Book Showing final quantities and materials recieved.

**DESIGN DATA:**

Specifications	A.A.S.H.O. (1949)
Live Load	See Plans
Impact Allowance	See Specifications
Stress in Extreme Fiber of Structural Steel	18,000 Lbs per sq in.
Tension in Web Reinforcement	16,000 Lbs per sq in.
Reinforcing Steel in Tension	18,000 Lbs per sq in.
Concrete in Compression	1,000 Lbs per sq in.
Concrete in Shear	90 Lbs per sq in.
Structural Timber Treated or Untreated	1,000 Lbs per sq in.
Compression Perpendicular to Grain in Timber	375 Lbs per sq in.
Equivalent Fluid Pressure of Earth	30 Lbs per cu ft.

**MATERIAL AND WORKMANSHIP:**

Except as may otherwise be specified on plans or in the Special Provisions, all material and workmanship shall be in accordance with the Standard Specifications of the N.C. State Highway & Public Works Commission.

**CONCRETE:**

Class "A" concrete shall be used throughout. Standard size No. 3 coarse aggregate shall be used for all concrete except where plans call for No. 4 in handalls above top of curbs. Where precast concrete piles are called for, the coarse aggregate in them shall be crushed stone. If air entraining concrete is specified on plans, the gravitation of the aggregate shall be as specified under the Special Provision "Air Entraining Concrete."

**CHAMBERS:**

Unless otherwise noted on plans, all expansion chambers of concrete shall be constructed in accordance with the following: 1. Chamber type shall be of the type shown on plans. 2. Expansion joints and bulgers shall be of the type and size shown on plans. 3. Chambers shall be constructed with scuppers.

**SURFACE FINISH:**

Concrete surfaces shall be finished in accordance with the Specifications except that substructure concrete in bridges, unless otherwise specified on plans, shall be given a Class-2 surface finish.

**REINFORCING STEEL:**

All reinforcing steel, except 1/2" bars, shall be deformed bars. All dimensions relative to reinforcing steel are to centers of bars. No splices other than those shown on plans, will be permitted. All reinforcing steel shall be correctly bent in correct position.

**STRUCTURAL STEEL:**

Structural steel shall meet all the requirements of the Specifications and shall be given one shop coat and one field coat of red lead and finally two field coats of aluminum paint. Detail drawings for structural steel shall be submitted for approval. No unchecked drawings will be accepted.

**EXPANSION JOINT MATERIAL:**

Expansion joint material, when called for on plans, may be either rubber compound or cork, conforming to the requirements of A.A.S.H.O. Specifications.

**METHOD "A" WATERPROOFING:**

Where method "A" waterproofing is called for on the plans, joints of water-tight structures shall be waterproofed with a material placed symmetrical about the joints. Asphalt waterproofing shall conform to the requirements for type "A" asphalt of A.A.S.H.O. Specification M-115.

**TIMBER AND PILES:**

Unless otherwise specified, all timber piles and cross-ties shall be of the type and size shown on plans. All timber material and treatment shall be in accordance with the Specifications. Unless otherwise specified, all timber and piles shall retain 18 lbs. of preservative per cu ft.

**PAYMENT FOR STEEL PILE CUT-OFFS:**

The Contractor's attention is called to the fact that where steel piles are cut off on the plans, he will be paid 1.25 per linear foot for 10" x 10" piles, 1.50 per linear foot for 12" x 12" piles, 2.00 per linear foot for 14" x 14" piles, 2.50 per linear foot for 16" x 16" piles, 3.00 per linear foot for 18" x 18" piles, 3.50 per linear foot for 20" x 20" piles, 4.00 per linear foot for 22" x 22" piles, 4.50 per linear foot for 24" x 24" piles, 5.00 per linear foot for 26" x 26" piles, 5.50 per linear foot for 28" x 28" piles, 6.00 per linear foot for 30" x 30" piles, 6.50 per linear foot for 32" x 32" piles, 7.00 per linear foot for 34" x 34" piles, 7.50 per linear foot for 36" x 36" piles, 8.00 per linear foot for 38" x 38" piles, 8.50 per linear foot for 40" x 40" piles, 9.00 per linear foot for 42" x 42" piles, 9.50 per linear foot for 44" x 44" piles, 10.00 per linear foot for 46" x 46" piles, 10.50 per linear foot for 48" x 48" piles, 11.00 per linear foot for 50" x 50" piles, 11.50 per linear foot for 52" x 52" piles, 12.00 per linear foot for 54" x 54" piles, 12.50 per linear foot for 56" x 56" piles, 13.00 per linear foot for 58" x 58" piles, 13.50 per linear foot for 60" x 60" piles, 14.00 per linear foot for 62" x 62" piles, 14.50 per linear foot for 64" x 64" piles, 15.00 per linear foot for 66" x 66" piles, 15.50 per linear foot for 68" x 68" piles, 16.00 per linear foot for 70" x 70" piles, 16.50 per linear foot for 72" x 72" piles, 17.00 per linear foot for 74" x 74" piles, 17.50 per linear foot for 76" x 76" piles, 18.00 per linear foot for 78" x 78" piles, 18.50 per linear foot for 80" x 80" piles, 19.00 per linear foot for 82" x 82" piles, 19.50 per linear foot for 84" x 84" piles, 20.00 per linear foot for 86" x 86" piles, 20.50 per linear foot for 88" x 88" piles, 21.00 per linear foot for 90" x 90" piles, 21.50 per linear foot for 92" x 92" piles, 22.00 per linear foot for 94" x 94" piles, 22.50 per linear foot for 96" x 96" piles, 23.00 per linear foot for 98" x 98" piles, 23.50 per linear foot for 100" x 100" piles.

**STEEL PILE CAPS:**

The cost of steel pile caps as detailed on plans, complete in place, shall be included in the unit contract price per foot for steel piles of the size and weight specified. Pile caps may be obtained from pile cut-offs.

**PAYMENT FOR SPLICING STEEL PILES:**

The Contractor's attention is called to the fact that in the event of a splice in steel piles, this work will be paid for at a lump sum of \$1.00 per splice instead of as "Extra Work" as provided in the Specifications.

**PAINTING STEEL PILES:**

No paint will be required for steel piles used in end bents, under footings or other steel piles encased in concrete from the top to an elevation below water surface or ground line. Steel piles in bents and not encased shall be given two field coats of red lead and one of aluminum paint from the top to an elevation not higher than five feet below ground line or stream bed at the point where the pile is driven. After the pile has been driven and the bent cap constructed, a second coat of red lead and aluminum paint shall be touched up with one coat each of red lead and aluminum. Finally, the pile area from bottom of cap to ground line, water surface, or concrete jacket, as the case may be, shall be given a second coat of aluminum paint. See Specifications.

**ALLOWANCE FOR DEAD LOAD DEFLECTIONS AND SETTLEMENT:**

Bridges shall be built on the grade or vertical curve shown on plans. Curves shall be in accordance with the grade or curve. Final settlement shall be built plumb.

In setting forms for T-beam bridges, an allowance shall be made for dead load deflections in addition to the elevations shown. If deflections are not shown on plans, they will be furnished by the Bridge Engineer.

In setting falsework and forms for reinforced concrete spans, an allowance shall be made for dead load deflections, settlement of falsework, and permanent camber which shall be provided for in addition to the elevations shown. After removal of the falsework, the finished structure shall conform to the elevations shown plus the allowance for permanent camber specified by the Engineer.

**DIMENSIONS SHOWN IN SECTIONS THROUGH T-BEAM SPANS:**

All dimensions which are given in section and are affected by dead load deflections are dimensions at 2.0 ft. above the top of the slab. Where elevations are shown over beams for building up to the slab, the vertical dimensions of the beams shall be increased between bearing points to compensate for the dead load deflections. Where bottom of slab is in line with bearing of the beams, depth of slab between bearings shall be increased in accordance with dead load deflection.

**COPPER FLASHING:**

When called for on plans in expansion joints between spans, copper flashing may be spliced in order to obtain lengths required. Joints shall be soldered. See Specifications.

**WIRE MESH FOR JACKETS OR ENCASMENT AROUND STEEL PILES:**

Where wire mesh around steel piles is called for on plans, it shall be of an approved type, 12 gage with 4"x4" openings or 13 gage with 4"x4" openings. No allowance will be made for wire mesh.

**EXCAVATION AND FOUNDATION DATA:**

The information shown on plans pertaining to excavation and foundation data, and all elevations of ground line and water surfaces given are believed to be correct and are furnished for the convenience of bidders, but the State Highway and Public Works Commission assumes no responsibility for the correctness of any of the information given. See Specifications.

**EXCAVATION FOR END BENT CAPS AND JACKETS AROUND PILES:**

Excavation and backfill required for end bent caps and pile jackets will not be measured and paid for as separate items. The entire cost of work to be included in the unit contract price for Class "A" concrete.

**DRIVING PILES THROUGH FILL:**

The Contractor's attention is called to the fact that where piles are driven through fill, he will not be permitted to drive the piles for any length until the adjacent fill has been placed up to subgrade level.

In the event that the Contractor is required to work with concrete in order to place the fill, the Contractor shall be responsible for the cost of this work. The performance of this work shall be held to the same standard as the Contractor's work on such items, but the driving time will be charged against him during the period that is necessary for him to obtain cooperation on this account.

**USE OF 3" FORM LUMBER:**

The Contractor's attention is called to the fact that forms and falsework for bridges shall comply with the requirements of the Specifications except that where I-beam stringers are used to support the concrete slab of a bridge, the use of lumber having a thickness of 3" after surfacing, will be permitted for the floor forms of the portions of the slab between the I-beam stringers. If 3" lumber is used, floor form supports shall be spaced at 1'-6" centers. Instead of at 2'-0" centers as shown on the standard falsework plan for I-beam spans.

**BONDING NEW CONCRETE TO OLD:**

Where plans call for bonding existing concrete structures, or otherwise require bonding new concrete to old portions of the existing structures, shall be removed as indicated on plans. Existing steel exposed by such removal shall be left in place to extend into new concrete.

If expansion anchor bolts are called for, holes shall be drilled into old concrete using power drills 1/2" for 3/4" and 1 1/2" for 2" anchors, or hand drills 1" for 1 1/2" and 1 3/4" for 2" anchors.

American Expansion anchors or an approved equal shall be used. Connecting surfaces of the old concrete shall be thoroughly roughened, cleaned of loose material, wetted and flushed with a cement mortar or immediate fresh pouring new concrete.

**JOINTS IN EXPANSION JOINT MATERIAL:**

Where expansion joint material is called for between the ends of adjacent reinforced concrete girders, a 6" by 6" section felt shall be placed over all joints in the expansion joint material. The felt to be placed on the surface of the slab adjacent to the pouring.

**CONSTRUCTION JOINTS:**

No construction joints other than those shown on the plans, will be permitted. Construction joints in concrete walls shall be formed with a curb, and construction joints in concrete slabs shall be formed in one continuous operation allowing no time for a joint to take place between pours.

**TREATMENT OF PILE HEADS:**

When required, pile heads shall be cut off and the cut ends shall be treated in accordance with the Specifications. A maximum of 0.50 per linear foot may be used for the treatment of pile heads. The Contractor shall be responsible for the cost of this work.

**SPECIAL NOTE:**

Generally, in cases of emergency, the Engineer's orders shall govern over the Standard Notes, but the requirements of the plans shall govern over the Standard Notes and Special Provisions shall govern over all. See Special Provisions for details.

STATE OF NORTH CAROLINA  
STATE HIGHWAY AND  
PUBLIC WORKS COMMISSION

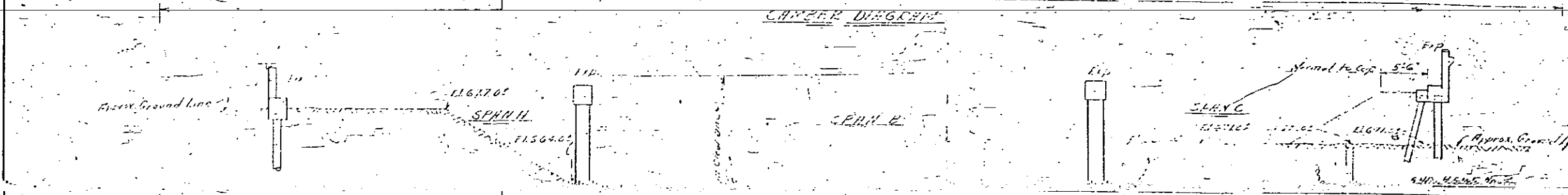
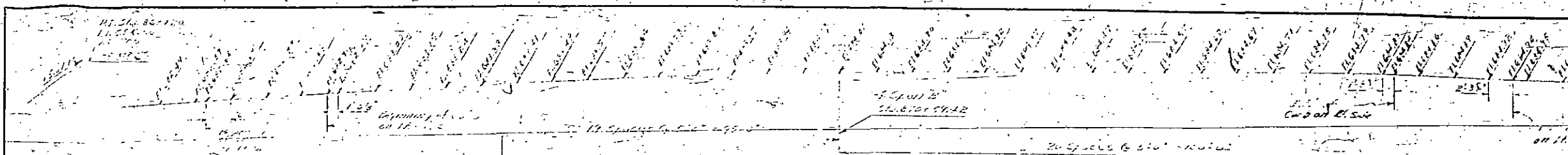
**STANDARD NOTES**

Revised amounts of payment for steel pile cut-offs as follows:  
12" x 12" from \$2.50 to \$2.75  
14" x 14" from \$3.00 to \$3.25  
These changes do not apply to projects worked on prior to Nov. 1, 1951.

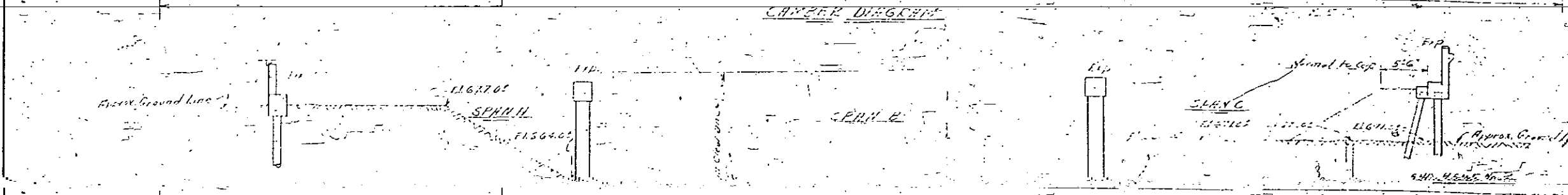
Revised to require roadway for pile caps to subgrade elevation instead of to one foot below top of cap.  
This revision not to apply to projects worked on prior to March 1, 1952.

STANDARD SPECIFICATIONS FOR BRIDGE CONSTRUCTION  
REVISED 1950

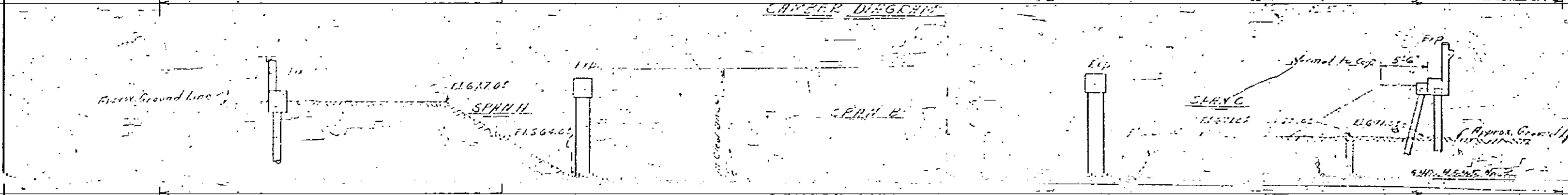
PROJECT NO.	DATE	BY	SCALE
3	N.C.	G.I.E.	5/2/76
SHEET NO. 501 (9)			



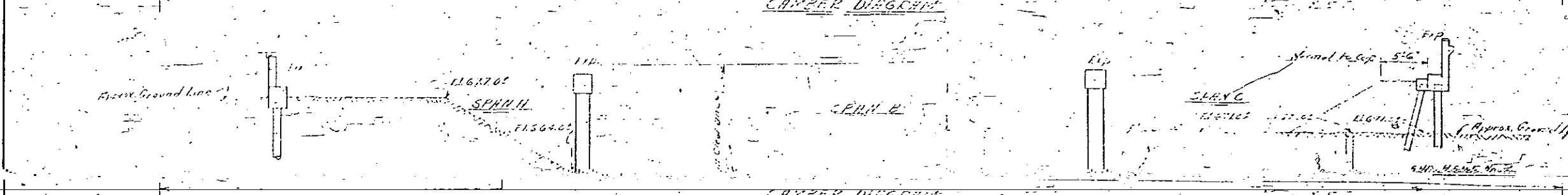
NOTE: The bridge shall be built on a vertical curve as shown. The horizontal slab on which shall be built to the vertical curve shall be built vertically. The beams are to be erected on a straight grade of 1/2% as shown on the vertical curve diagram. In construction shown in the Camber Diagram for tip of curb 14 1/2" from 1' at 2nd. The difference between steel joist grade of the beam and the vertical curve, and at the dead load conditions shall be taken of by concrete lifts on top of the beam. The finished structure shall have the shape shown.



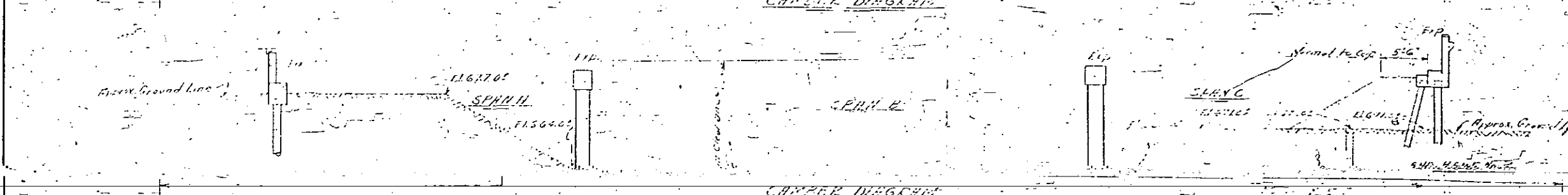
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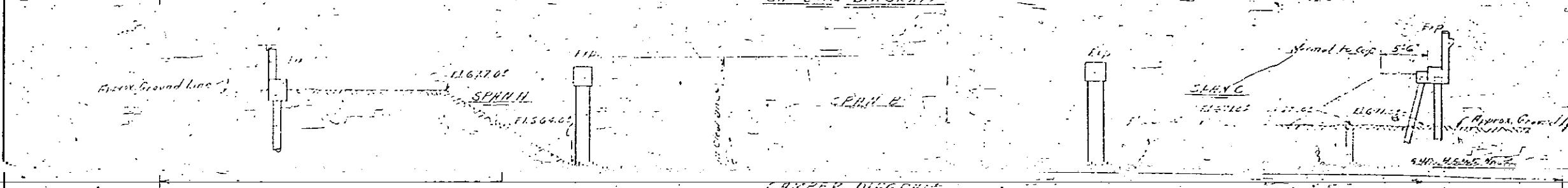
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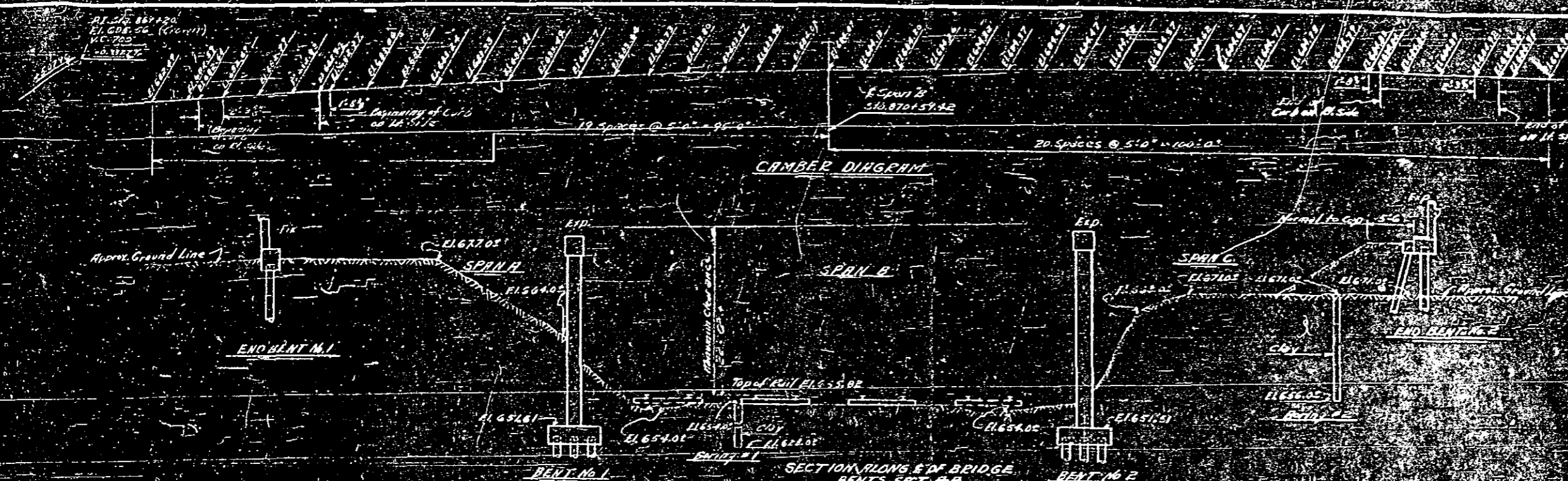
NOTE: The bridge shall be built on a vertical curve as shown. The horizontal slab on which shall be built to the vertical curve shall be built vertically. The beams are to be erected on a straight grade of 1/2% as shown on the vertical curve diagram. In construction shown in the Camber Diagram for tip of curb 14 1/2" from 1' at 2nd. The difference between steel joist grade of the beam and the vertical curve, and at the dead load conditions shall be taken of by concrete lifts on top of the beam. The finished structure shall have the shape shown.



NOTE: The bridge shall be built on a vertical curve as shown. The horizontal slab on which shall be built to the vertical curve shall be built vertically. The beams are to be erected on a straight grade of 1/2% as shown on the vertical curve diagram. In construction shown in the Camber Diagram for tip of curb 14 1/2" from 1' at 2nd. The difference between steel joist grade of the beam and the vertical curve, and at the dead load conditions shall be taken of by concrete lifts on top of the beam. The finished structure shall have the shape shown.



NOTE: The bridge shall be built on a vertical curve as shown. The horizontal slab on which shall be built to the vertical curve shall be built vertically. The beams are to be erected on a straight grade of 1/2% as shown on the vertical curve diagram. In construction shown in the Camber Diagram for tip of curb 14 1/2" from 1' at 2nd. The difference between steel joist grade of the beam and the vertical curve, and at the dead load conditions shall be taken of by concrete lifts on top of the beam. The finished structure shall have the shape shown.



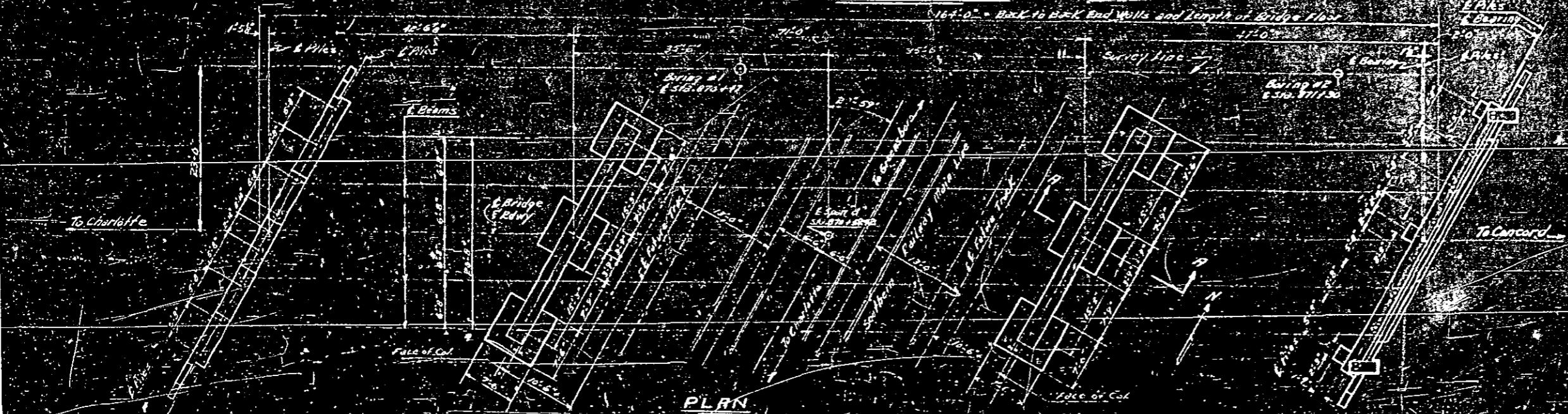
**NOTE:** This bridge shall be built on a vertical curve as shown above. The handrails, slab on curbs shall center to the vertical curve. Sides of handrail posts and openings are to be built vertically. The beams are to be erected on a straight grade of 1.07% as shown on the structural steel drawing. The elevations shown in the Camber Diagram are for top of curbs 14 1/2" from E. of B.M. The difference between the straight grade of the beams and the vertical curve, and of the dead load deflections shall be taken up by concrete build-ups on top of the beams. The finished structure shall have the elevations shown.

**DESIGN DATA**  
 Assumed Live Load: HS-20-44

**PILES:** All piles in End Bents to be driven to a minimum bearing capacity of 10 tons each. Piles in Bent No. 1 and No. 2 to be driven to a minimum bearing capacity of 15 tons each.

**PILES IN END BENTS:** To be driven through rock fill. First piles will not be driven until list for piles to be placed on the following:

End Bent No. 1	Piles 25' long
Bent No. 1	Piles 25' long
Bent No. 2	Piles 25' long
End Bent No. 2	Piles 40' long

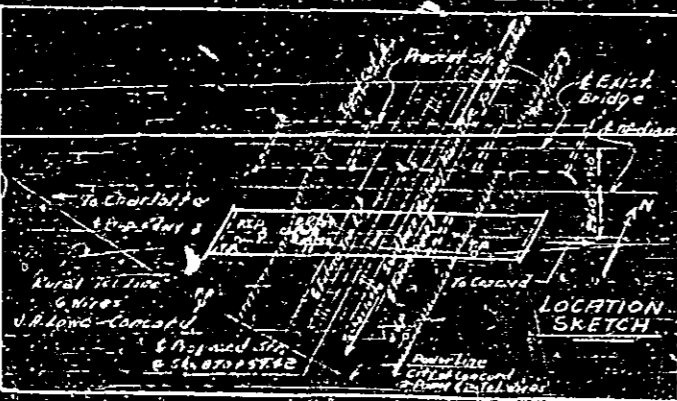


**NOTE:** Traffic to be maintained over the old parallel structure just north of the proposed structure. See Specifications.

**STRUCTURAL STEEL:** The 5 lines of beams to be erected on a 1.07% grade as indicated. At any section normal to E. of roadway the top of all beams shall have the same elevation. Dimensions given are U.S. Standard sizes. After riveting beam field braces, metal plates at expansion bearings shall be adjusted so that all rockers will be vertical at a temperature of 60°F. After this adjustment, connections on rocker bolts shall be pulled tight. All connections shall be riveted unless other wise shown. General riveting shall be done with connecting parts assembled. Field connections shall be match riveted. The East end of each beam shall be marked "East". All welding shall be done in accordance with the specifications. All open holes shall be 1/8" larger than riveted. Rivets shall be 3/4".

**PROJECT NO. 6142**  
**CABARRUS COUNTY**  
**STATION: 870+52.92**

**NOTE:** Survey for location set up in 1917. Contour lines to assist in selection of correct location.



**TOTAL BILL OF MATERIAL**

Item	Quantity	Unit Price	Total	Remarks
SUPPLEMENTARY END BENTS	168.5	35.00	5,900	
BENT #1	127	24.00	3,048	
BENT #2	42.2	79.15	3,340	
END BENT #2	276	3.949	1,090	
PILES	41	108	4,428	
<b>TOTAL</b>	<b>572.4</b>	<b>138.200</b>	<b>79,006</b>	

**B.M. Curb at Full Face of End Bent No. 1 S.W. Corner of Existing Bridge El. 62.52**

**OPTIONAL RIVETED CONNECTIONS:** The contractor may, at his option, substitute riveted connections for the welded connections shown on the plans for stiffeners and diaphragms, or for either of these items. If this substitution is made, the riveted design shall be in accordance with the requirements of "Design Data" shown on the plans and shall be submitted to the Bridge Engineer for approval. Payment will be made of the contract lump sum price bid for the welded type of construction shown on the plans and no allowance will be made for any increase in weight of material due to the substitution of riveted connections.

**NOTE:** All concrete to be air-entraining. See Special Provisions.

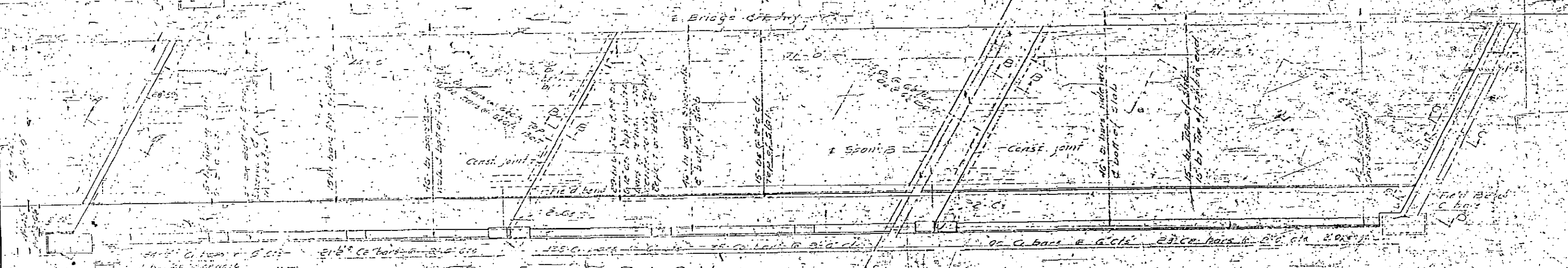
**DIVISION OF CLASS "A" CONCRETE**  
 S.D.S. & Co. 1918, No. 3, Cu 164,800  
 S.D.S. & Co. 1918, No. 4, Cu 162,162  
**TOTAL CLASS "A" CONCRETE, C.Y.S. 278**

STATE OF NORTH CAROLINA  
**STATE HIGHWAY and PUBLIC WORKS COMMISSION**  
 GENERAL DEPARTMENT  
 OVERHEAD BRIDGE  
 SOUTHERN RAILROAD  
 BETWEEN  
 CHARLOTTE and WILKESBORO  
 OCTOBER 1, 1950

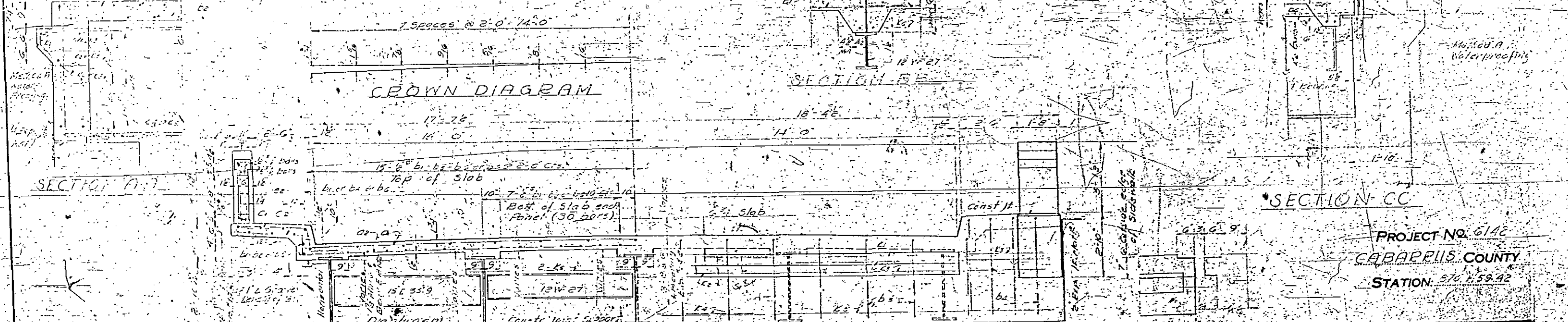
PER ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	N.C.	6142	33	10
F.R. 571 (9)				

SPANS A B  
ORDER OF POURING

### PLACING DIAGRAM FOR B BARS



### CROWN DIAGRAM



### HALF SECTION

### HALF END VIEW - SPAN A



Fill with mastic made with  
60 2A asphalt and sand  
using 1 gallon asphalt to  
125 lbs. of sand

PROJECT NO. 6142  
CABARRIUS COUNTY  
STATION: 570+59.42

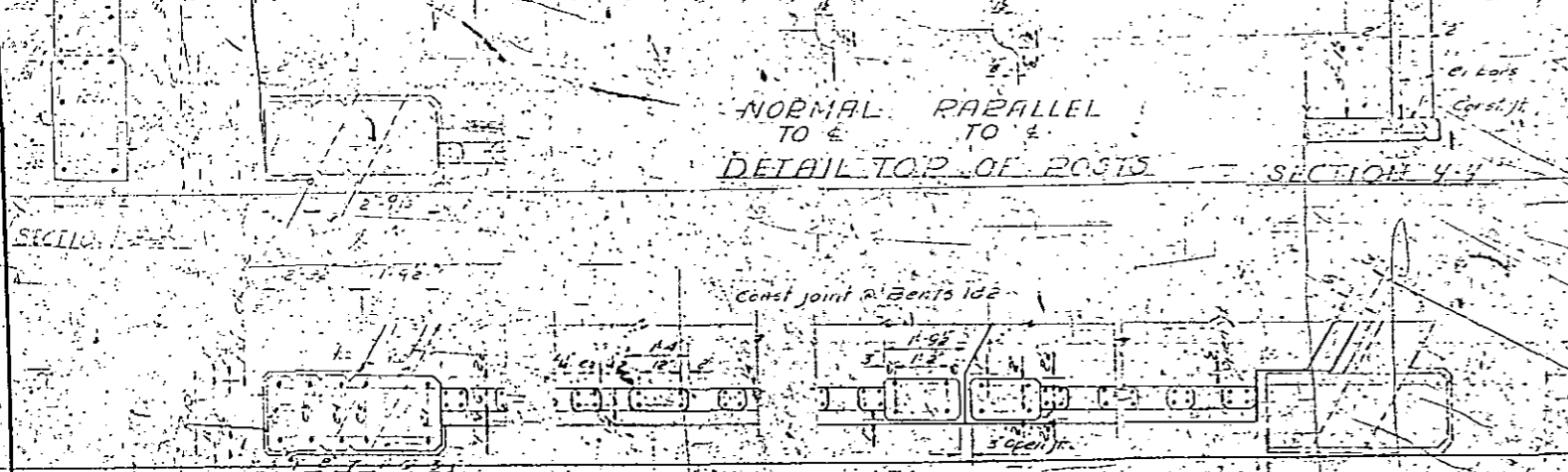
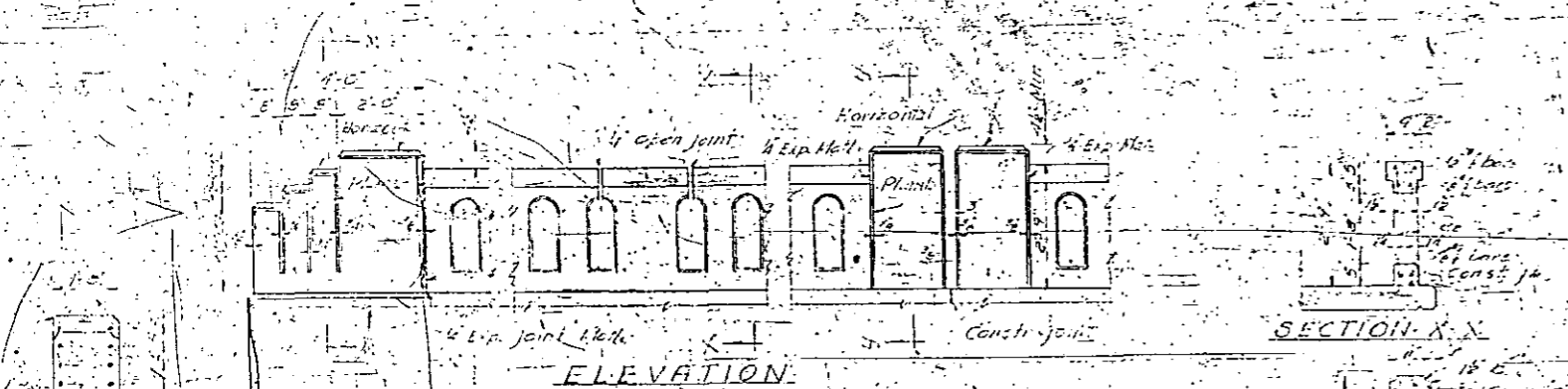
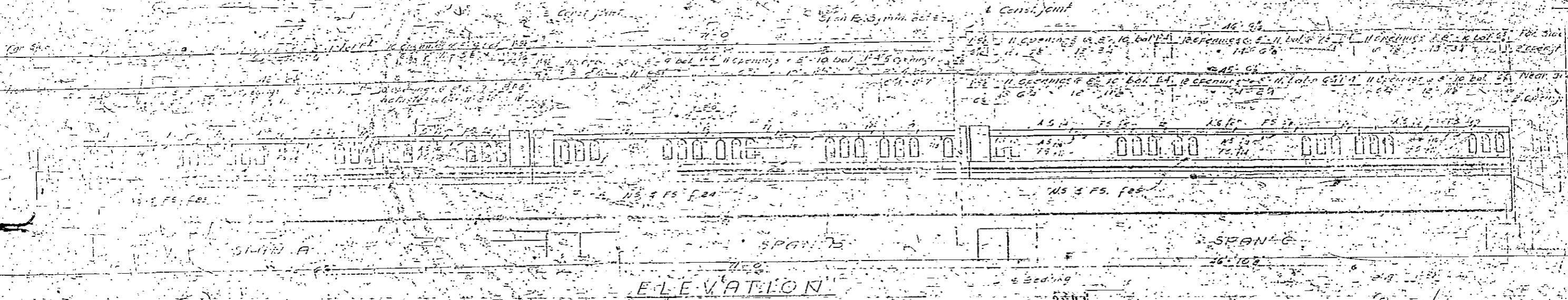
STATE OF NORTH CAROLINA  
STATE HIGHWAY AND  
PUBLIC WORKS COMMISSION

**SUPERSTRUCTURE**

OCT 1950

W. H. [Signature]

DESIGNED BY  
DRAWN BY  
CHECKED BY  
APPROVED BY



### BILL OF MATERIAL

Bar No.	Size	Type	Length	Weight	Bar No.	Size	Type	Length	Weight
C1	622	1	25'-0"	9,564	19	16	SH	11'-10"	71
C2	259	2	35'-0"	9,590	20	4	SH	12'-4"	19
B1	318	1/2	25'-0"	7,311	21	12	SH	11'-6"	52
L1	38	1/2	25'-0"	562	22	1	SH	10'-16"	16
B3	13	2	14'-0"	190	23	2	SH	13'-3"	30
B4	8	2	27'-3"	746	24	16	SH	11'-11"	128
B5	56	2	17'-0"	632	25	4	SH	2'-3"	6
B6	78	2	20'-0"	1,280	26	4	SH	3'-0"	8
B7	15	2	13'-7"	130	27	12	SH	3'-9"	30
C3	624	1	6'-2"	2,571	28	2	SH	5'-9"	11
C4	758	2	3'-5"	343	29	10	SH	15'-10"	71
C5	8	2	6'-6"	35	30	4	SH	6'-9"	41
C6	30	2	3'-5"	102	31	4	G	6'-0"	36
M1	622	1	25'-0"	1,114	32	2	SH	10'-10"	23
B8	1	2	5'-7"	115	33	3	SH	25'-0"	30
B9	1	2	5'-3"	14	34	3	SH	18'-2"	25
C7	1	2	4'-11"	13	35	2	SH	25'-0"	75
B10	4	2	4'-6"	12	36	2	SH	19'-6"	59
B11	8	2	20'-9"	62	37	16	SH	7'-5"	79
B12	16	2	11'-10"	120	38	32	SH	3'-0"	24
B13	35	2	1'-9"	16	Reinforcing steel lbs. 33,340				
B14	32	2	1'-9"	21	Class A Conc. 15,210				
B15	4	2	12'-11"	133	Structural steel lbs. 136,000				
B16	6	2	13'-3"	53	Medium A waterproofing 5,128				
B17	12	2	11'-6"	23	W.P. Post 12 lbs. 3,400				
B18	1	2	10'-10"	29					
B19	2	2	15'-8"	18					

PROJECT NO. 6112  
 CABARRUS COUNTY  
 STATION: 6701.5912

STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION

SUPERSTRETCH

OCT 1950

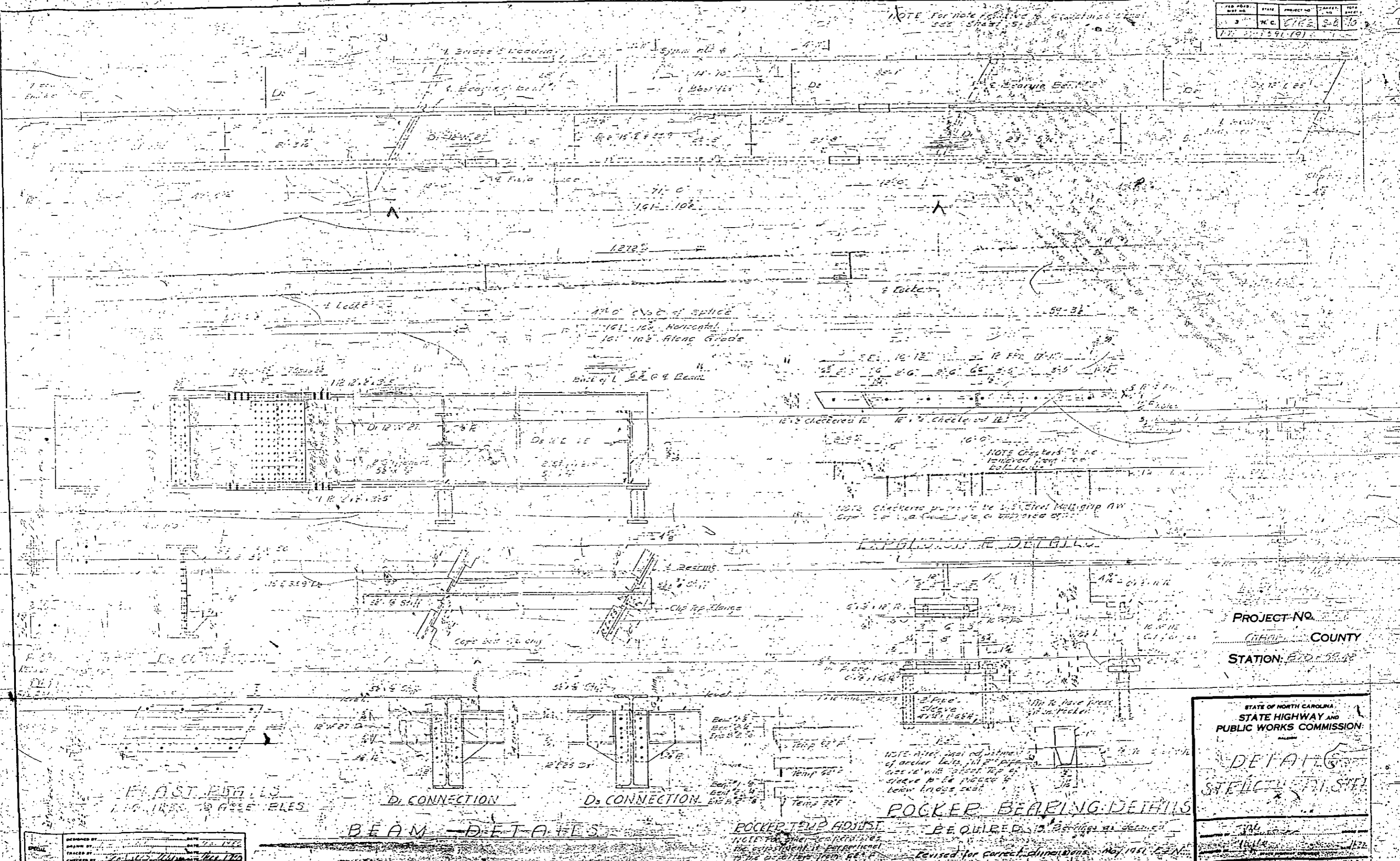
W. L. ...

DESIGNED BY: ...  
 DRAWN BY: ...  
 CHECKED BY: ...

includes 14.8% Cont. using 5/8" No. 4 coarse aggregate

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	N.C.	1791	3-6	10

NOTE: For hole location in concrete see sheet 5-8



PROJECT NO. 1791  
 COUNTY CHIEF  
 STATION: END 59.88

STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION

DETAILS  
 STEEL BRIDGE

DESIGNED BY: [Signature]  
 DATE: May 1951

TRACED BY: [Signature]  
 DATE: May 1951

CHECKED BY: [Signature]  
 DATE: May 1951

BEAM CONNECTIONS

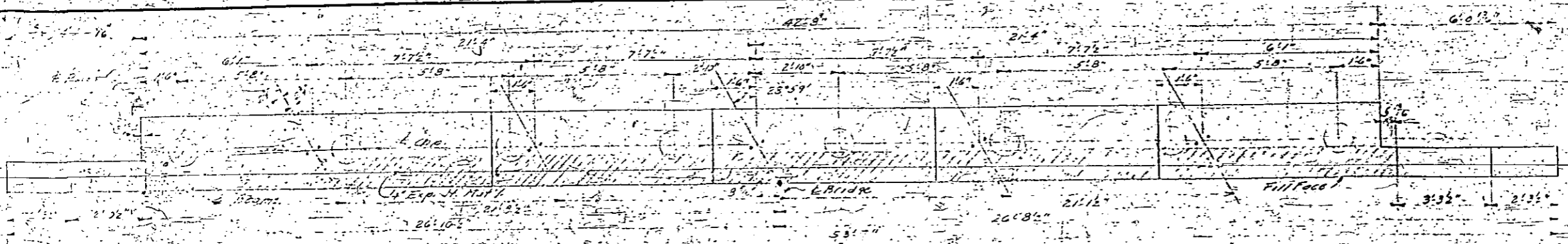
ROCKER BEARING DETAILS

ROCKER TEMP ADJUST REQUIRED - 10 degrees as shown  
 NOTE: After final adjustment of rocker temp, all roller temp to be raised 4' below bridge seat.  
 Revised for correct dimensions May 1951 CZN

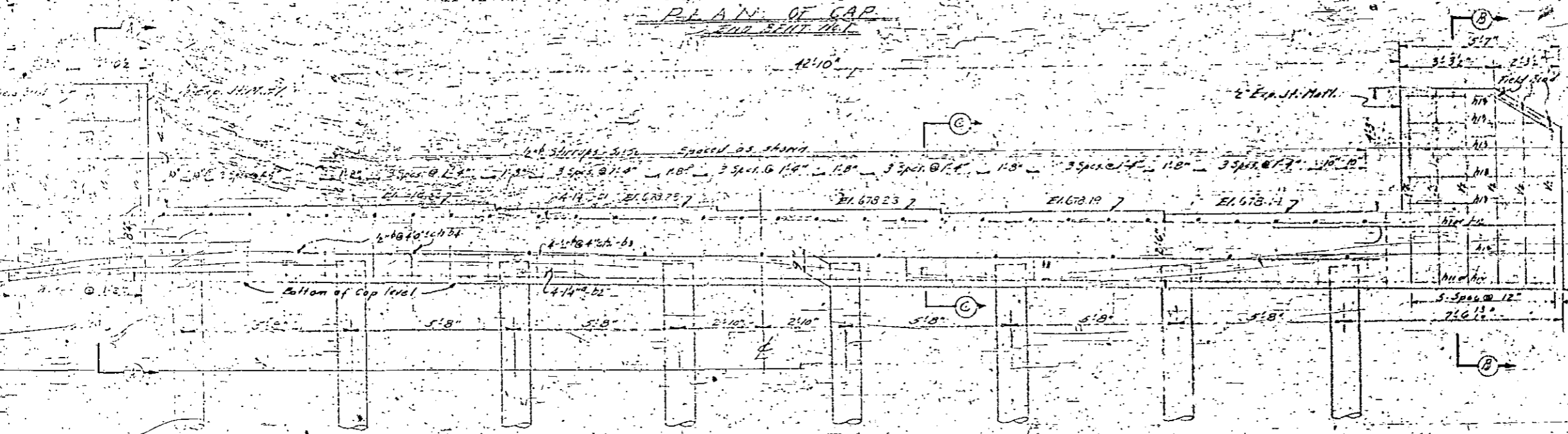
DESIGNED BY: [Signature]  
 DATE: May 1951  
 TRACED BY: [Signature]  
 DATE: May 1951  
 CHECKED BY: [Signature]  
 DATE: May 1951



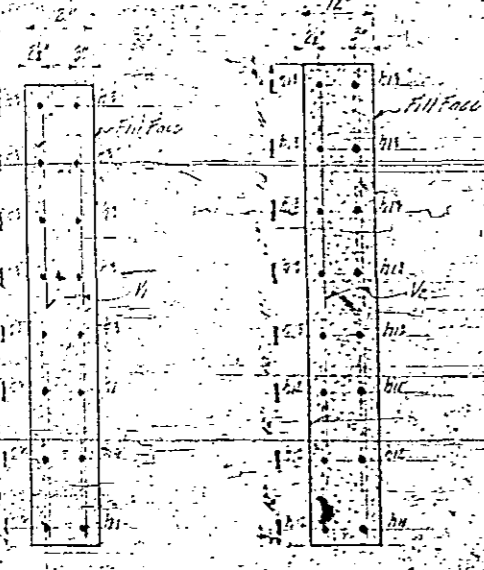
PROJECT NO.	DATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
6142	10/1/52	6142	56	10
F.H. Proj. 59112				



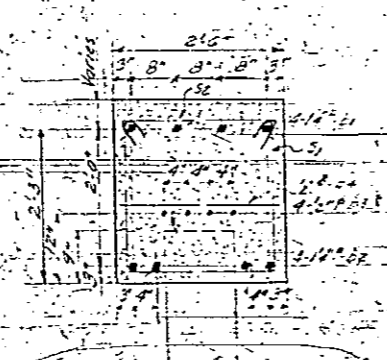
PLAN OF CAP AND BENT DET.



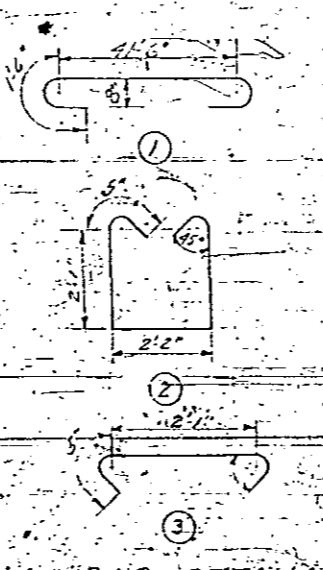
ELEVATION



SECTION A-A



SECTION C-C



BAR DETAILS

Note: Piles to be driven to a minimum bearing capacity of 12 Tons.

BILL OF MATERIAL					
Bar	No.	Size	Type	Length	Weight
B1	4	1 1/2"	1	44'0"	9.17
B2	4	1 1/2"	5A	42'3"	9.19
B3	8	2"	3A	22'3"	11.8
B4	7	2"	5A	2'2"	1.6
B5	2	1 1/2"	3A	8'6"	1.14
B6	4	2"	3A	7'0"	1.7
B7	7	2"	3A	2'2"	1.6
B8	2	1 1/2"	3A	9'9"	5.2
B9	4	2"	3A	8'0"	2.2
B10	10	2"	3A	5'3"	3.5
B11	30	2"	3	7'2"	1.3
B12	30	2"	3	2'11"	5.9
B13	10	2"	3A	6'10"	2.6
B14	12	2"	3A	6'5"	3.2
B15	1	2"	3A	2'2"	0.4
Reinforcing Steel - Lbs. .... 2,480					
Class B Concrete - Cu Yds. .... 18.7					
Cros-Tie Piles - Dia. 4" - Lbs. .... 8					
Cros-Tie Piles - Dia. 4" - Lbs. .... 880					

PROJECT NO. 6142  
 CABARRUS COUNTY  
 STATION: 870 + 59.42

STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION

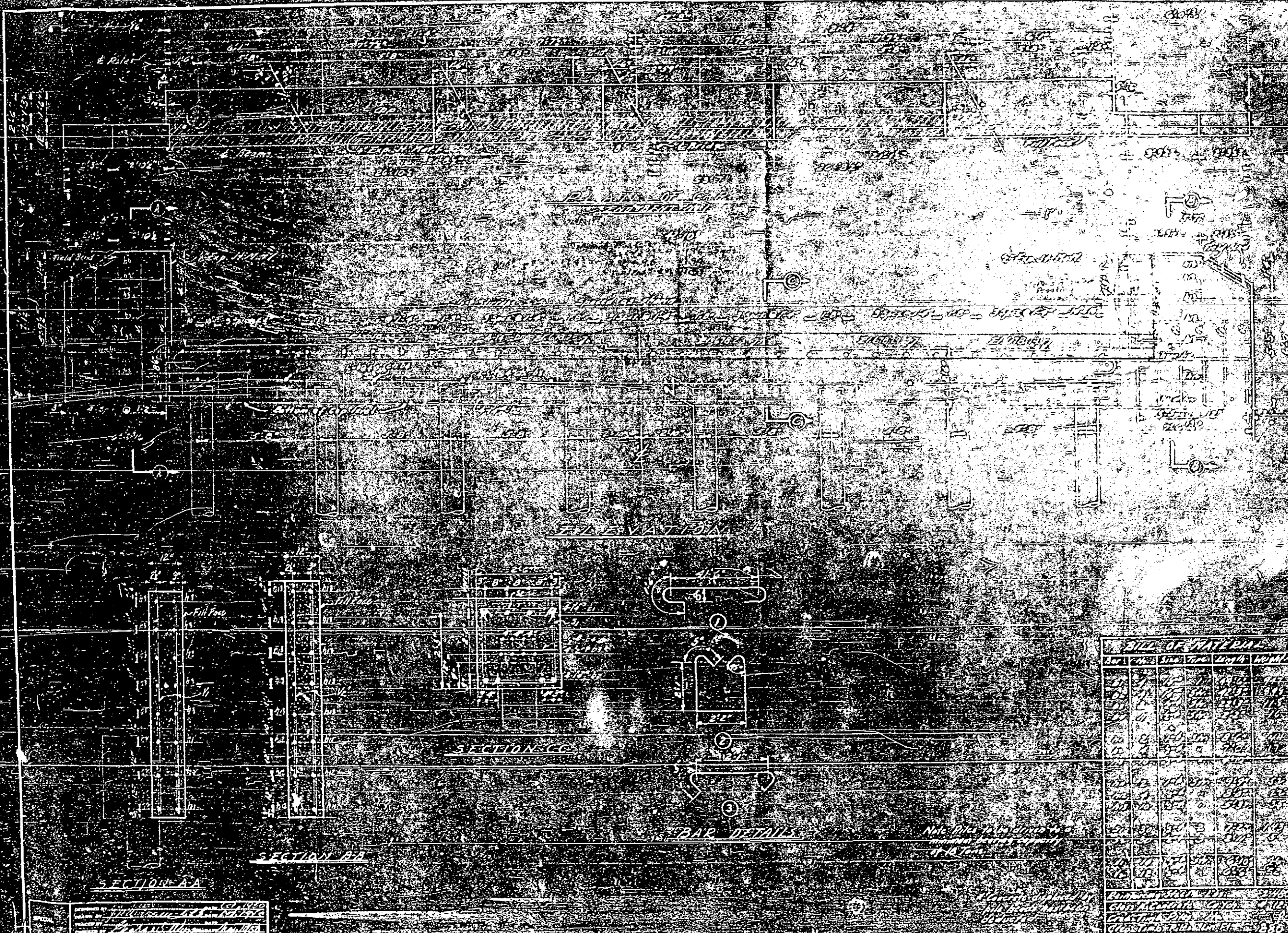
END BENT No. 1

OCT. 1952

DESIGNED BY: [Signature]  
 CHECKED BY: [Signature]  
 DATE: 10/1/52

[Signature]  
 DATE: 10/1/52

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20



BILL OF MATERIAL					
NO.	QTY.	SIZE	TYPE	LENGTH	WEIGHT
1	1	12"	12"	100	115
2	1	12"	12"	100	115
3	1	12"	12"	100	115
4	1	12"	12"	100	115
5	1	12"	12"	100	115
6	1	12"	12"	100	115
7	1	12"	12"	100	115
8	1	12"	12"	100	115
9	1	12"	12"	100	115
10	1	12"	12"	100	115
11	1	12"	12"	100	115
12	1	12"	12"	100	115
13	1	12"	12"	100	115
14	1	12"	12"	100	115
15	1	12"	12"	100	115
16	1	12"	12"	100	115
17	1	12"	12"	100	115
18	1	12"	12"	100	115
19	1	12"	12"	100	115
20	1	12"	12"	100	115
21	1	12"	12"	100	115
22	1	12"	12"	100	115
23	1	12"	12"	100	115
24	1	12"	12"	100	115
25	1	12"	12"	100	115
26	1	12"	12"	100	115
27	1	12"	12"	100	115
28	1	12"	12"	100	115
29	1	12"	12"	100	115
30	1	12"	12"	100	115
31	1	12"	12"	100	115
32	1	12"	12"	100	115
33	1	12"	12"	100	115
34	1	12"	12"	100	115
35	1	12"	12"	100	115
36	1	12"	12"	100	115
37	1	12"	12"	100	115
38	1	12"	12"	100	115
39	1	12"	12"	100	115
40	1	12"	12"	100	115
41	1	12"	12"	100	115
42	1	12"	12"	100	115
43	1	12"	12"	100	115
44	1	12"	12"	100	115
45	1	12"	12"	100	115
46	1	12"	12"	100	115
47	1	12"	12"	100	115
48	1	12"	12"	100	115
49	1	12"	12"	100	115
50	1	12"	12"	100	115
51	1	12"	12"	100	115
52	1	12"	12"	100	115
53	1	12"	12"	100	115
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55	1	12"	12"	100	115
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61	1	12"	12"	100	115
62	1	12"	12"	100	115
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64	1	12"	12"	100	115
65	1	12"	12"	100	115
66	1	12"	12"	100	115
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91	1	12"	12"	100	115
92	1	12"	12"	100	115
93	1	12"	12"	100	115
94	1	12"	12"	100	115
95	1	12"	12"	100	115
96	1	12"	12"	100	115
97	1	12"	12"	100	115
98	1	12"	12"	100	115
99	1	12"	12"	100	115
100	1	12"	12"	100	115

PROJECT NO. 6142  
 CABAREUS COUNTY  
 STATION: 870 + 59.42

STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION

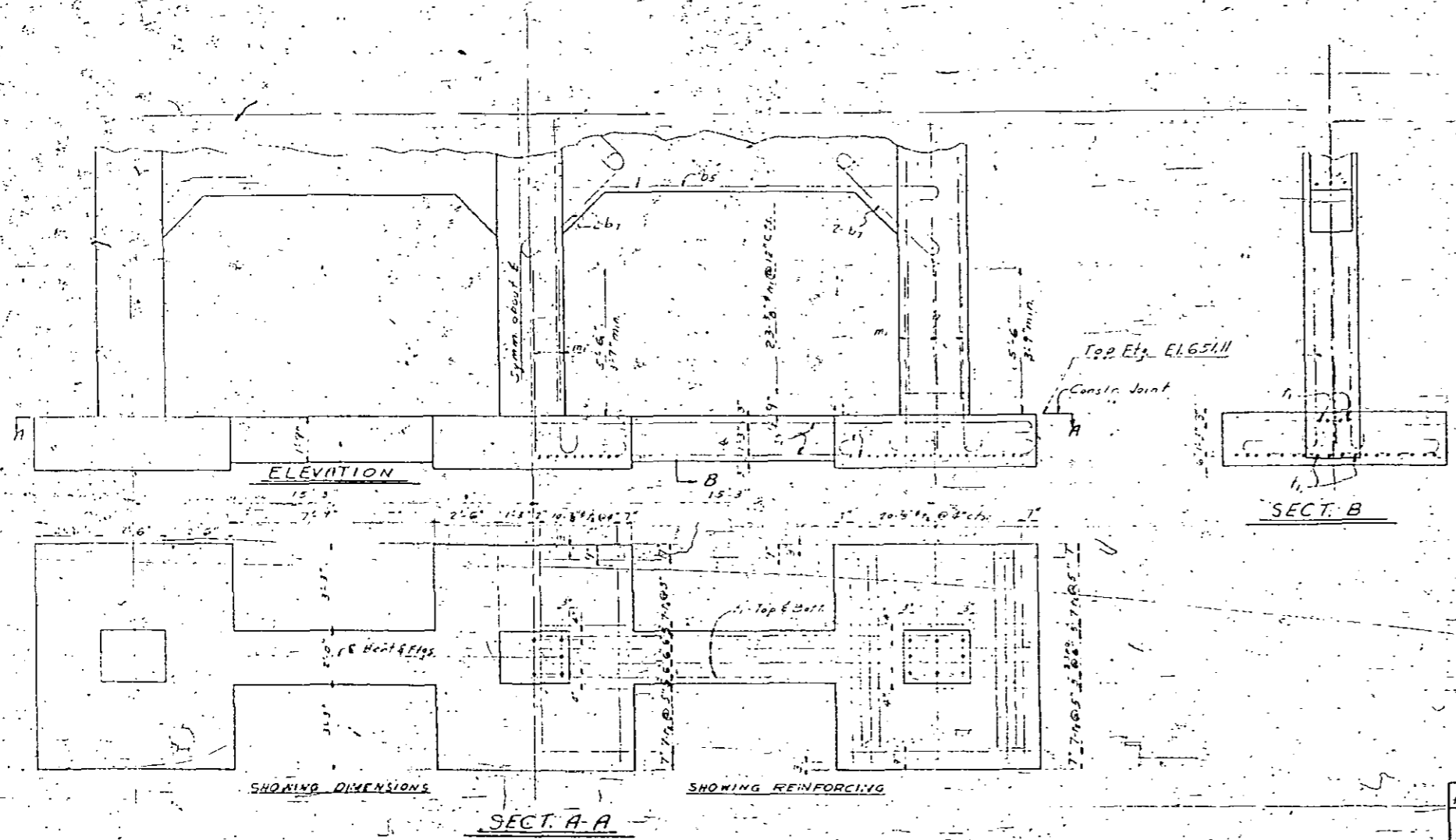
SPRINT No. 1

Note: Piles to be driven to minimum bearing capacity of 10 tons.

DESIGNED BY: [Name]  
 DRAWN BY: [Name]  
 DATE: [Date]



FEED NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	N.C.	6142	57A	10
F.R. Proj. - 571(7)				



PROJECT NO. 6142  
 CURRUPUS COUNTY  
 STATION: 0+10.5742

**MATERIAL FOR BENT 1**  
 Total Class II Concrete 413 cu yds.  
 Total Reinforcing Steel 7913 lbs.  
 Total Uncl. Structure Escar. 185 cu yds.

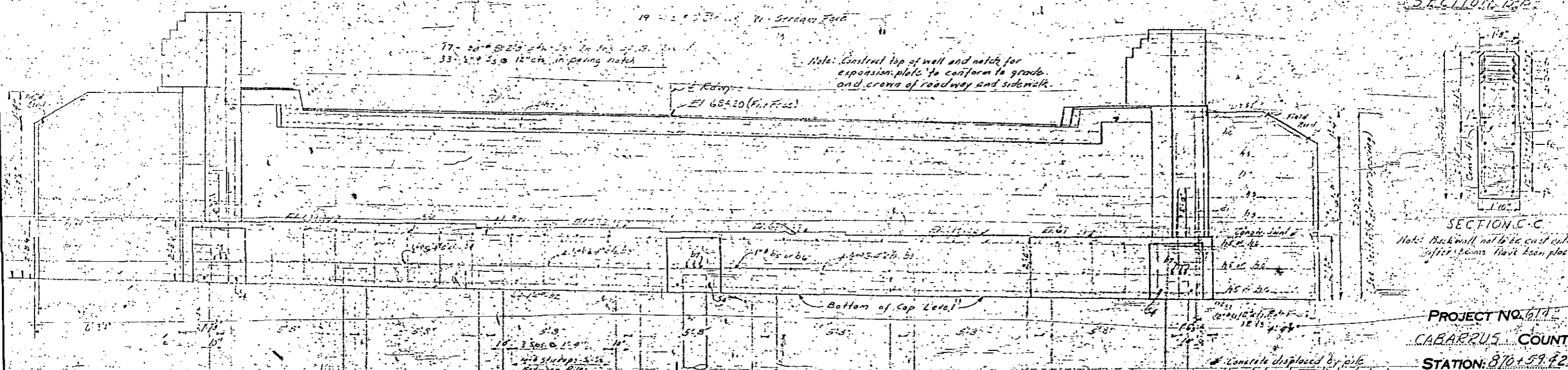
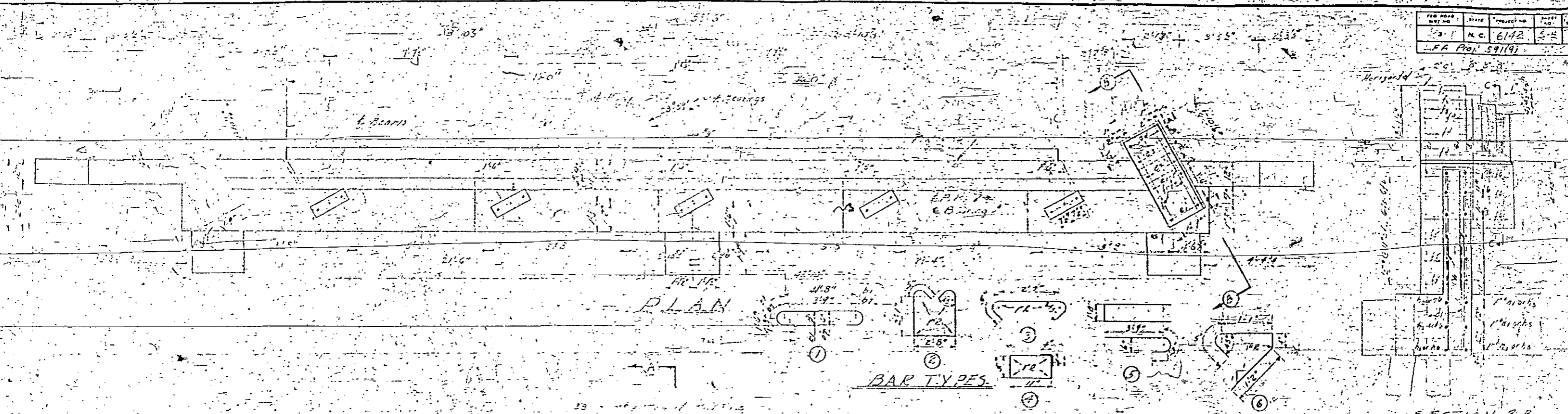
**NOTE:** Parts not shown same as sheet no 5-7.

STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION  
 DETAILS OF BENT 1

DESIGNED BY: [Signature]  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 DATE: May 1951

NOTED TO ONLY FILED IN THE OFFICE OF THE ENGINEER (R/S)

7-1111-11



**BILL OF MATERIAL**

Bar No.	Size	Type	Length	Weight	Bar No.	Size	Type	Length	Weight	Bar No.	Size	Type	Length	Weight
01	4	1"	44.8"	944	11	4	2" x 8" Sh.	15.9'	5	51	30	2"	7.8'	154
02	4	1"	42.3"	900	12	4	"	25.5'	2	52	30	5/8"	3.5'	68
03	8	3/4"	22.6'	120	13	4	"	3.0'	8	53	17	3/4"	4	21
04	8	3/4"	25.9'	14	14	12	"	2.9'	30	54	3"	4' x 5'	11.8'	53
05	3	1"	16.9'	124	15	12	"	2.8'	17	55	33	3/8"	6'	66
06	2	1"	23.4'	125	16	12	"	3.5'	30	56	57	3/8"	5'	267
07	4	3/4"	6.7'	85	17	13	"	7.8'	66	57	3/8"	5'	7.8'	66
					18	4	3"	1.6'	85	58	12	"	2.7'	61
					19	3	3"	4.0'	21	59	12	"	2.7'	61
					20	16	5/8"	27.9'	292	60	9	3"	8.3'	22
					21	8	3"	2.0'	44	61	3	1/2"	7.3'	26
					22	7	3"	7.6'	35	62	7	3"	7.6'	35
					23	8	3"	18.0'	96	63	8	3"	18.0'	96
					24	4	1/2"	1.2'	18	64	4	1/2"	1.2'	18
					25	4	1/2"	1.2'	18	65	4	1/2"	1.2'	18
					26	4	1/2"	1.2'	18	66	4	1/2"	1.2'	18

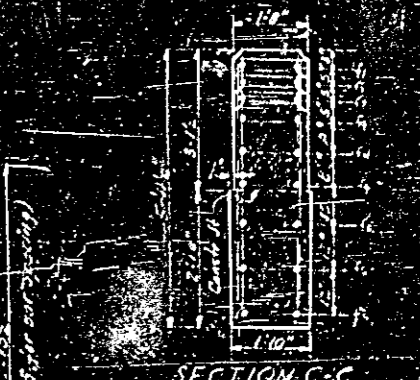
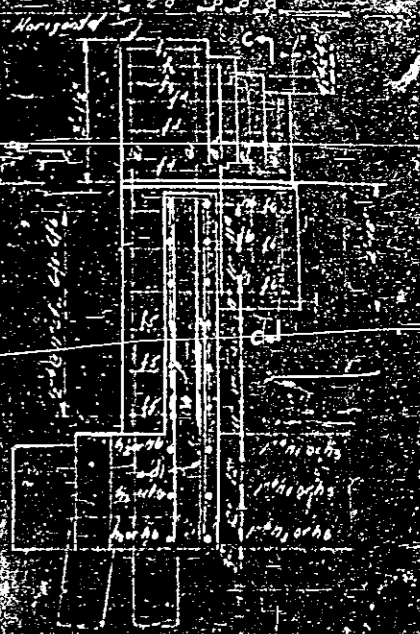
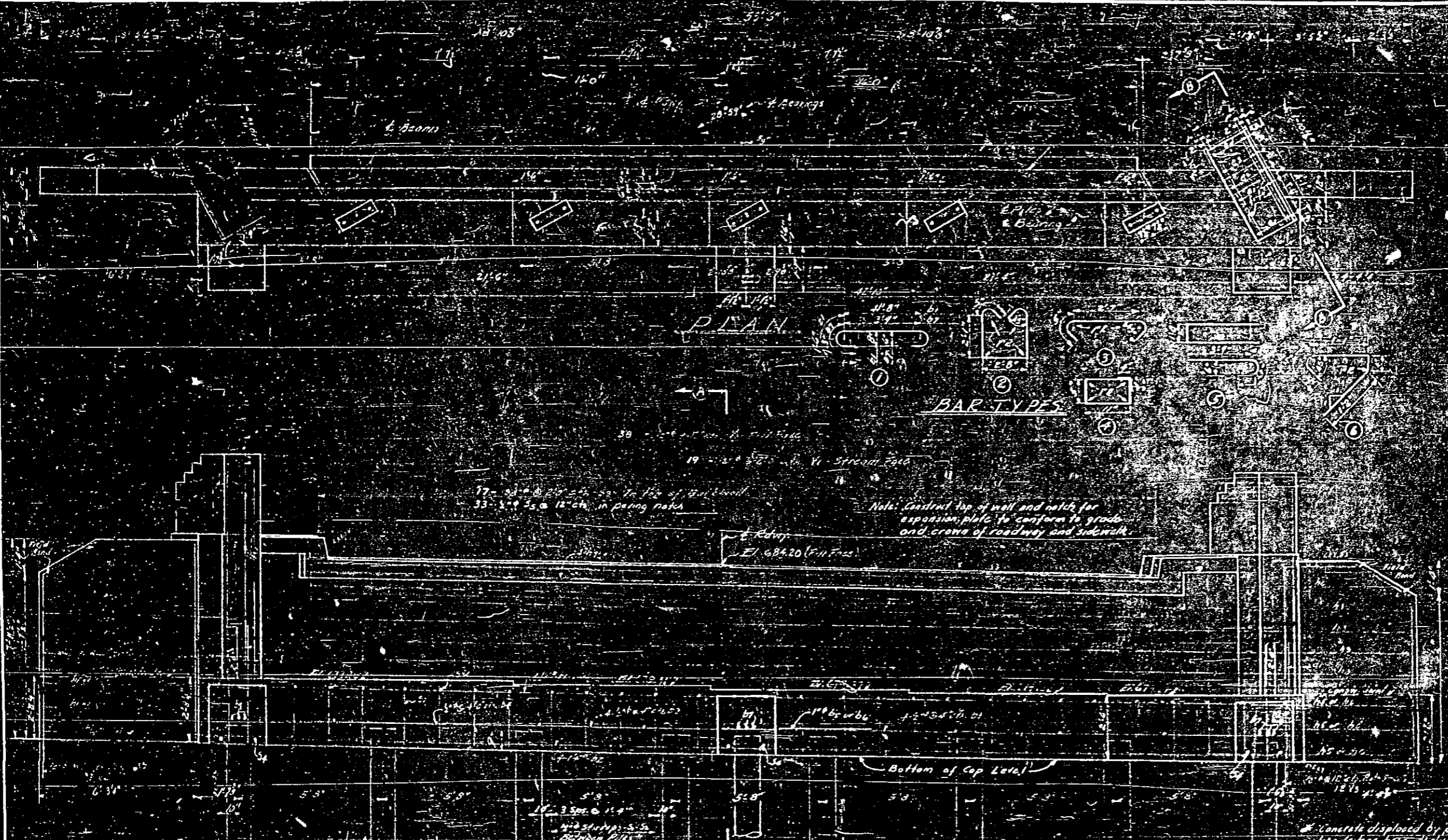
Reinforcing Steel - 3947  
 Class B Concrete - Cu. Yds. - 276  
 Crisscrossed Tank Piles - No. - 11  
 Crisscrossed Tank Piles - Lin. Ft. - 240

PROJECT NO. 6142  
 CABARRUS COUNTY  
 STATION: 810+59.42

STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION

END BENT 2

DESIGNED BY: [Signature]  
 CHECKED BY: [Signature]  
 DATE: [Date]



SECTION B-B

SECTION C-C

Note: Backfill not to be cast until after forms have been placed.

PROJECT NO. 6142  
 CABARRUS COUNTY  
 STATION: 870+59.42

The yardage of Class A Concrete shown below includes 10% Curbs, Driv. Sid. Size: No. 4 Course Aggregate.

STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION

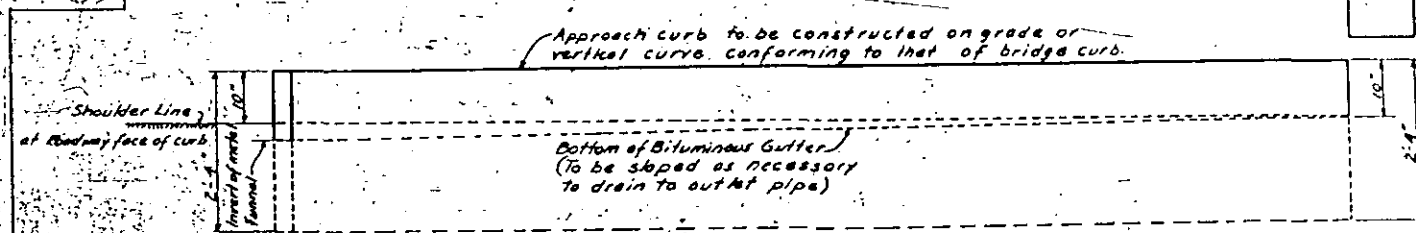
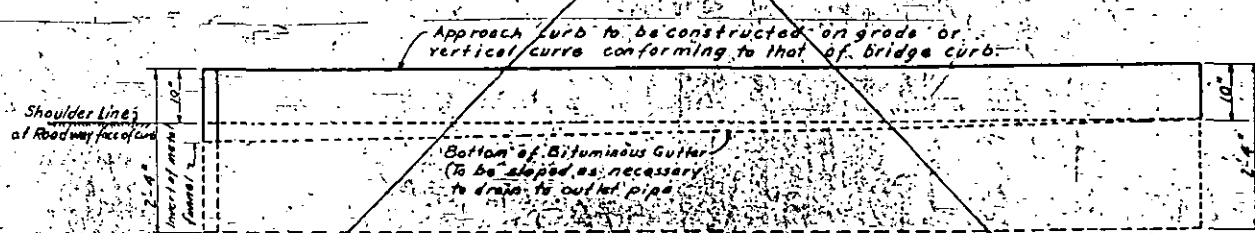
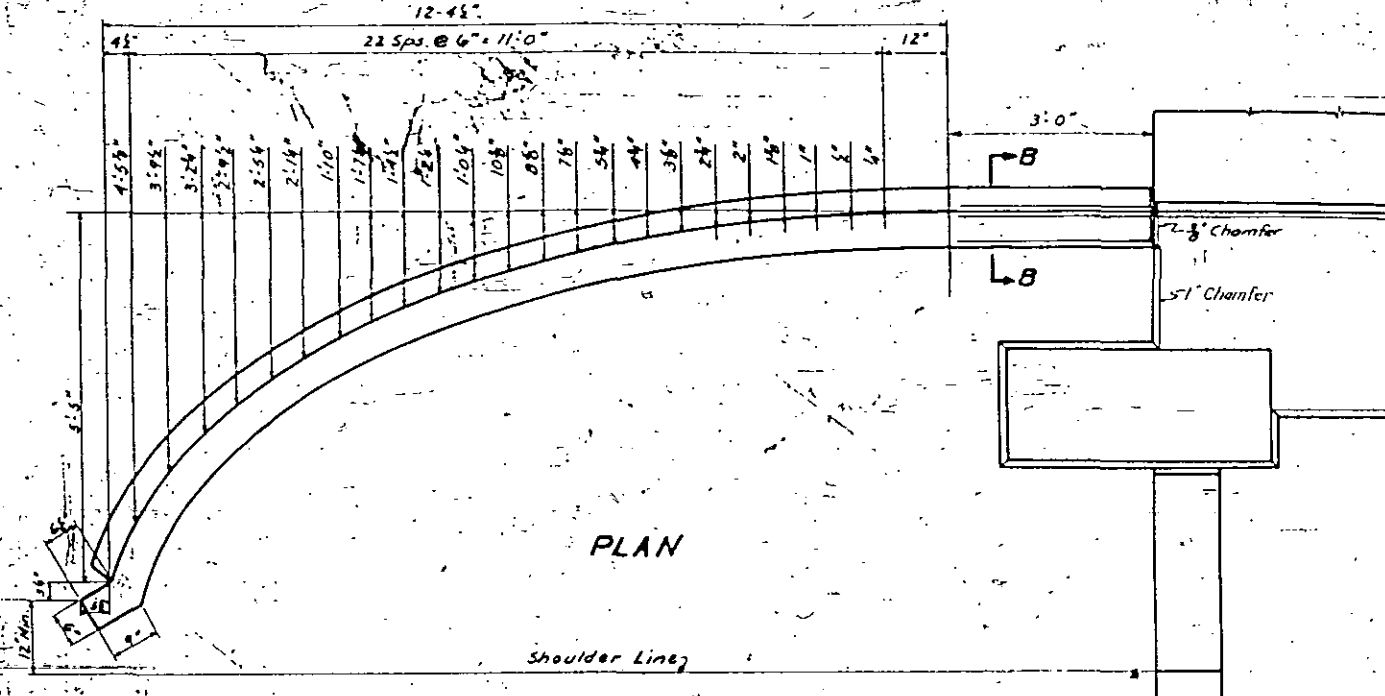
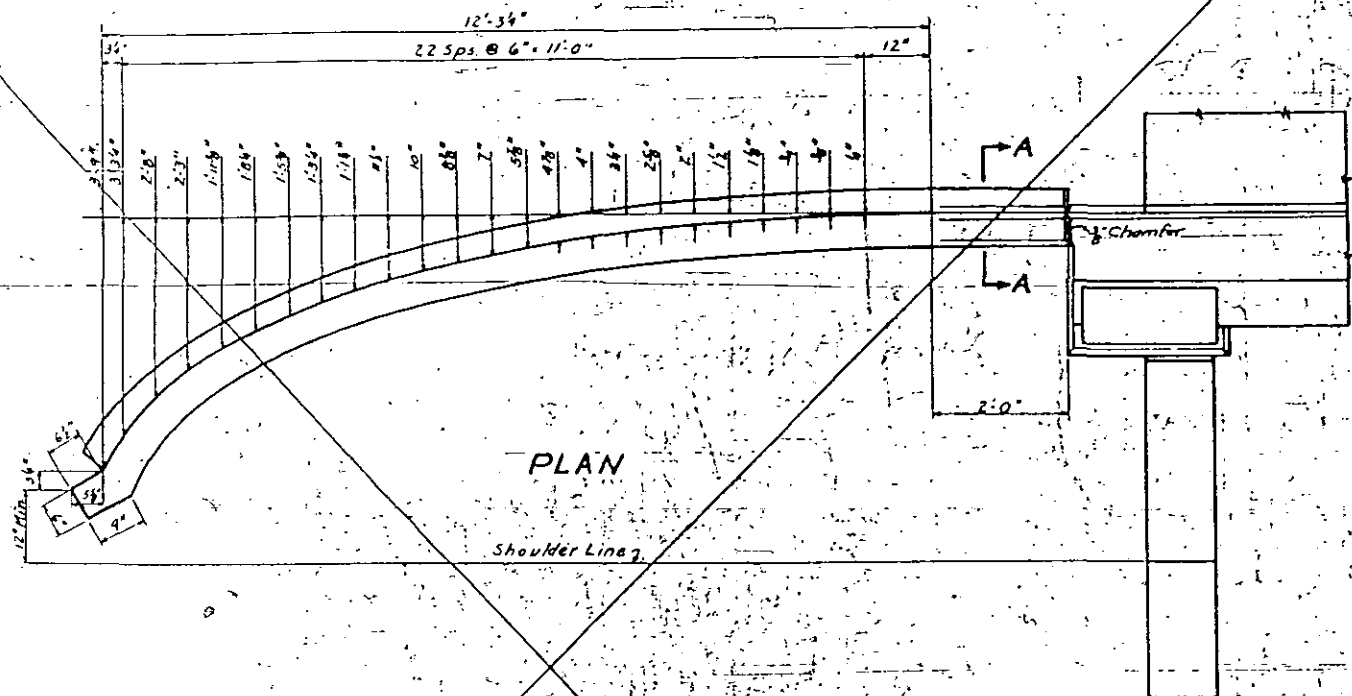
END BENT 25

**BILL OF MATERIAL**

Bar No.	Size	Type	Length	Weight	Bar No.	Size	Type	Length	Weight	Bar No.	Size	Type	Length	Weight
41	4	1"	44.8	9.19	41	3	1"	36	7.65	41	30	2"	2.0	15.4
42	4	1"	42.3	8.60	42	4	1"	25	5.10	42	30	2"	3.5	2.8
43	8	2"	22.6	12.0	43	12	1"	30	3.0	43	17	2"	2.4	2.1
44	8	2"	22.9	12.1	44	12	1"	29	2.9	44	3	2"	5.8	5.3
45	3	1"	16.7	3.4	45	12	1"	38	7.6	45	33	2"	6	6.6
46	3	1"	16.7	3.4	46	12	1"	38	7.6	46	57	2"	54	267
47	7	3"	6.9	8.5	47	3	1"	20.5	4.1	47	73	2"	7.8	6.6
48	3	3"	4.0	2.1	48	3	2"	17	1.8	48	12	2"	2.7	6.1
49	8	2"	21.2	11.2	49	16	3"	27.7	25.2	49	4	2"	8.3	7.8
50	4	1"	5.4	1.1	50	7	1"	7.5	1.5	50	3	1"	7.5	3.5
51	4	1"	2.1	0.4	51	3	2"	18.0	3.6	51	3	2"	18.0	3.6
52	4	1"	1.7	0.3	52	1	3"	77.0	4.5	52	1	3"	77.0	4.5

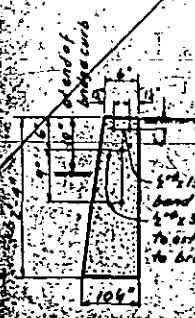
Reinforcing Steel - Lbs. 3949  
 Class A Concrete - Cu. Yds. 23.6  
 Grouted Trench Piles - No. 1  
 Grouted Trench Piles - Lbs. 440

DRAWING BY: [Signature]  
 CHECKED BY: [Signature]  
 DATE: [Date]



ELEVATION

ELEVATION



**BILL OF MATERIAL FOR CURBS**

6-5/8" x 17-3/4" x 10" Bars	92 Lbs	Total Reinforcing
8-5/8" x 8'-0" x 16" Bars	16 Lbs	Steel
Class A Concrete	4.1 Cu. Yds.	

**BILL OF MATERIAL FOR CURBS**

6-5/8" x 17-3/4" x 10" Bars	92 Lbs	Total Reinforcing
8-5/8" x 8'-0" x 16" Bars	16 Lbs	Steel
Class A Concrete	4.1 Cu. Yds.	

Note: The excavation for curb B will not be measured and paid for as a separate item. The entire cost of same, 4% included in the unit price, bid for Class A Concrete, Drains and Bituminous Surfacing at ends of bridge, to be furnished and placed by the Roadway Contractor.

PROJECT NO: 6142  
 CABARRUS COUNTY  
 STATION: 870+59.42

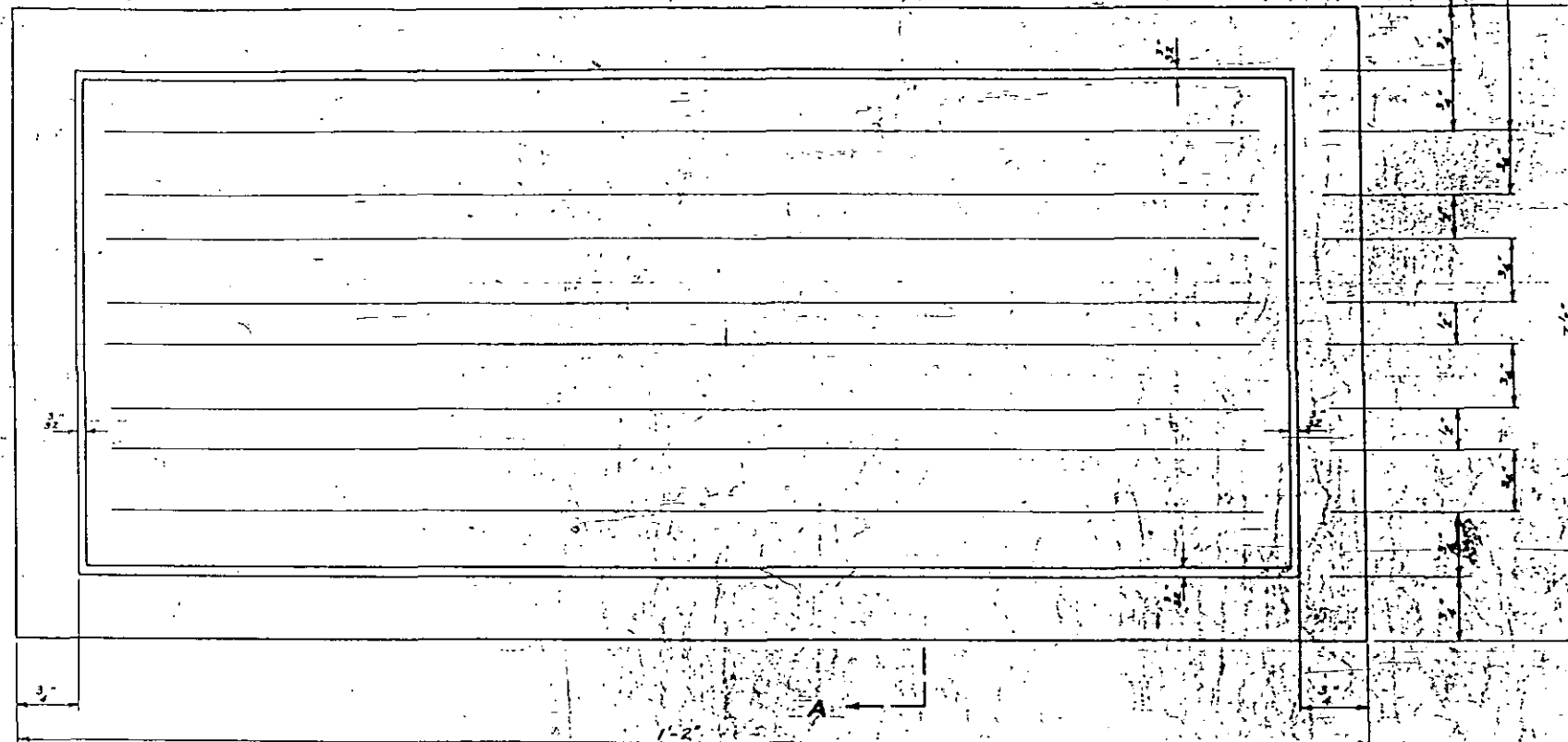
STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION

**SPECIAL  
 DETAILS  
 FOR  
 BRIDGE APPROACH CURBS  
 NOVEMBER 1946**

J.P.S.  
 H.A.R.

HANDARD, M. M. L. 2

PROJECT NO.	STATE	PROJECT TITLE	DATE	BY
6142	N.C.	6142		
F. H. Dept. 44 (9)				



ELEVATION



SECTION A-A

GENERAL NOTE

Two name plates are required for each bridge: one on each right hand end post approaching the bridge. See location Detail.

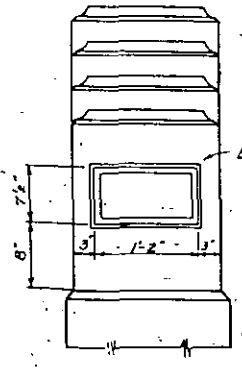
The name plates are to be made of granite. Granite shall be light gray, fine or medium grained, sound in quality and free from defects that would mar its appearance. Exposed face of plates to have a fine rubbed finish.

Lettering shall be sandblasted sunk, 3/8" high, vertical, Modern Roman style. The wording shall be as shown in the 'Detail Showing the Correct Wording'.

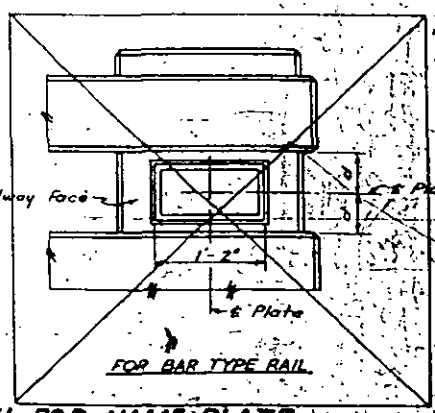
The entire cost of the name plates, complete in place, shall be included in the contract price bid for Class "A" concrete.

CABARRUS COUNTY  
STATE PROJECT 6142  
FEDERAL AID  
1951

DETAIL SHOWING CORRECT WORDING



FOR BALUSTER TYPE RAIL



FOR BAR TYPE RAIL

LOCATION DETAIL FOR NAME PLATE

PROJECT No. 6142  
CABARRUS COUNTY  
STATION: 870+59.42

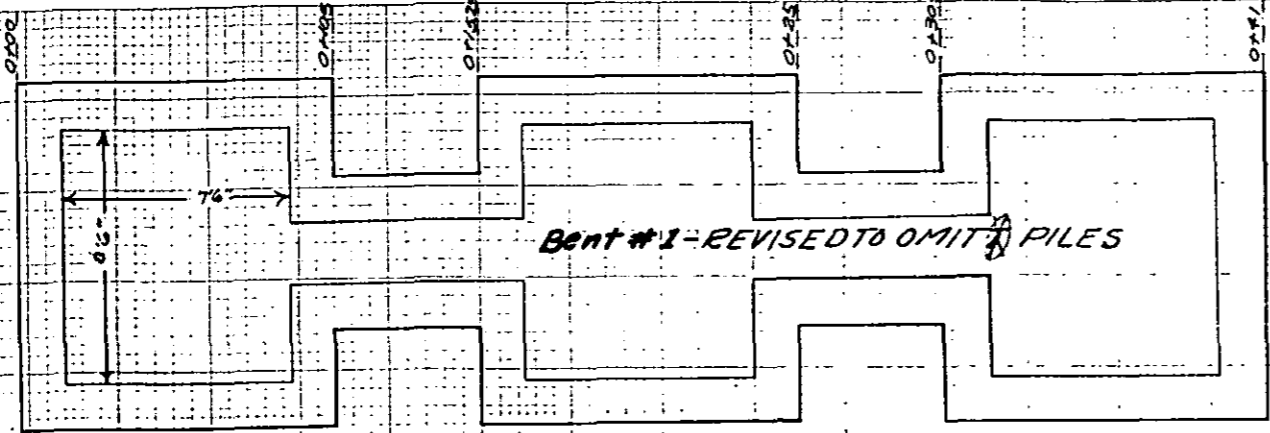
STATE OF NORTH CAROLINA  
STATE HIGHWAY AND  
PUBLIC WORKS COMMISSION

STANDARD  
NAME PLATE  
FOR  
CONCRETE BRIDGES  
MAY 1944

*J. B. Smith*  
*W. H. Reynolds*

SPECIAL	APPROVED BY	DATE
STANDARD	DESIGNED BY	DATE
	CHECKED BY	DATE
	DESIGNED BY	DATE
	CHECKED BY	DATE

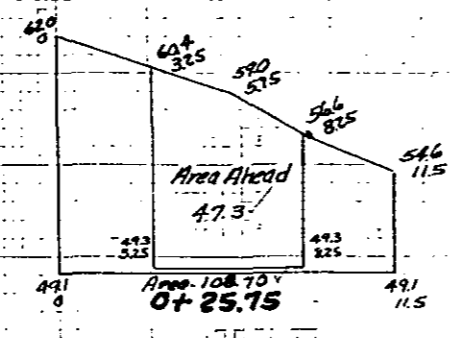
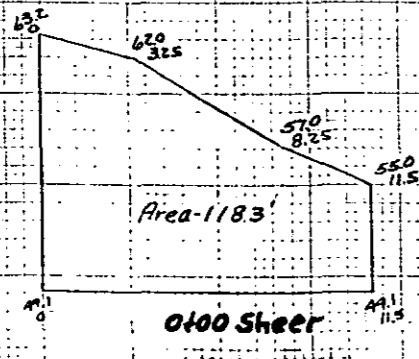
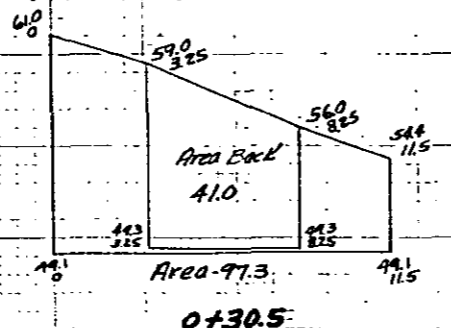
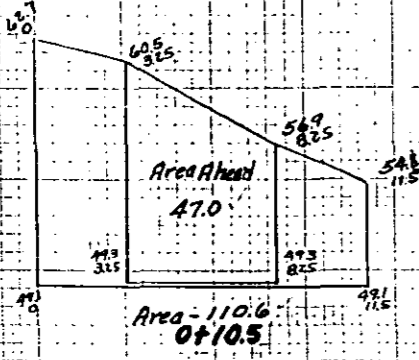
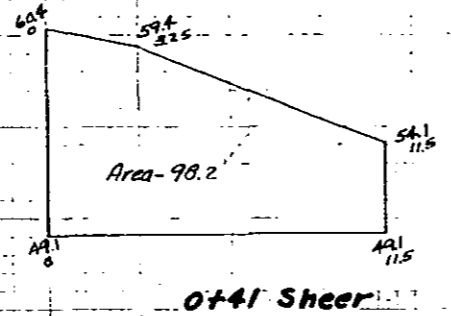
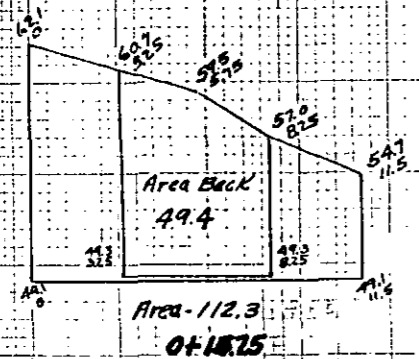




See Masonry Book Page 3.

**EXCAVATION COMPUTATIONS  
BENT # 1**

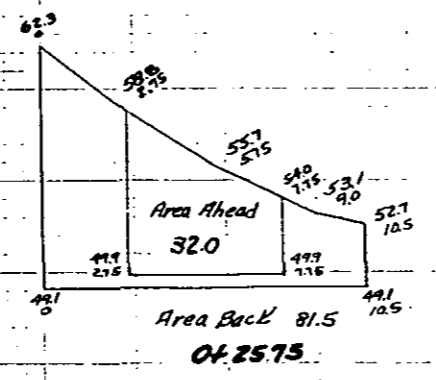
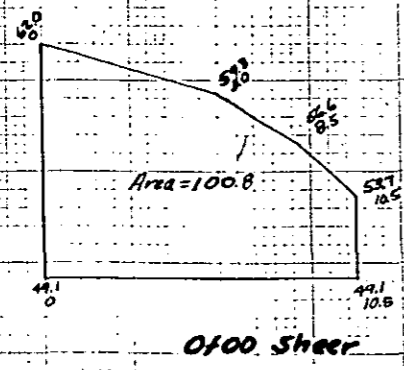
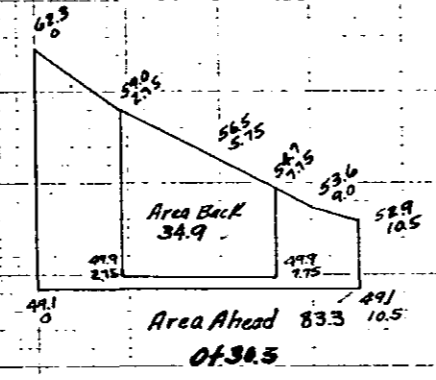
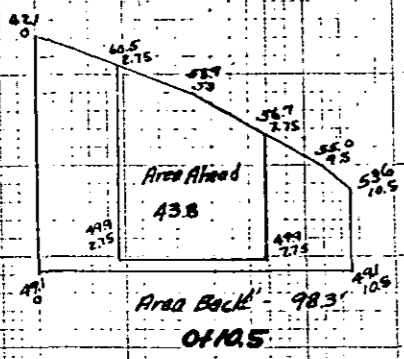
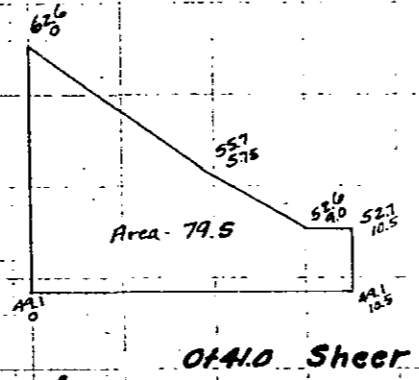
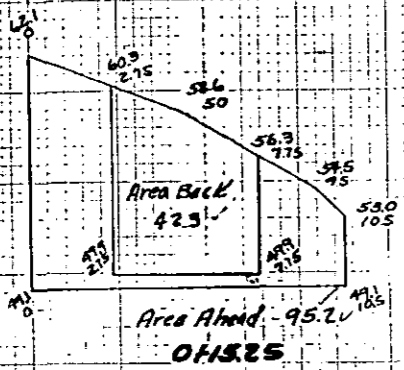
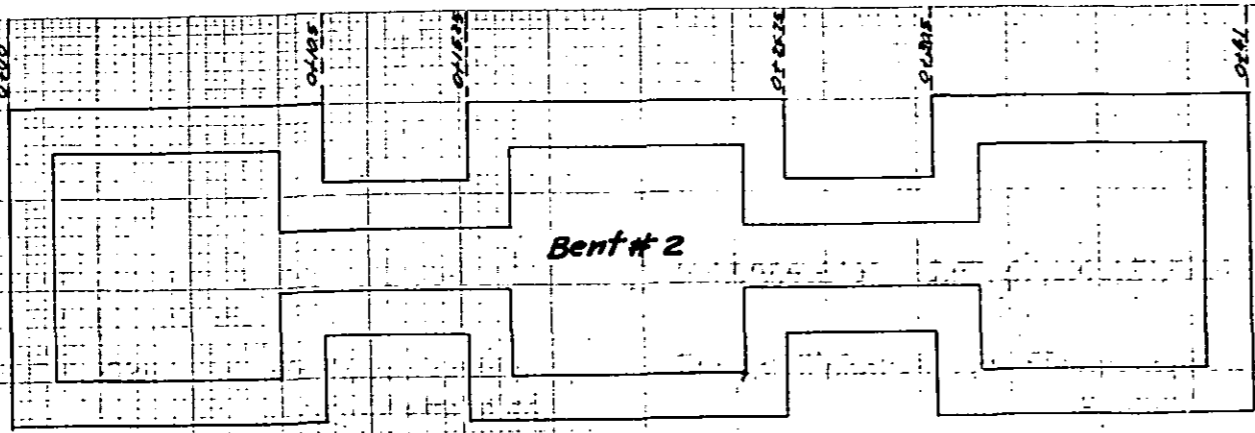
	STATION	DISTANCE	AREA	AVG. AREA	CU. YDS.
Sheer	0+00		118.3		
BACK	0+10.5	10.5	110.6	114.45	44.5
Ahead	0+10.5		47.0		
BACK	0+15.25	4.75	49.4	48.20	8.5
Ahead	0+15.25		112.3		
BACK	0+25.75	10.50	108.7	110.50	43.0
Ahead	0+25.75		47.3		
BACK	0+30.5	4.75	41.0	44.15	7.8
Ahead	0+30.5		97.3		
Sheer	0+41.0	10.5	98.2	97.75	38.0
<b>TOTAL FOR BENT # 1</b>					<b>141.0</b>



See Masonry Book 1. Page 4.

FINAL SURVEY NOTE BOOK

ORIGINAL SURVEY NOTE BOOK



EXCAVATION COMPUTATIONS  
BENT # 2

	STATION	DISTANCE	AREA	AVE. AREA	CU. YDS.
Sheer	0+00		100.8		
Back	0+10.5	10.50	98.3	99.55	38.7
Ahead	0+10.5		43.8		
Back	0+15.25	4.75	42.3	43.05	7.6
Ahead	0+15.25		95.2		
Back	0+25.75	10.50	81.5	88.35	31.4
Ahead	0+25.75		32.0		
Back	0+30.5	4.75	34.9	33.45	5.9
Ahead	0+30.5		83.3		
Sheer	0+41.0	10.50	81.5	82.4	32.0
TOTAL FOR BENT #2					118.6

SUMMARY UNCLASSIFIED EXCAVATION

BENT # 1	141.8
" # 2	118.6
TOTAL FOR PROJ.	260.4 CU. YDS.

See Masonry Book 1 Page No. 6

FINAL SURVEY PLOTTED FROM ORIGINAL SURVEY PLOTTED FROM NOTE BOOK

ORIGINAL SURVEY PLOTTED FROM NOTE BOOK

## SUMMARY OF QUANTITIES

SHEET NO.	UNCLASSIFIED STRUCTURE EXC.	CLASS 'A' CONCRETE REINFORCING STEEL	STRUCTURAL TREATED TIMBER PILES STEEL	METHOD 'A' PILE CUTOFF WATER PROOFING	WROUGHT IRON BLAST PLATES Lump Sum
SEE STA. 870+5942	260.4 CU. yds.	296.4 Cu. yds.	55,785.00 Lbs.	138,200.00 Lbs.	205.33 LF.    391.25 LF.    20 Sp. yds.
					3,400 Lbs.

See Masonry Book 1 Page No. 7.

FINAL SURVEY NOTES  
 NO. 6142  
 DATE 10/1/18

ORIGINAL SURVEY NOTES  
 NO. 6142  
 DATE 10/1/18

BRIDGE STATION 870+59.42 = FOOTINGS  
 PILE DATA & EXTRA CONCRETE

PILE NO. LENGTH CUTOFF PAY LENGTH PAYCUTOFF

END BENT #1

1	35'	19'10"	15'2"	17'10"
2	35'	19'6"	15'6"	17'6"
3	35'	18'5"	16'7"	16'5"
4	35'	19'0"	16'0"	17'0"
5	35'	18'0"	17'0"	16'0"
6	21'	4'6"	16'6"	2'6"
7	35'	18'0"	17'0"	16'0"
8	35'	18'2"	16'10"	16'2"
9		190'7"		119'5"

BENT #2

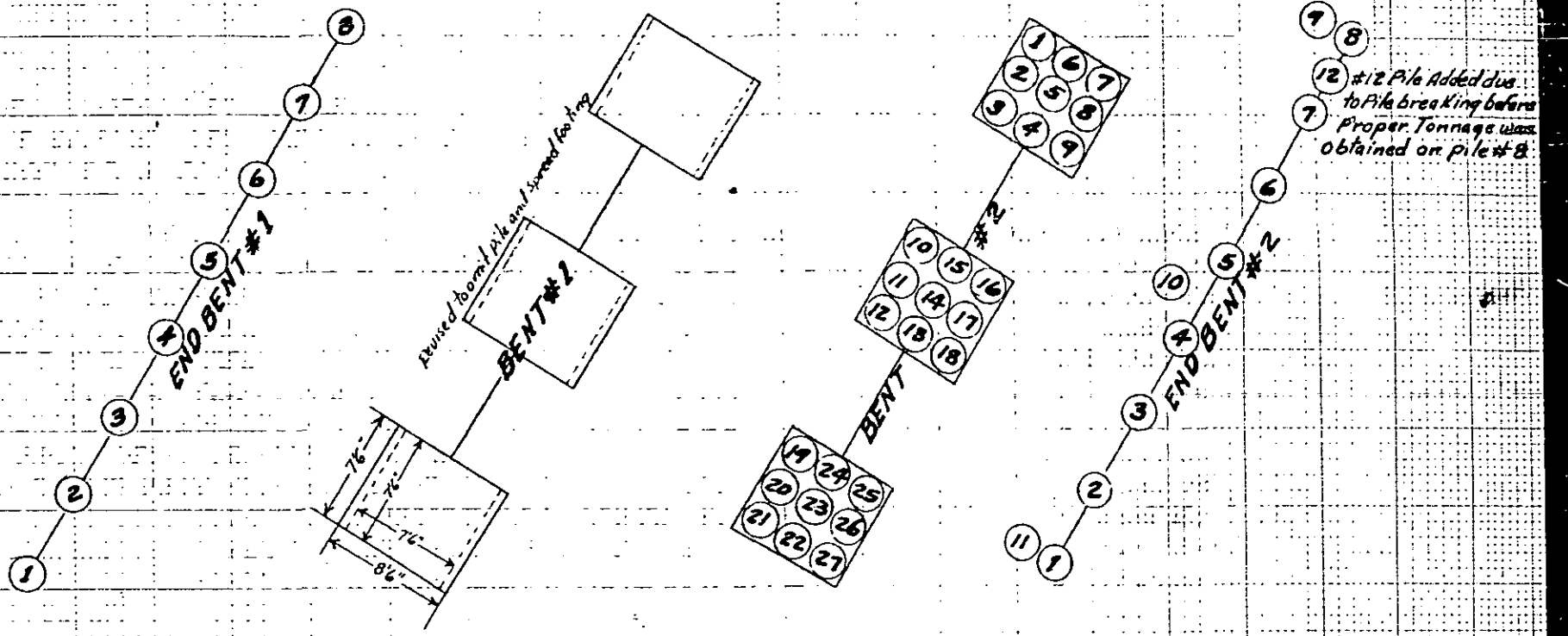
1	25'	9'0"	16'0"	7'0"
2		9'0"	16'0"	7'0"
3		9'0"	16'0"	7'0"
4		9'0"	16'0"	7'0"
5		7'0"	18'	5'0"
6		11'0"	14'	9'0"
7		9'5"	15'7"	7'5"
8		8'4"	16'8"	6'4"
9		8'6"	16'6"	6'6"
10		10'6"	14'6"	8'6"
11		12'0"	13'0"	10'0"
12		13'0"	12'0"	11'0"
13		7'0"	18'0"	5'0"
14		10'0"	15'0"	8'0"
15		13'6"	11'6"	11'6"
16		11'8"	13'4"	9'8"
17		10'6"	14'6"	8'6"
18		11'6"	13'6"	9'6"
19		15'0"	12'0"	11'0"
20		13'0"	12'0"	11'0"
21		12'6"	12'6"	10'6"
22		12'6"	12'6"	10'6"
23		13'0"	12'0"	11'0"
24		9'0"	16'0"	7'0"
25		13'6"	11'6"	11'6"
26		13'6"	11'6"	11'6"
27		11'0"	14'0"	9'0"
28			384'1"	236'11"

END BENT #2

1	20'1/2"	4'6"	15'7 1/2"	2'6"
2	22'3"	8'6"	13'9"	6'6"
3	22'9"	8'6"	13'9"	6'6"
4	40'	23'6"	15'6"	0.0 No Pay cut off due to pile used as pile #5
5	23'6"	7'9"	16'9"	5'9"
6	40'	22'9"	19'3"	0.0 " " " " " " " " " " " #3
7	40'	22'3"	17'9"	0.0 " " " " " " " " " " " #2
8	40'	21'1"	18'11"	0.0 " " " " " " " " " " " #9
9	21'1"	4'6"	16'7"	2'6"
10	20'1 1/2"	5'5"	14'6"	3'5"
11	20'1 1/2"	5'7"	14'6 1/2"	3'7"
12	20'1"	6'2"	13'9"	4'2"
		190'8"		34'11"

TOTAL 785'4 1/2"  
 or 785.33 L.F.  
 391'3"  
 391.25 L.F.

See Masonry Book 1 pages 9-10



A FOOTINGS BENT #2 REVISED  
 SPRED FOOTING TO OMIT PILES-SEE SHEET NO. 57A  
 PLEASE SEE  
 See Masonry Book Page 8

COMPUTED BY - *Lyle E. Shick* 1-15-32  
 CHECKED BY - *J. J. Rumpel* 1-15-32

*THE FINAL ESTIMATE*  
NORTH CAROLINA STATE PROJECT NO 6142 F-591(c)  
CABARRUS COUNTY

AMOUNT	UNIT	ITEM	UNIT PRICE	TOTAL AMOUNT
260.4	CU. YDS.	UNCLASSIFIED STRUCTURE EXCAVATION	8.00	\$ 2,083.20
296.4	CU. YDS.	CLASS "A" CONCRETE	64.00	\$ 18,969.60
55,705.0	LBS.	REINFORCING STEEL	0.12	\$ 6,694.20
138,200.0	LBS.	STRUCTURAL STEEL	1.5	\$ 21,000.00
705.33	LIN. FT.	CREOSOTED TIMBER PILES	2.80	\$ 1,974.92
28.00	SQ. YDS.	METHOD "A" WATER PROOFING	10.00	\$ 280.00
3,400.00	LBS.	WROUGHT IRON BLAST PLATE	1.5	\$ 1,000.00
391.25	LIN. FT.	CREOSOTED TIMBER PILE CUT OFF	1.40	\$ 547.75
		TOTAL AMOUNT OF FINAL ESTIMATE		\$ 52,549.67
		LESS PREVIOUS PAYMENTS (Ests. 1-6 Incl.)		\$ 49,419.84
		AMOUNT DUE ON FINAL ESTIMATE		\$ 3,129.83

I hereby certify that I have checked this estimate and that it is true and correct according to my best knowledge and belief.

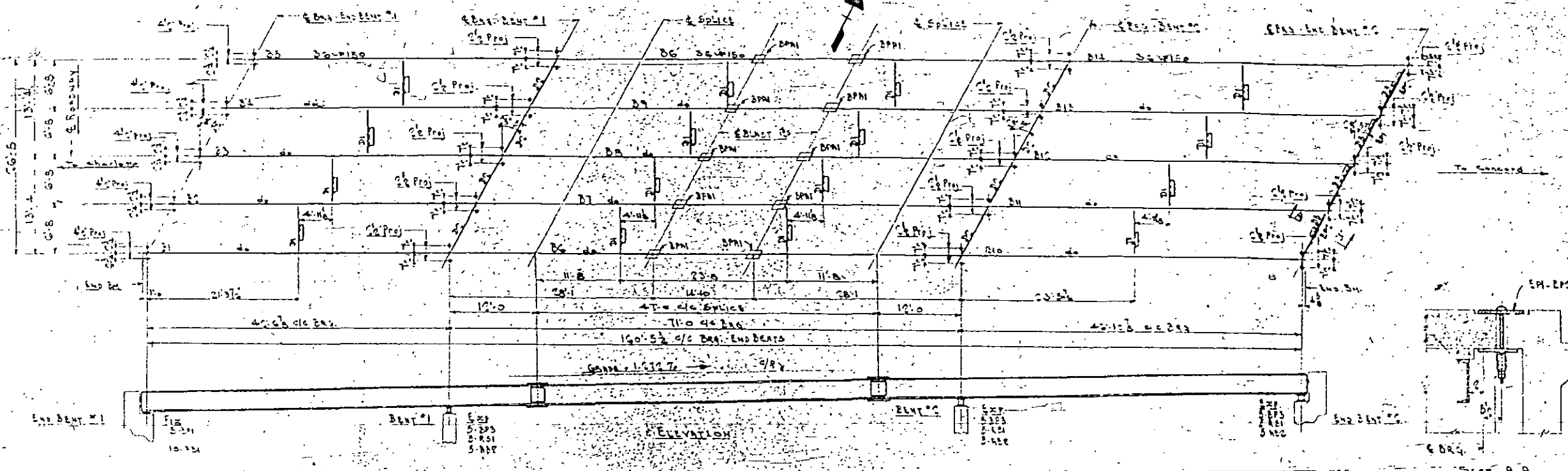
Signed *R. K. Jewell* Date *Aug 20, 1952*  
Resident Engineer

I hereby certify that I have examined this estimate in detail and that it is true and correct according to my best knowledge and belief.

Signed *M. E. Deady* Date *8-22-52*  
Division Engineer

FINAL SURVEY NOTE BOOK NO. DATE

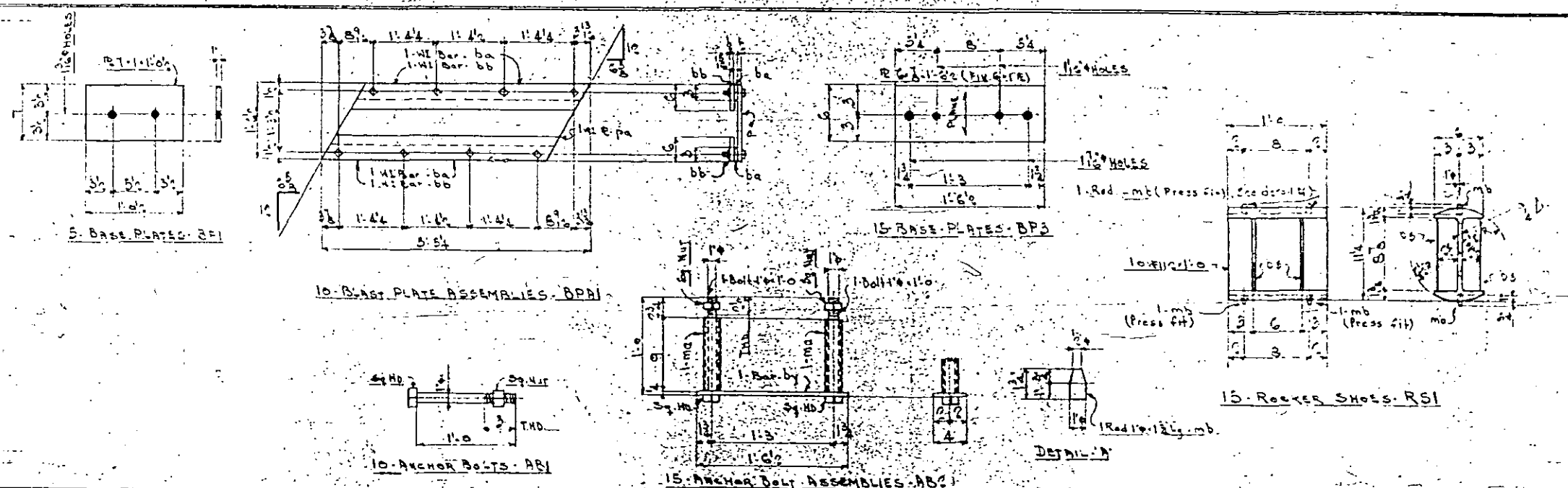
ORIGINAL SURVEY NOTE BOOK NO. DATE



Erection & Anchor Bolt Setting Plan

51-15-339  
52-12-407  
53-10-255

SECT. A-A



PRINTS	
1-24	1
5-17-51	1
1-17-51	1

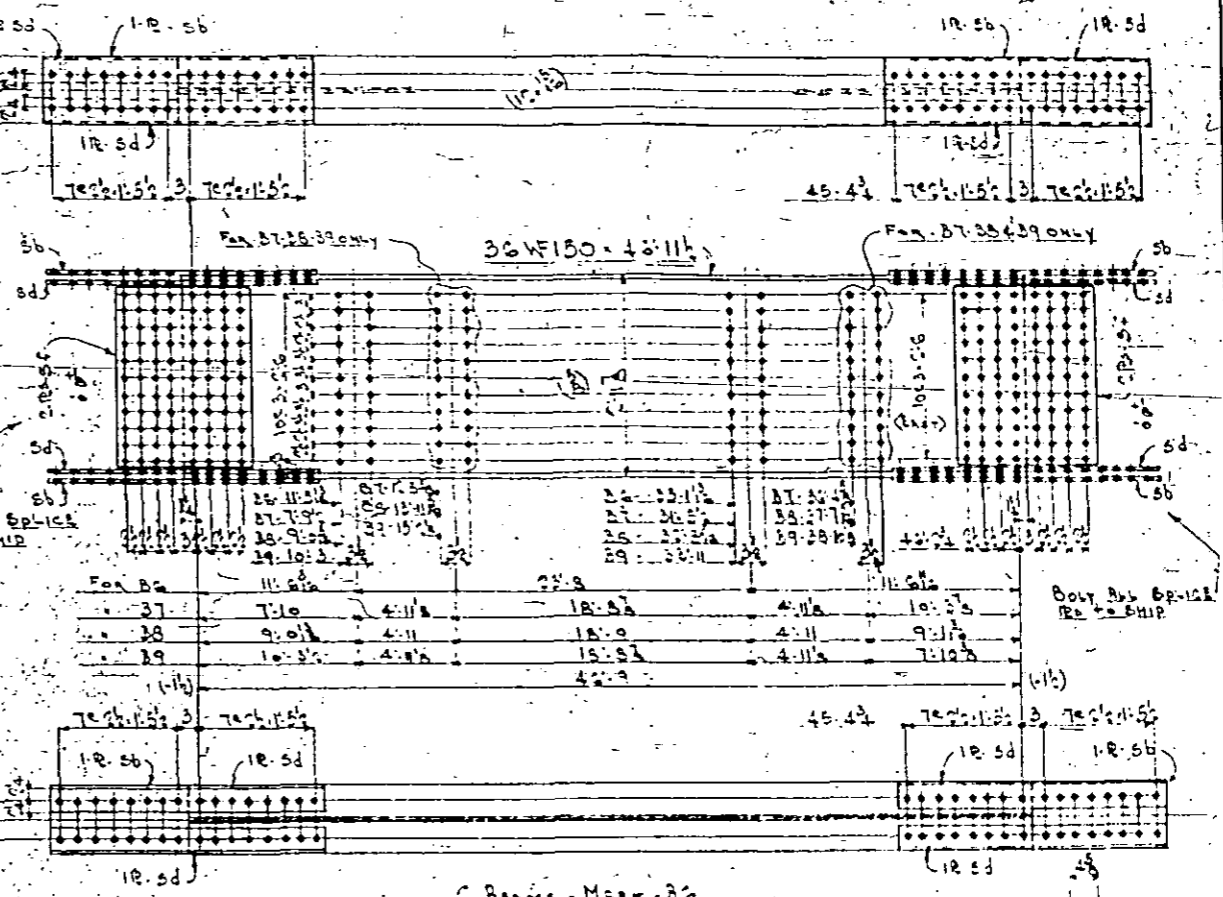
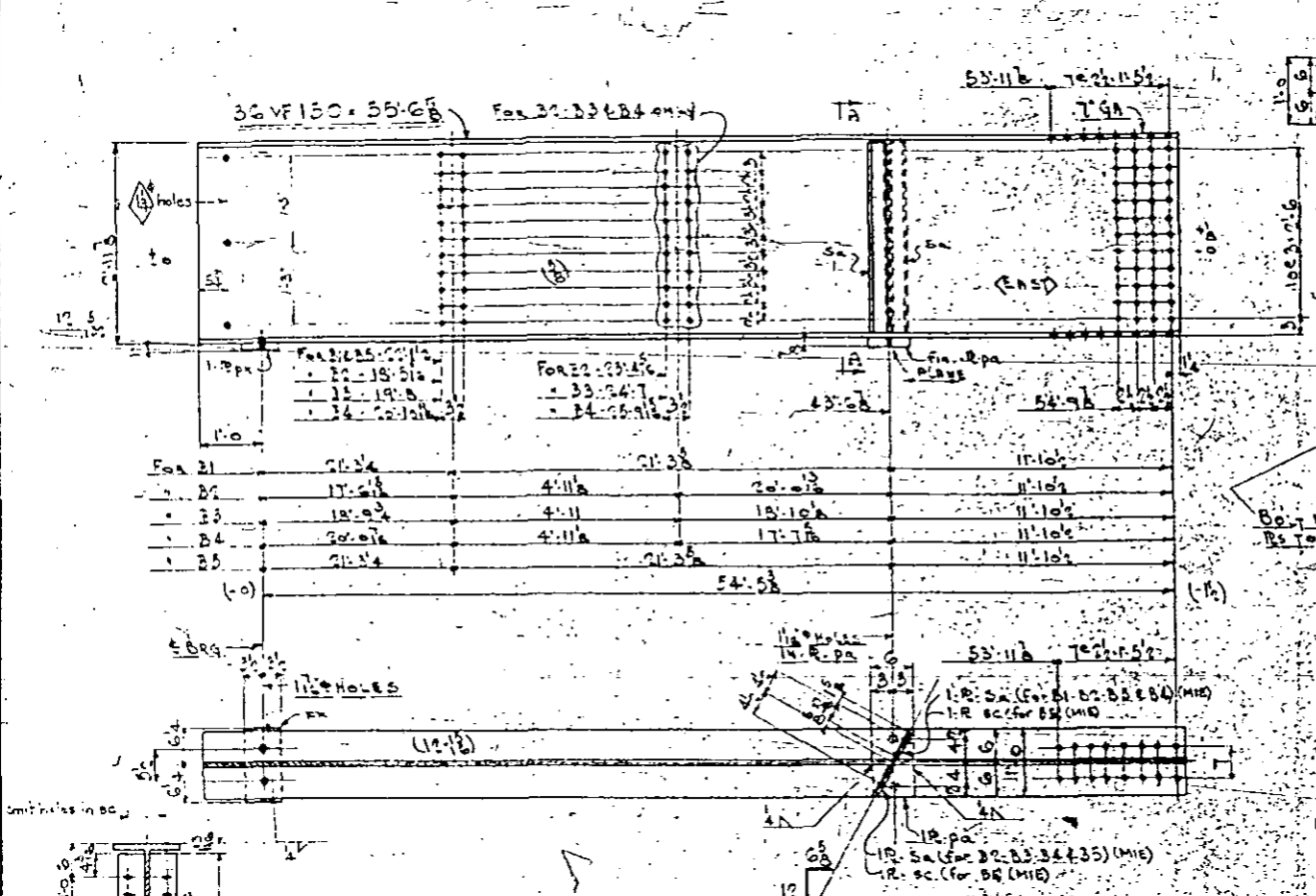
QTY	SHAPE	LENGTH	GRADE	REMARKS	QTY	SHAPE	LENGTH	GRADE	REMARKS
5	PL T-1	1'-0"	API		15	Anchor Bolt	1'-6"	API	
					15	Bar 4" x 4"	1'-6"	API	
					30	Bar 1" x 1"	1'-0"	(S.W.H.)	
					30	Bar 3/4" x 3/4"	1'-0"	ma	
10	Base Plate	5'-0"	API		15	Rocker Shoes	1'-0"	RSI	
10	Base Plate Assembly	5'-0"	API		15	Bar 1" x 1"	1'-0"	(S.W.H.)	
10	Anchor Bolt	1'-0"	API		30	Bar 3/4" x 3/4"	1'-0"	ma	
10	Anchor Bolt Assembly	1'-0"	API		30	Bar 1" x 1"	1'-0"	(S.W.H.)	

NOTE - SHOP INSPECTION OF STA. STEEL WILL BE MADE BY PROSILING & ROBERTSON INC.

N.C. STATE HIGHWAY & PUBLIC WORKS COM.  
BRIDGE WITH SOUTHERN RAILWAY OVER CONCORD  
CARRIAGE COUNTY  
PROJECT No 6142 - STA 610 + 51.62

**SOUTHERN ENGINEERING CO.**  
LITTLE PITTSBURG CHARLOTTE, N.C.

MADE BY H. H. H. CHECKED BY R. H. H.  
DATE 5-3-51 REVISED 5-17-51  
CONT. L-626 DRAW. 51



FOR	21	22	23	24	25
17'-0"	17'-0"	17'-0"	17'-0"	17'-0"	17'-0"
4'-11 1/2"	4'-11 1/2"	4'-11 1/2"	4'-11 1/2"	4'-11 1/2"	4'-11 1/2"
20'-13 1/2"	20'-13 1/2"	20'-13 1/2"	20'-13 1/2"	20'-13 1/2"	20'-13 1/2"
11'-10 1/2"	11'-10 1/2"	11'-10 1/2"	11'-10 1/2"	11'-10 1/2"	11'-10 1/2"

FOR	37	38	39
11'-0"	11'-0"	11'-0"	11'-0"
4'-11 1/2"	4'-11 1/2"	4'-11 1/2"	4'-11 1/2"
18'-0"	18'-0"	18'-0"	18'-0"
4'-11 1/2"	4'-11 1/2"	4'-11 1/2"	4'-11 1/2"
15'-5 1/2"	15'-5 1/2"	15'-5 1/2"	15'-5 1/2"

ONE BEAM - MARK - B1

do	do	do	do
do	do	do	do
do	do	do	do
do	do	do	do
do	do	do	do

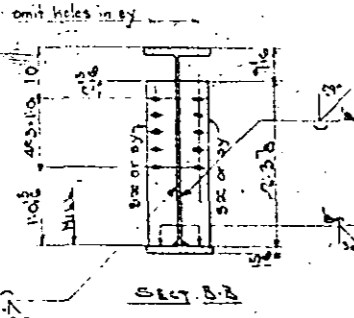
2 BEAMS - MARK - B6

ONE BEAM	do	do	do
do	do	do	do
do	do	do	do
do	do	do	do

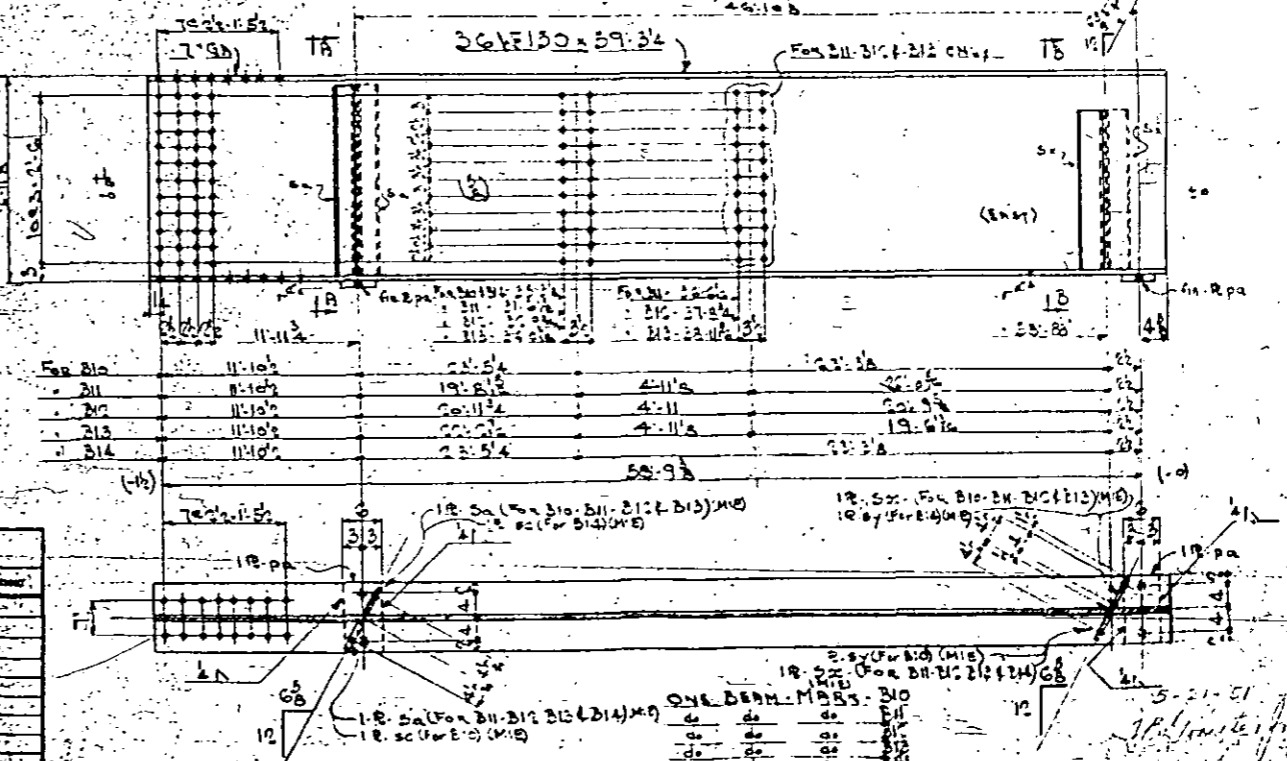
PRINTS

5-10-51	10/1/51
4-17-51	10/1/51
4-17-51	10/1/51
4-17-51	10/1/51

SECT. A-A



SHOP NOTES - Shop inspection of steel will be made by Franklin & Robertson, Inc. Holes for beam splices only shall be sub-punched and reamed to size with all parts assembled. Beams shall be match-marked.



FOR	41	42	43
11'-10"	11'-10"	11'-10"	11'-10"
4'-11 1/2"	4'-11 1/2"	4'-11 1/2"	4'-11 1/2"
19'-6 1/2"	19'-6 1/2"	19'-6 1/2"	19'-6 1/2"
4'-11 1/2"	4'-11 1/2"	4'-11 1/2"	4'-11 1/2"
19'-6 1/2"	19'-6 1/2"	19'-6 1/2"	19'-6 1/2"

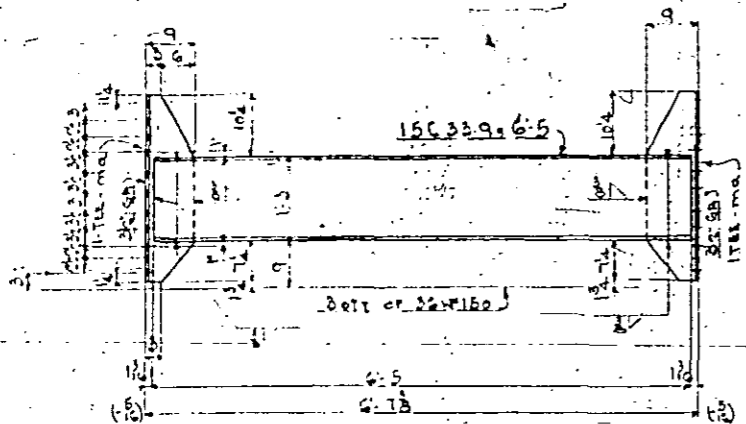
L-626-52

QTY	SHAPE	LENGTH	MARKS	REMARKS	WEIGHT	QTY	SHAPE	LENGTH	MARKS	REMARKS	WEIGHT
1	BEAM		B1			2	BEAMS	B6			
1			B2			1		B7			
1			B3			1		B8			
1			B4			1		B9			
5	36WF150	59'-66"				5	36WF150	48'-11"			
5	R. 21"	7'-9 1/2"	SC	(MIE)		20	R. 10"	2'-9 1/2"	SC	(MIE)	
5	R. 6"	1'-0"	SC	(FIN. 1-18)		40	R. 4"	5'-8"	SC	(FIN. 1-18)	
2	R. 5 1/2"	2'-9 1/2"	SC	(MIE)		2	R. 5 1/2"	2'-9 1/2"	SC	(MIE)	
						2	R. 5 1/2"	2'-9 1/2"	SC	(MIE)	

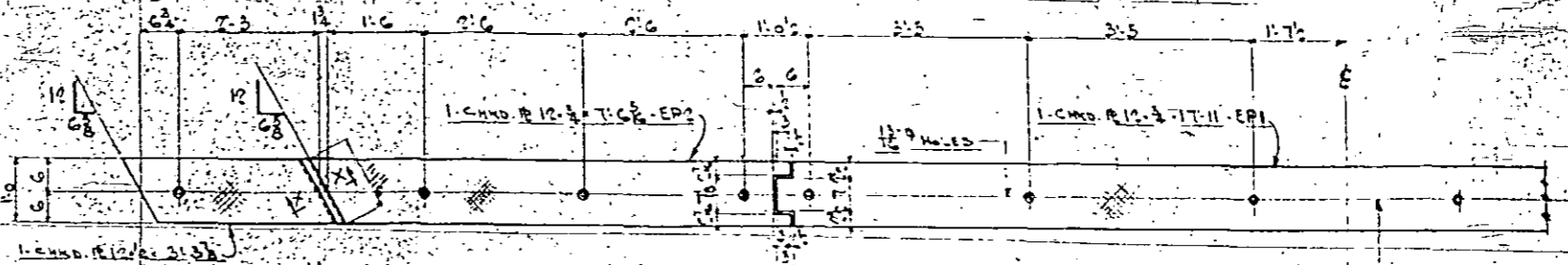
N.C. STATE HIGHWAY & PUBLIC WORKS COMM. BRIDGE OVER SOUTHERN RAILWAY, WALK CONCOURSE, CARRIAGE COUNTY, PROJECT NO. 6142 - STA. 810+54.42

NOTES: 1. Shop inspection of steel will be made by Franklin & Robertson, Inc. 2. Holes for beam splices only shall be sub-punched and reamed to size with all parts assembled. Beams shall be match-marked.

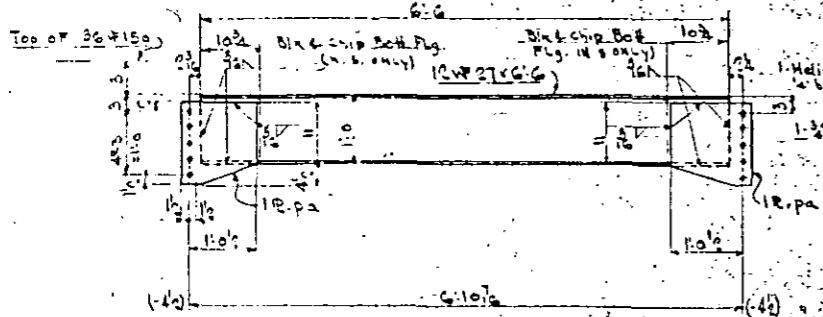
SOUTHERN ENGINEERING CO. LITTLE PITTSBURG CHARLOTTE, N.C. MADE BY HANDSHELD CHECKED BY DATE 5-4-51 REVISION B-11 4/51 (REV. 11-50) CONT. L-626 DRAW. 52



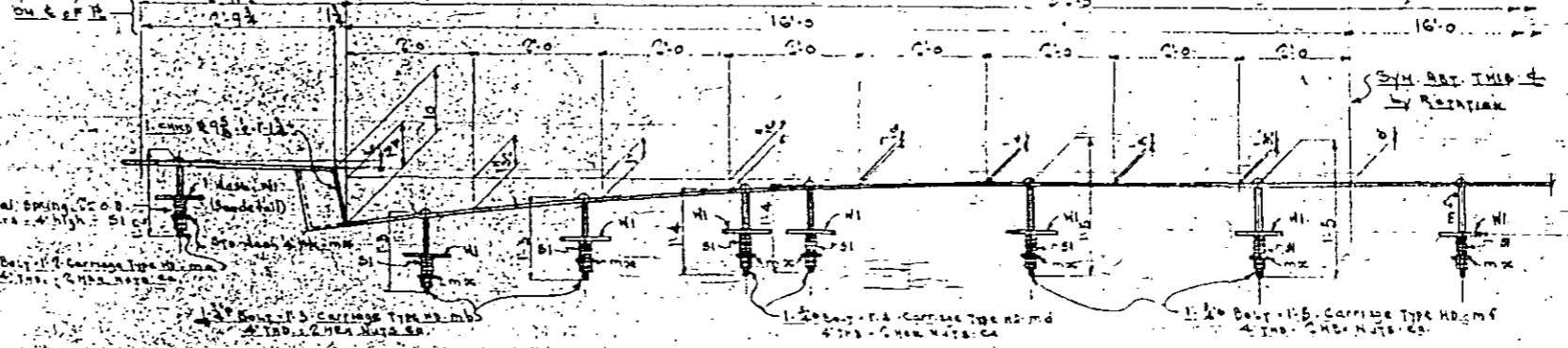
1G - DIAPHRAGM - MARK - D1



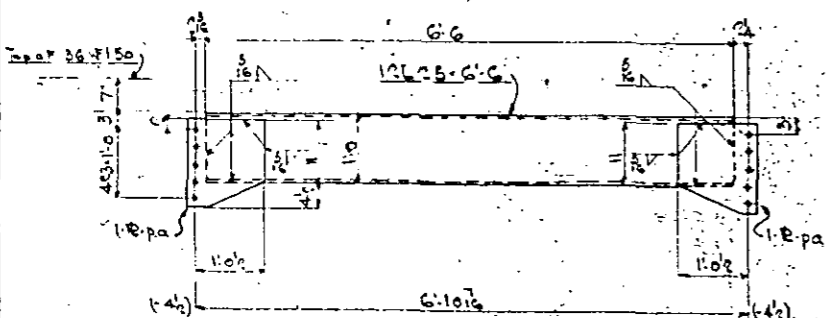
Checkers under ball heads  
to be ground off flush  
with plate



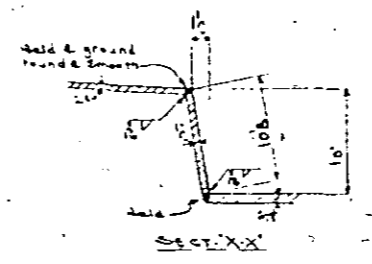
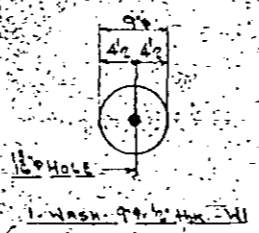
B - DIAPHRAGM - D2



1 - Exp JOINT PLATE - EPI



4 - DIAPHRAGM - D3



5-17-51	5-17-51
---------	---------

NO.	SHAPE	LENGTH	MARK	REMARKS	QTY.	NO.	SHAPE	LENGTH	MARK	REMARKS	QTY.
1A	DIAPHRAGM		D1		1	Exp Joint Plate	EPI				2
1B	15C 33.9	6:5			1	Channel 12.5	TC 6-EP1				2
5A	10C 27	6:6	ma	(S-15ESS)	4	Channels	11.5	Carriage Type md	1C		7
5B	10C 27	6:6	pa		4	Channels	11.5	Carriage Type md	1C		7
5C	10C 27	6:6	ra		4	Channels	11.5	Carriage Type md	1C		7
5D	10C 27	6:6	sa		4	Channels	11.5	Carriage Type md	1C		7
5E	10C 27	6:6	ta		4	Channels	11.5	Carriage Type md	1C		7
5F	10C 27	6:6	ua		4	Channels	11.5	Carriage Type md	1C		7

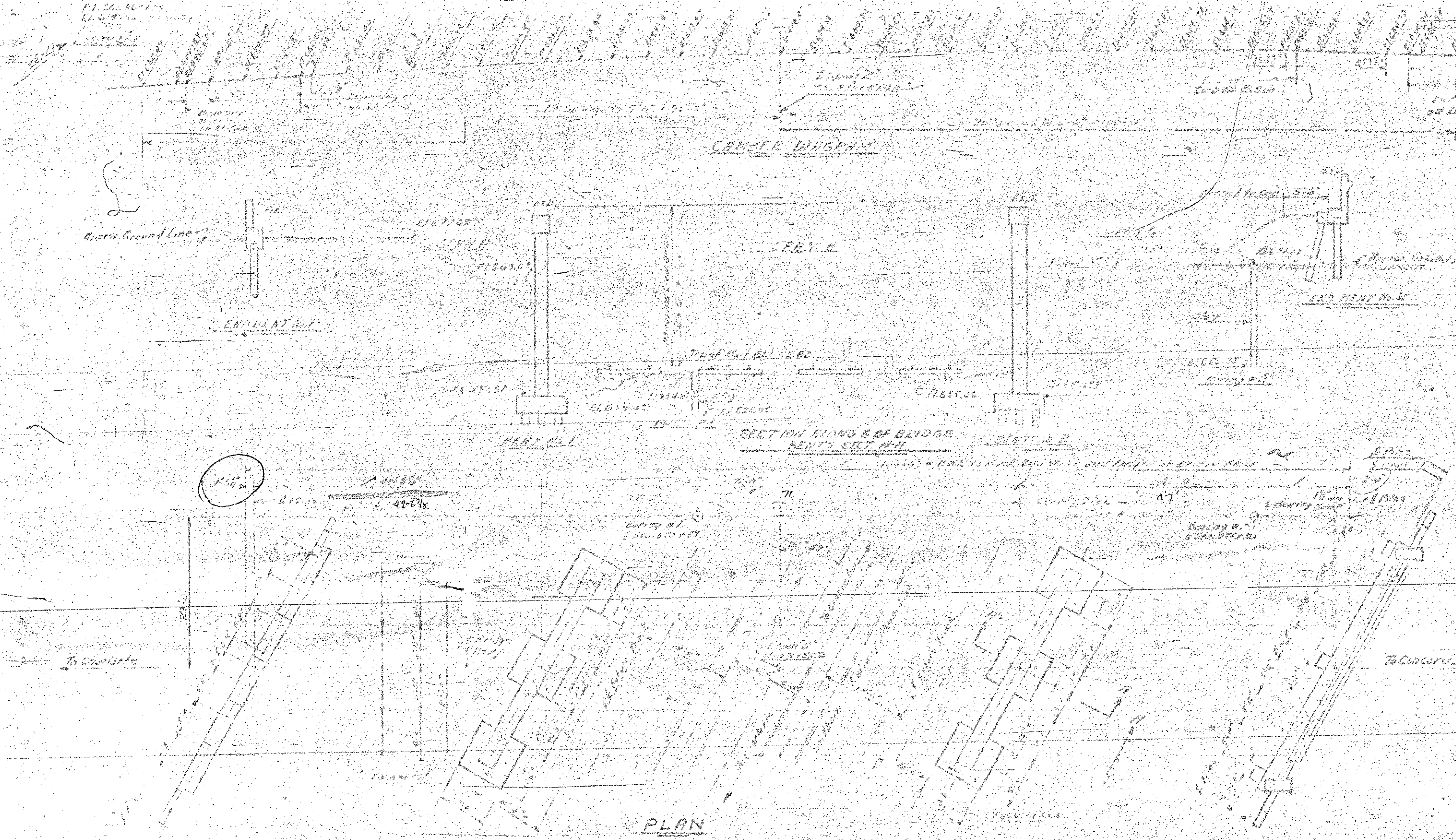
NC STATE HIGHWAY 4 PUBLIC WORKS COMM.  
BRIDGE OVER SOUTHERN RAILWAY NEAR CONCORD  
CARRIAGE COUNTY  
PROJECT # G142 - STD. G10+5942

**SOUTHERN ENGINEERING CO.**  
LITTLE PITTSBURG CHARLOTTE, N. C.

NOTES  
REVISIONS - INDICATED  
DATE 5-17-51  
CHECKED BY RGM 5/15/51  
REVISION 5-17-51  
SPEC. 1 CONT. LG66 DRAW 33



REVISED	DATE	BY	REASON
1	5/1/28	...	...



**NOTE:** The bridge shall be built on a vertical curve with a grade of 1.2% and a vertical curve length of 1000 feet. The bridge shall be built on a vertical curve with a grade of 1.2% and a vertical curve length of 1000 feet. The bridge shall be built on a vertical curve with a grade of 1.2% and a vertical curve length of 1000 feet.

**NOTE:** The bridge shall be built on a vertical curve with a grade of 1.2% and a vertical curve length of 1000 feet. The bridge shall be built on a vertical curve with a grade of 1.2% and a vertical curve length of 1000 feet. The bridge shall be built on a vertical curve with a grade of 1.2% and a vertical curve length of 1000 feet.

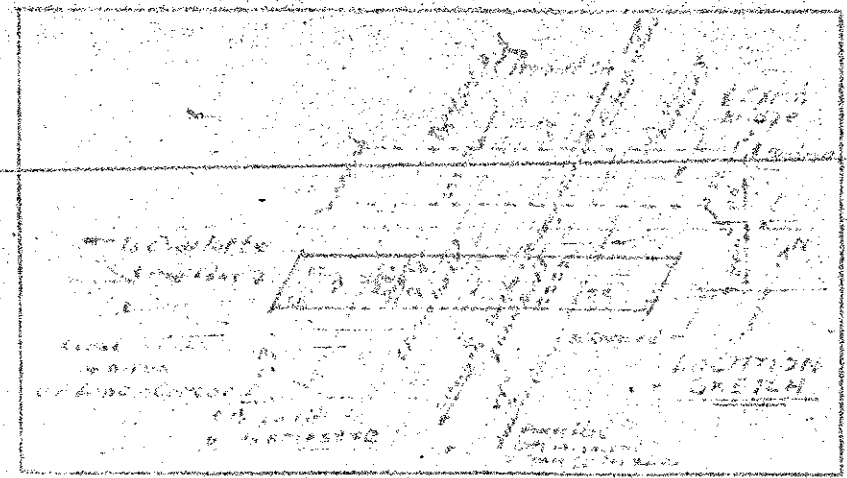
**NOTE:** The bridge shall be built on a vertical curve with a grade of 1.2% and a vertical curve length of 1000 feet. The bridge shall be built on a vertical curve with a grade of 1.2% and a vertical curve length of 1000 feet. The bridge shall be built on a vertical curve with a grade of 1.2% and a vertical curve length of 1000 feet.

**TOTAL BILL OF MATERIALS**

ITEM	QUANTITY	UNIT	PRICE	TOTAL
CONCRETE	168.5	CU YD	15.00	2527.50
REINFORCING	12.7	TONS	200.00	2540.00
PIERS	2.7	PIERS	943.00	2543.00
SPANS	4.2	SPANS	799.50	3352.50
INDUSTRIAL	27.0	TONS	39.92	1077.84
TOTAL	235.1			10778.84

**NOTE:** All concrete to be placed in place. DIVISION OF LANDS & CONCRETE. 100 YEARS CONCRETE. 100 YEARS CONCRETE. 100 YEARS CONCRETE.

**PROJECT NO. 5142**  
**CABARRUS COUNTY**  
**STATION 170 + 22.00**



DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE

STATE OF NORTH CAROLINA  
STATE HIGHWAY AND  
PUBLIC WORKS COMMISSION  
SHERMAN HARRINGTON  
OVERSEER  
SOUTHERN RAILWAY  
BETWEEN  
CHARLOTTE AND CONCORD  
OCTOBER 1928

DATE	BY	NO.

PLACING D. 350

PLAN Assumed 1 1/2" Blkup

CROWN DIMENSION

3.63

0.665

1/2" min  
Build up

250 of 1/2" (30 1041)

1/2" 5/8"

SECTION C

CRENSHAW COUNTY  
STATION

SECTION D

HALF SECTION

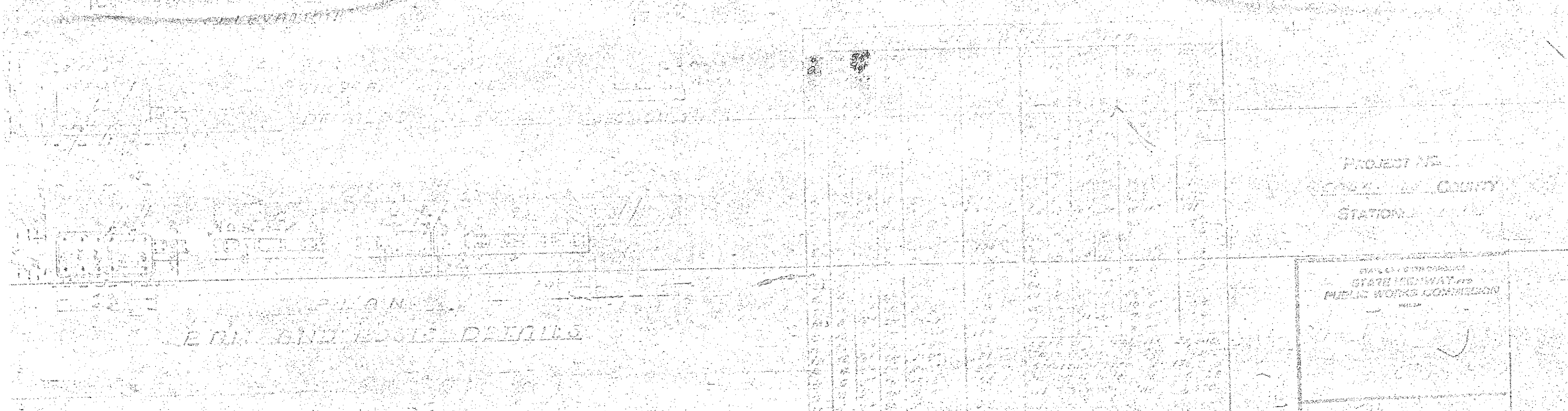
HALF END VIEW SPAN A

STATE OF NORTH CAROLINA  
STATE HIGHWAY AND  
PUBLIC WORKS COMMISSION

SUPERSTITION

EDWARD

DESIGNED BY  
DRAWN BY

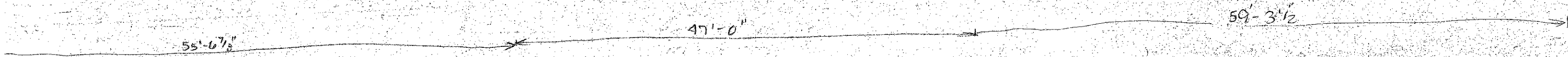


*E. D. ANDERSON DETAIL*

PROJECT NO.  
 CRAWFORD COUNTY  
 STATION 1000

STATE OF MISSISSIPPI  
 STATE HIGHWAY DEPARTMENT  
 PUBLIC WORKS COMMISSION  
 1941-42

DATE	NO.	BY	REVISION



horizontal distances

36 X 150

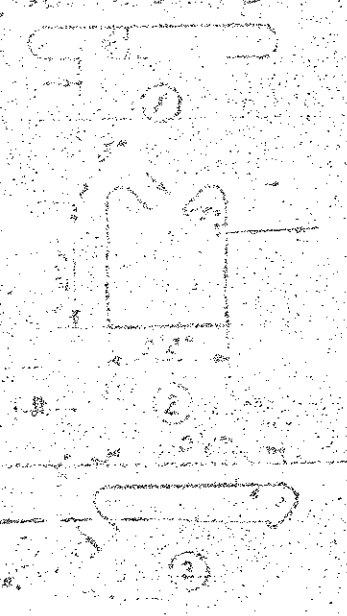
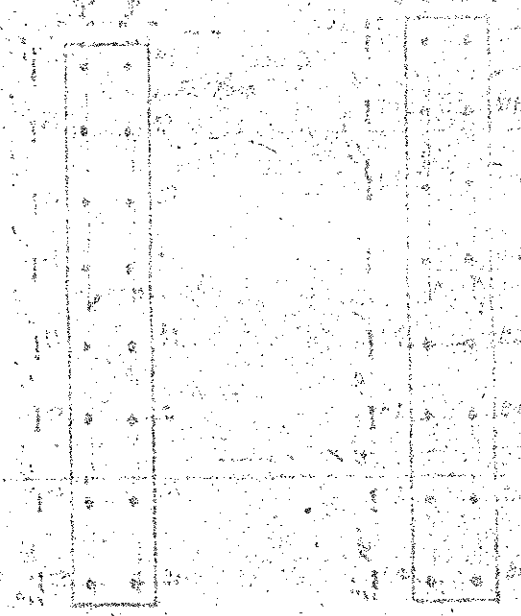
PROJECT NO. \_\_\_\_\_  
 COUNTY \_\_\_\_\_  
 STATION \_\_\_\_\_

STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION

DATE \_\_\_\_\_  
 PROJECT NO. \_\_\_\_\_  
 COUNTY \_\_\_\_\_

BEAN DETAILS

EDMUNDSON & COMPANY, INC.  
 ENGINEERS AND ARCHITECTS  
 1000 WEST 10TH STREET  
 WASHINGTON, D.C. 20004



**BILL OF MATERIALS**

NO.	DESCRIPTION	QUANTITY	UNIT	AMOUNT
01	2 1/2" 1" 100'	25	sq	400
02	4 1/2" 3/4" 100'	400	sq	1600
03	3 1/2" 3/4" 100'	100	sq	350
04	1 1/2" 3/4" 100'	10	sq	150
05	2 1/2" 3/4" 100'	100	sq	350
06	4 1/2" 3/4" 100'	10	sq	350
07	2 1/2" 3/4" 100'	100	sq	350
08	4 1/2" 3/4" 100'	10	sq	350
09	2 1/2" 3/4" 100'	100	sq	350
10	4 1/2" 3/4" 100'	10	sq	350
11	2 1/2" 3/4" 100'	100	sq	350
12	4 1/2" 3/4" 100'	10	sq	350

PROJECT NO. 4412  
 CARRBORO COUNTY  
 STATIONED 23+72.12

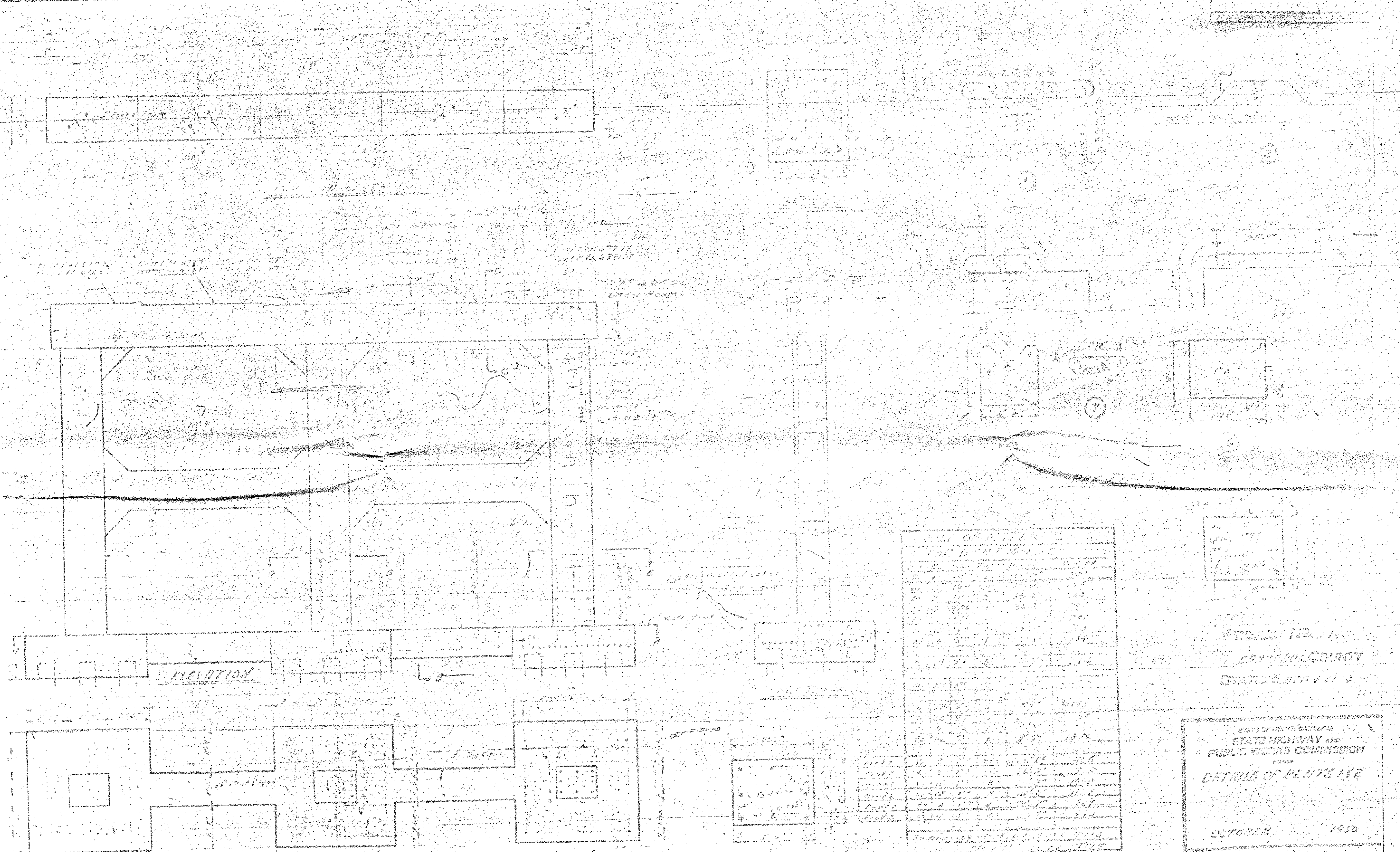
STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION

ENCLOSURE No. 1

Note: Plan to be drawn to a  
 standard sheet size  
 at 1/8" = 1'

# Concrete displaced by  
 and shown was area  
 on structure

DATE: 11/15/54  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]

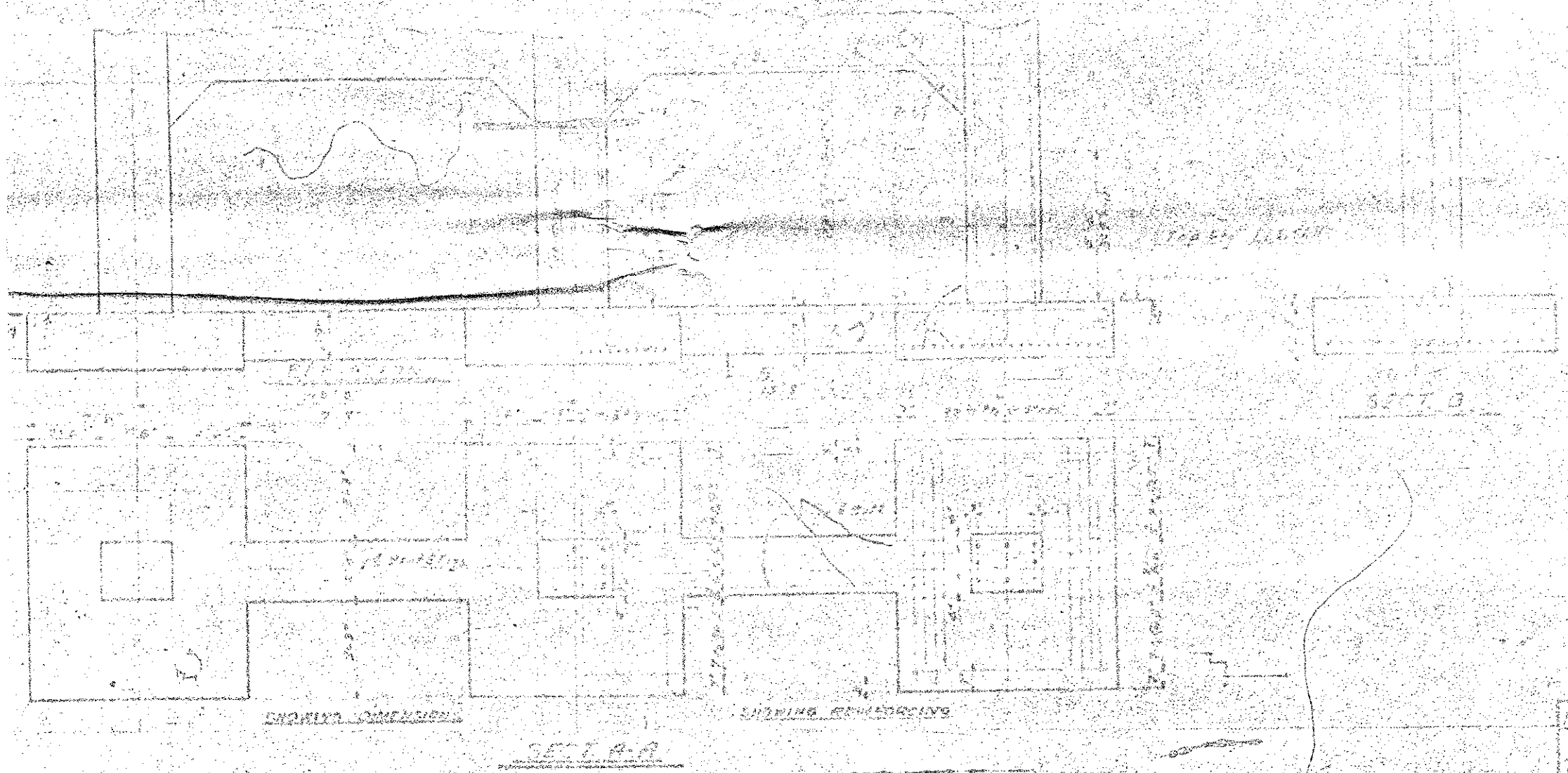


NO.	DESCRIPTION	QUANTITY	UNIT	AMOUNT
1	Concrete for piers	100	cu yd	100
2	Concrete for spans	150	cu yd	150
3	Reinforcing steel	200	lbs	200
4	Formwork	300	sq ft	300
5	Foundation work	400	sq ft	400
6	Paint	50	gal	50
7	Other materials	60	various	60
<b>TOTAL</b>				<b>1000</b>

STATEMENT NO. 10  
 CHANDLER COUNTY  
 STATUTES 1910 & 1912

STATE OF NORTH CAROLINA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION  
 DETAILS OF BENTONITE  
 OCTOBER 1930

SECTION A-A  
 Concrete supported by pile bents

**DETAILS FOR BELT 1**  
 Total Class. Concrete 633 cu yds  
 Total Reinforcing Steel 17713 lbs  
 Total Unit Structure Econ. 183 cu yds

**NOTE:** Parts not shown same as sheet no 57

PROJECT NO. 100  
 CANNON COUNTY  
 STATION 112+10

STATE OF GEORGIA  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION  
**DETAILS OF BELT 1**