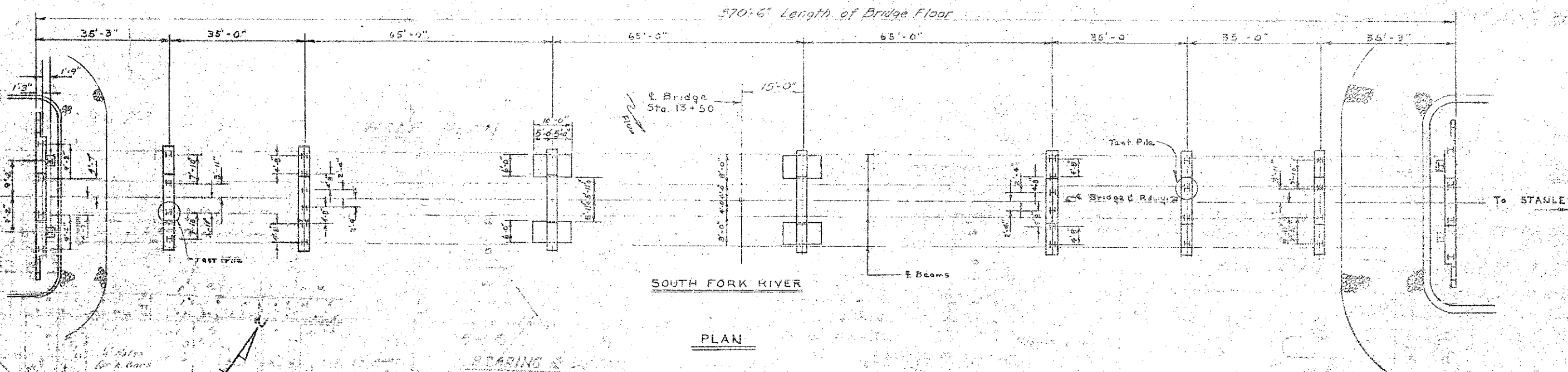


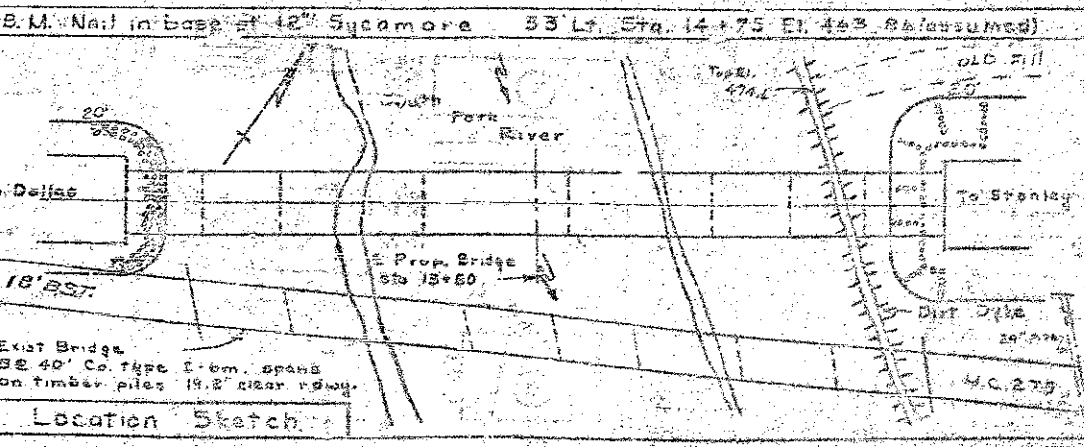
**NOTES**

Assumes L.L. H15-512  
 For other design data and general notes, see Sheet S11.  
 For surface finish requirements, see Special Provisions.  
 Mill and shop inspection is required for structural steel.  
 The contractor's attention is called to the requirement that where welded cover plates are used, they shall be made and braced in accordance with the provisions of the A.S.T.M. description A-373, Part 1, Workmanship, and in accordance with the revised A.W. S. Specifications for steel for welded bridges. All other connections shall also conform to the above requirements.  
 Computed foundation load for Bent No. 3 and Bent No. 4 is 23 tons per sq. foot.

The contractor will be responsible for driving test piles for Bent No. 1 and Bent No. 6 in the span between the adjacent pile as indicated on the Special Provisions. Test piles will be paid for on basis of 100 lbs. per lineal foot. The lengths of piles shown in the Bill of Material are approximate only. Actual lengths to be determined will be given after the test piles have been driven. All test piles are to be driven through the existing fill. Piles are to be driven to the following maximum bearing capacities: Bent End Bents, 24 tons; Bents 1, 2, 3, 4, 5, and 6, 20 tons.  
 After driving and temporary bracing, the existing structure shall be removed as follows: Superstructure completely and substructure down to 1.0' below stream bed or natural ground line. See Space.



TOTAL BILL OF MATERIAL											
	Class of Conc.	Reinf. Steel	Struct. Steel	12" x 53 Lb. Steel H-Beam	14" x 73 Lb. Steel H-Beam	Excav. Cu. Yds.	Rem. Conc. Cu. Yds.	Rem. W.P. Cu. Yds.	CONC. Pipe	Plan for Cap	
	cu. yds.	Lbs.	Appr. Lbs.	No. Lin. ft.	No. Lin. ft.	No. Lin. ft.	cu. yds.	cu. yds.	sq. yds.	sq. yds.	
Superstructure	350.3	68,785	219,000						19		
End Bent #1	10.4	1,932		6	270					265	
Bent #1	8.8	1,288	477							285	
Bent #2	10.8	1,432	475								
Bent #3	33.8	6,382									
Bent #4	38.5	4,382									
Bent #5	10.8	1,432	500								
Bent #6	8.8	1,288	482								
Bent #7	8.8	1,288	483								
End Bent #2	10.4	1,932		6	270					470	
Approach Curb	2.2	76								430	
Totals	479.3	92,771	221,419	12	540	24	1090	150	Lump sum	19	785



STATE OF NORTH CAROLINE  
 STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION  
 STATE GENERAL DRAWING  
 BRIDGE OVER SOUTH FORK RIVER  
 DIST. 218  
 DALLAS AND STANLEY  
 DATE: 11/15/15  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]

6331



PROJ. NO.	6331
DATE	1-15-35
DESIGNER	W. H. RAY
CHECKED BY	J. B. COLLINS

**DESIGN DATA**

Specifications	A. S. N. (1933)
Assumed Live Load	H 15' S 12
Impact Allowance	See Specs.
Stress in extreme fiber	
Structural Steel	20,000 p.s.i.
Reinforcing Steel	15,000 p.s.i.
in Tension	
Concrete in Compression	1,000 p.s.i.
Concrete in Shear	30 p.s.i.

**NOTES**

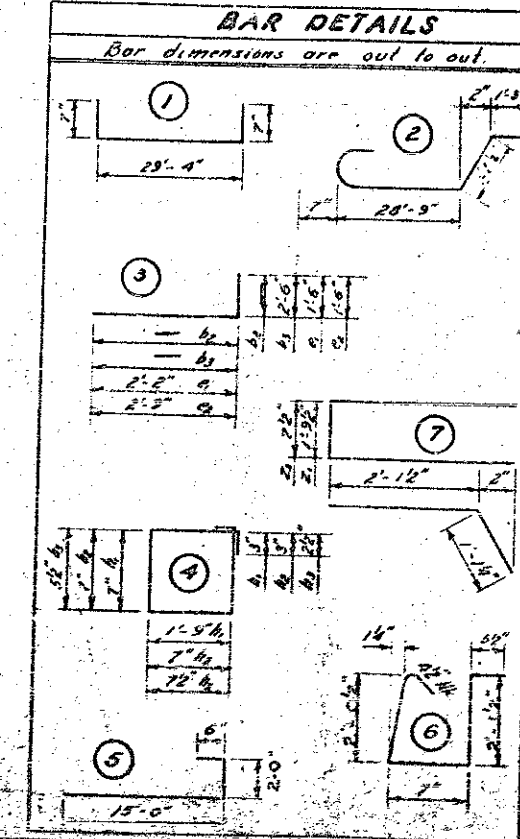
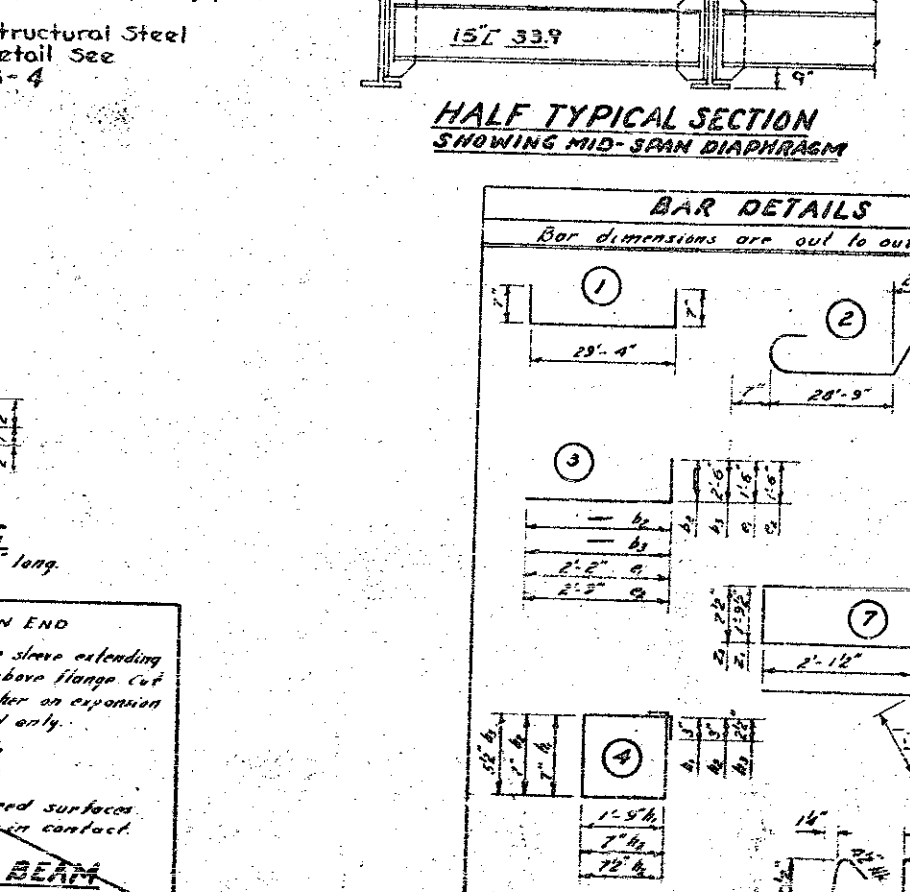
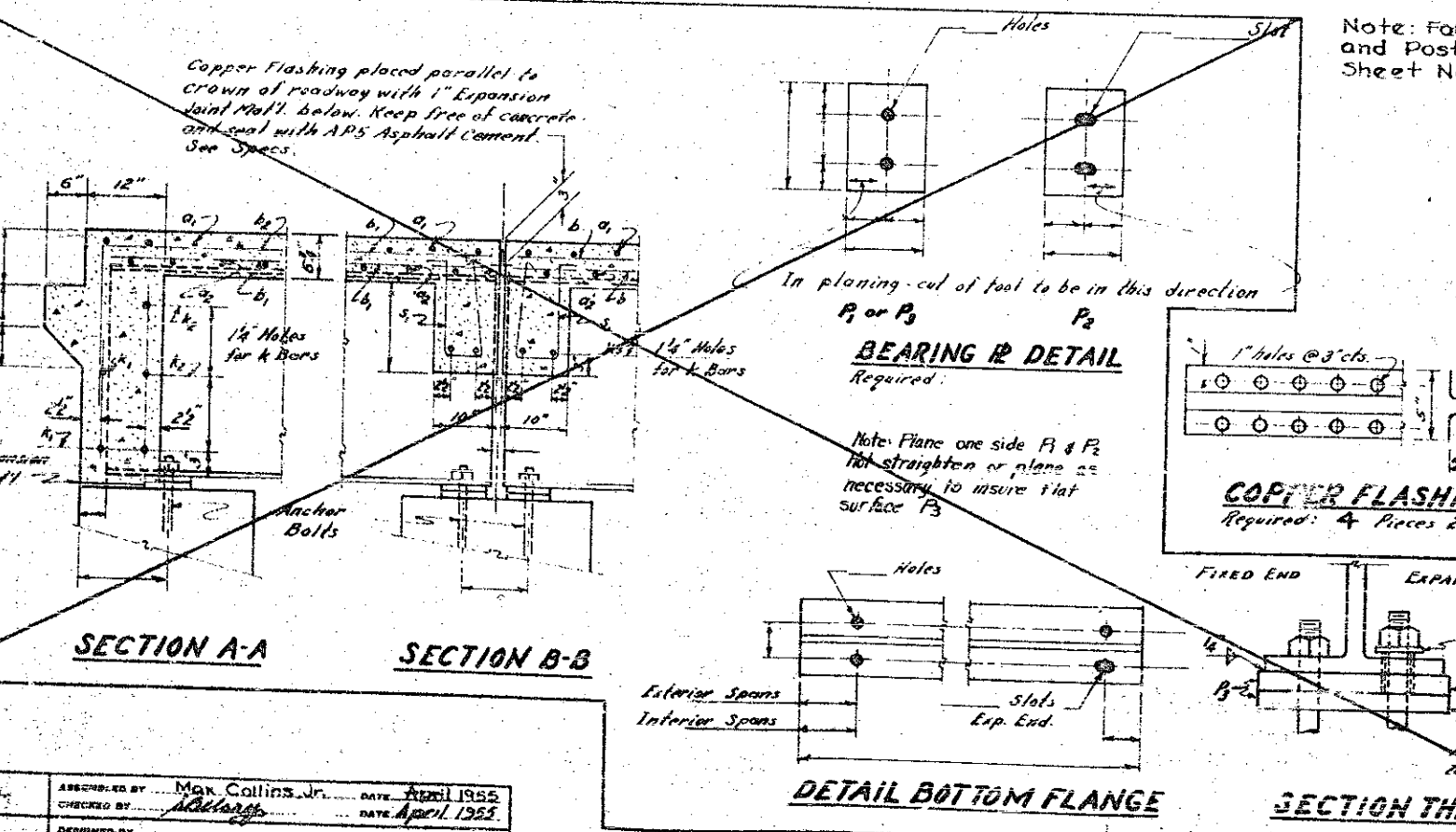
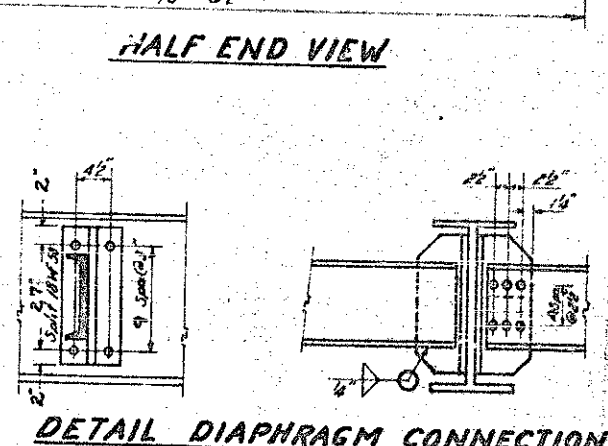
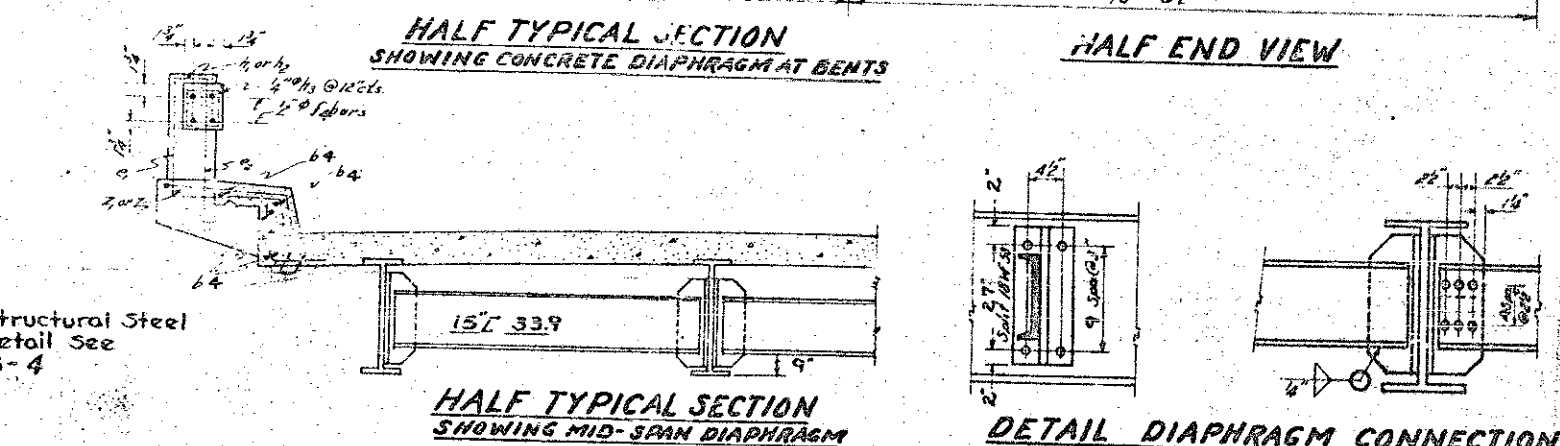
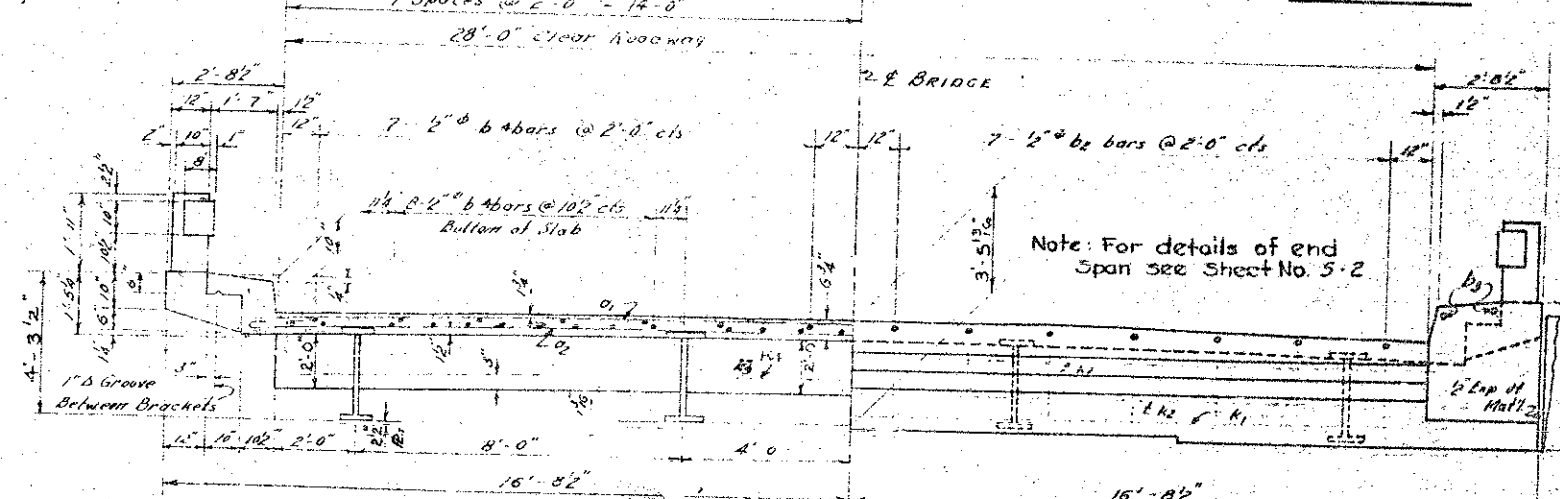
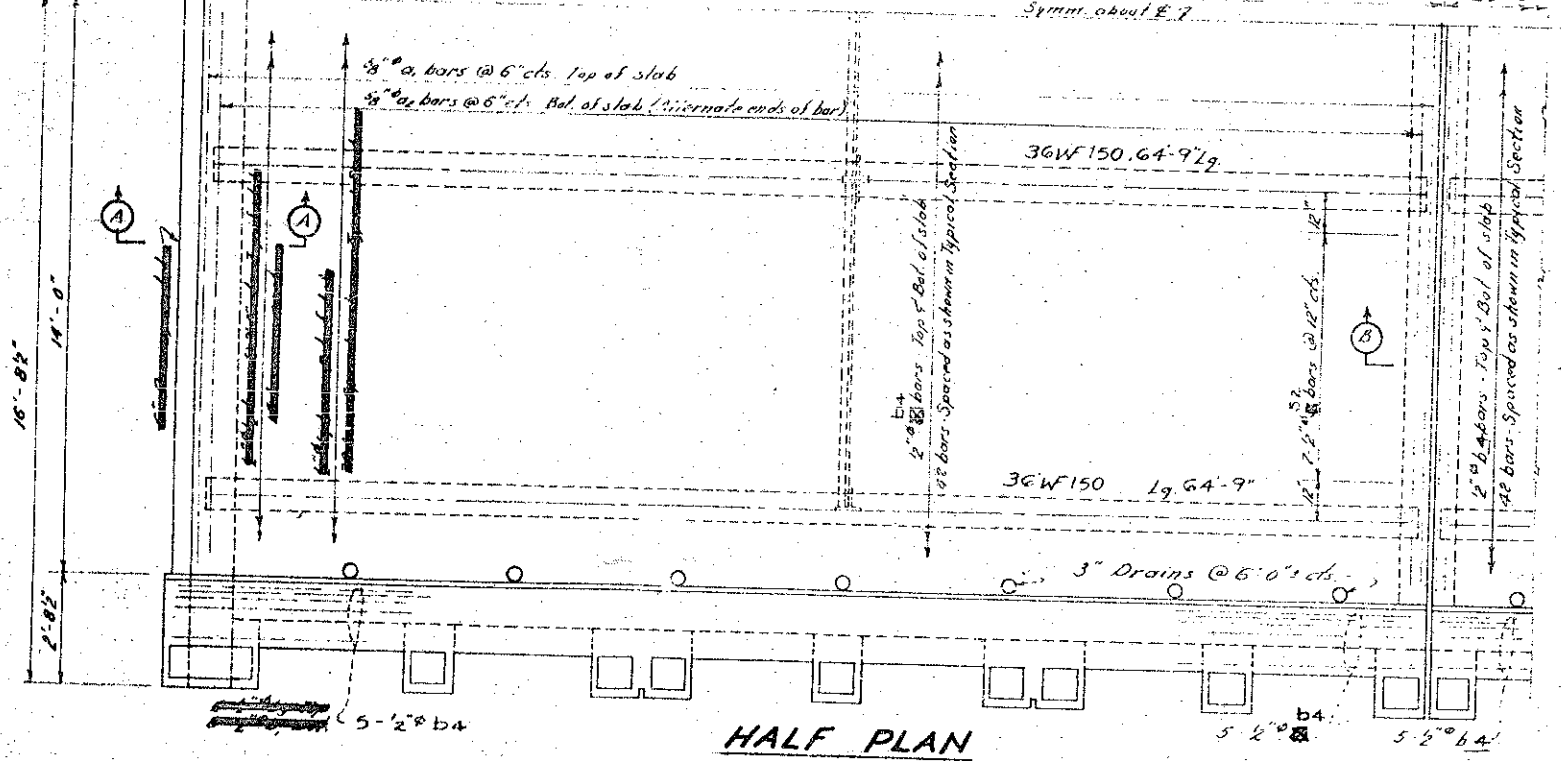
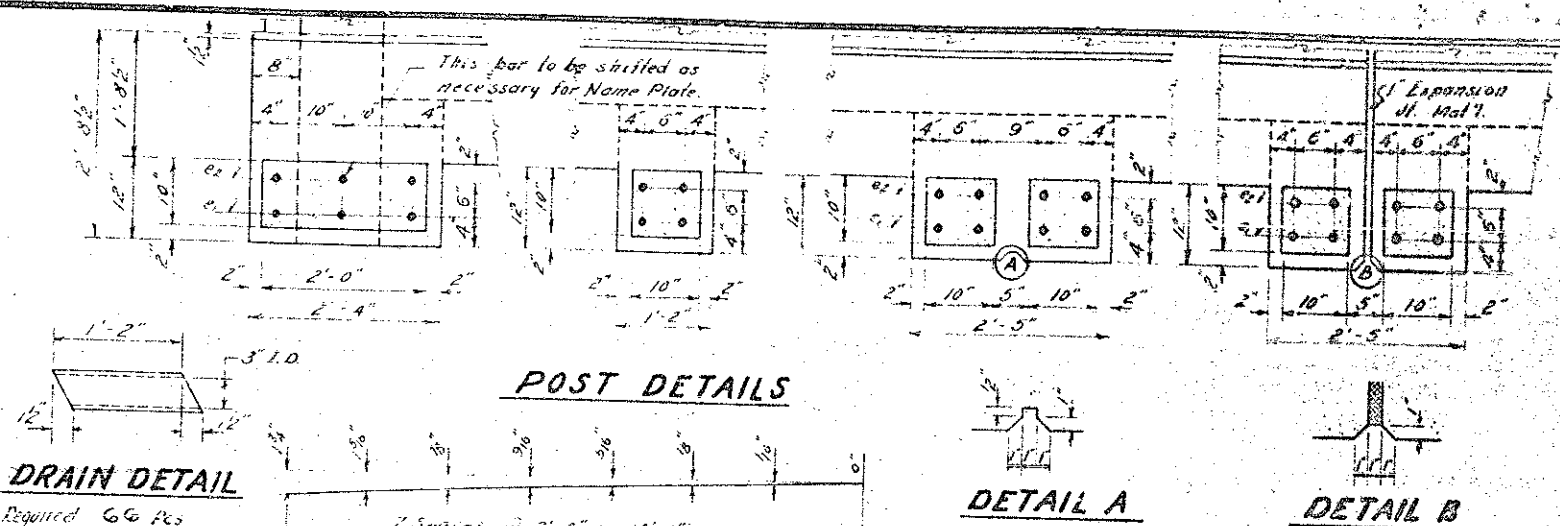
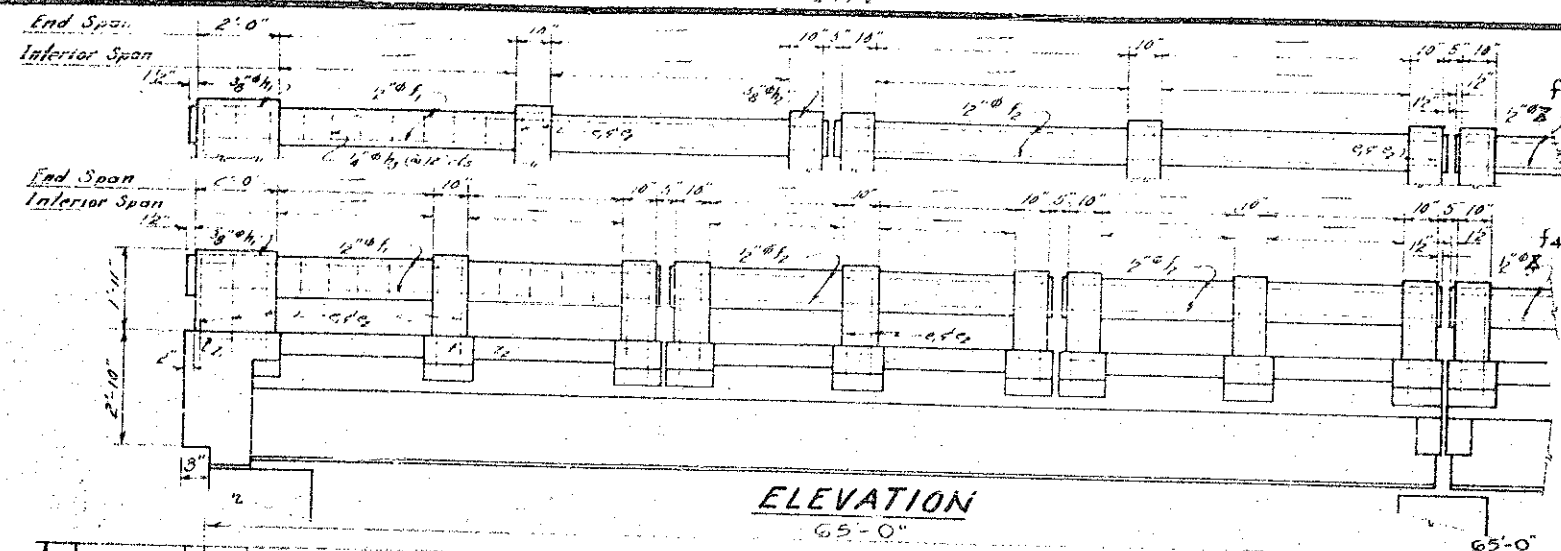
All the contractors option, shop connections of split 18" x 30" channels may be either welded or riveted, using 3/4" rivets. Field connections of diaphragms to beams shall be riveted or bolted using 3/4" high strength bolts in accordance with the Special Provisions.

Welding to be done in accordance with the Specifications.

Drains may be either cast iron, or standard weight galvanized steel pipe.

Maximum Dead Load Deflection  
Interior Beams: 1/8"  
Exterior Beams: 1/4"

All dimensions which are given in section and are affected by dead load deflections are dimensions at 2" bearing. Depth of slab between bearings shall be adjusted to compensate for dead load deflections, vertical curve ordinate, and actual beam camber.



**BILL OF MATERIAL FOR 3 @ 65' SPANS**

Bar No.	Size	Type	Length	Weight
a	3/8"	1	30'-6"	12,406
a2	3/8"	2	31'-9"	12,816
b1	2"	Str.		
b2	2"	3		
b3	2"	3		
b4	2"	Str.	22'-7"	7,060
c	1/4"	3	31'-0"	353
c2	1/4"	3	4'-3"	409
d	2"	Str.		
d2	2"	Str.		
d3	2"	Str.		
e	2"	Str.	15'-9"	1010
f	2"	4	5'-2"	
f2	2"	4	5'-2"	
g	3/8"	4	21'-7"	77
g2	3/8"	4	21'-7"	166
h	3/4"	Str.	17'-6"	
h2	3/4"	Str.	17'-0"	
h3	3/4"	5		
k	2"	5	17'-6"	621
l	2"	6		
l2	2"	6	5'-7"	470
l3	2"	7	8'-5"	
m	2"	7	7'-1"	332

Reinforcing Steel Lbs. 35950  
Class "A" Concrete C. Yds. 174.1  
Structural Steel (Approx.) Lbs. 123,100

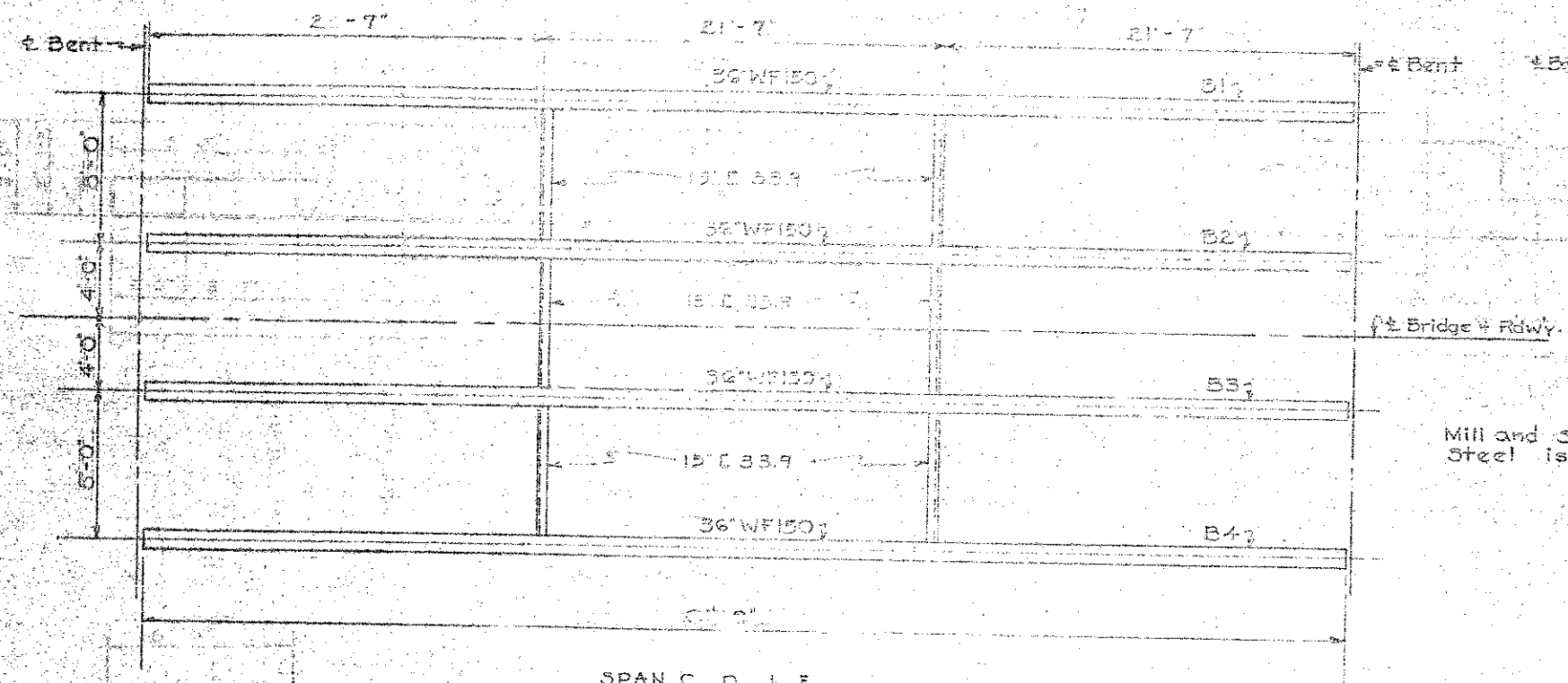
**PROJECT NO. 6331**  
**GASTON COUNTY**  
**STATION: 13+50**  
**SPANS C, D, + E**

STATE OF NORTH CAROLINA  
STATE HIGHWAY AND  
PUBLIC WORKS COMMISSION

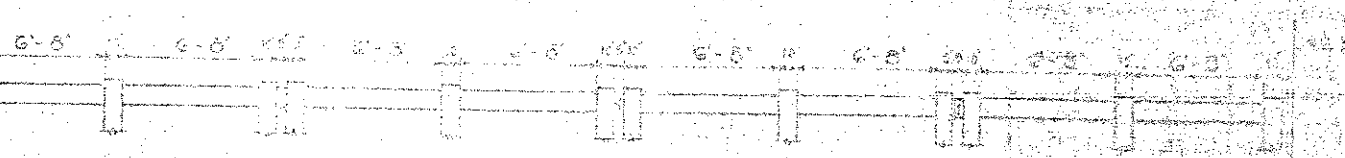
**STANDARD**  
**I BEAM SUPERSTRUCTURE**  
**WITH R.C. FLOOR & RAIL**  
**28' ROADWAY**  
JANUARY 1934

DESIGNED BY: W. H. RAY  
CHECKED BY: J. B. COLLINS

SPECIAL	ASSEMBLED BY: M. G. COLLINS, JR.	DATE: APRIL 1935
	CHECKED BY: J. B. COLLINS	DATE: APRIL 1935
STANDARD	DESIGNED BY: W. H. RAY	DATE: 1934
	CHECKED BY: J. B. COLLINS	DATE: APRIL 1935

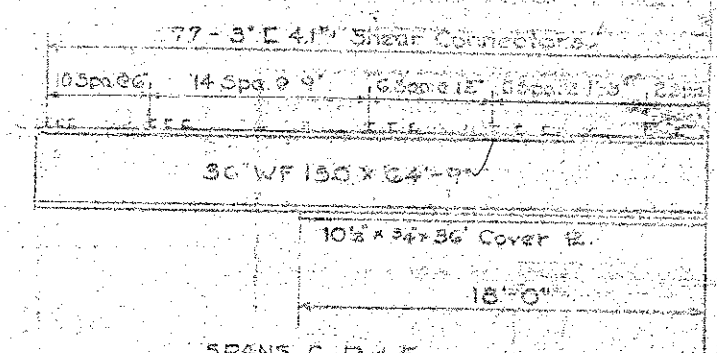


SPAN C, D, E  
STRUCTURAL STEEL PLAN

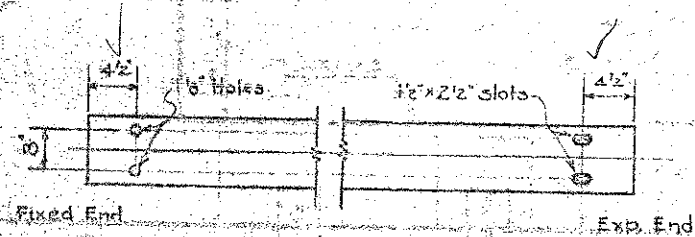


ELEVATION SHOWING LOCATION OF POSTS SPANS C, D, E

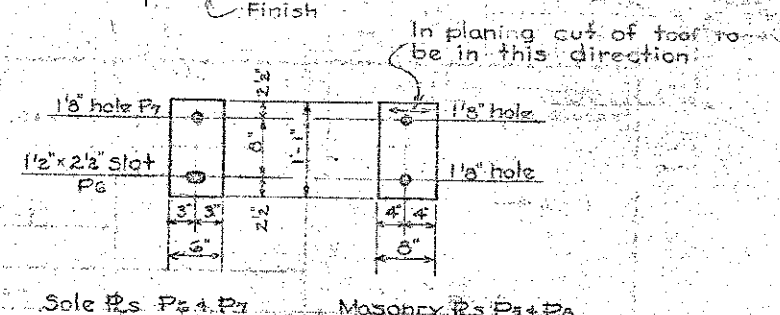
Mill and Shop Inspection of Structural Steel is Required.



SPANS C, D, E  
HALF SPAN - INT. & EXT. BEAMS

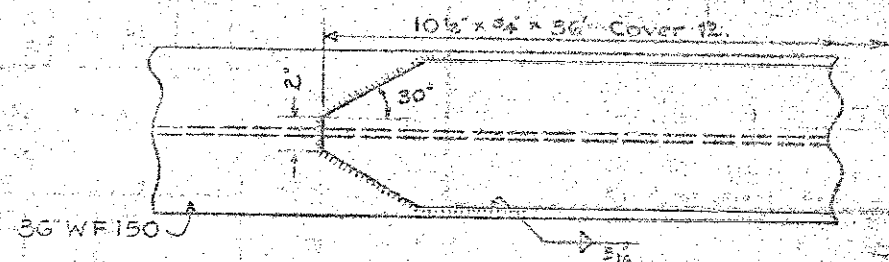


DETAIL BOTTOM FLANGE

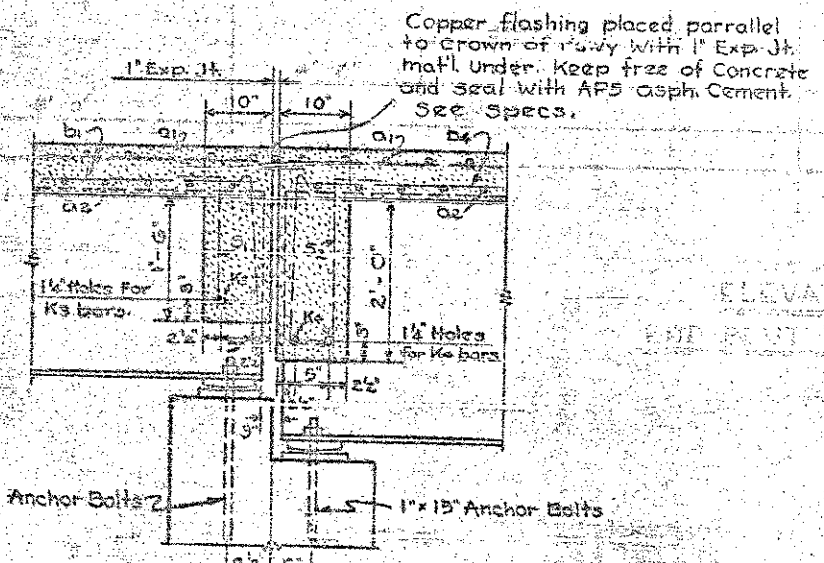


BEARING PLATE DETAIL

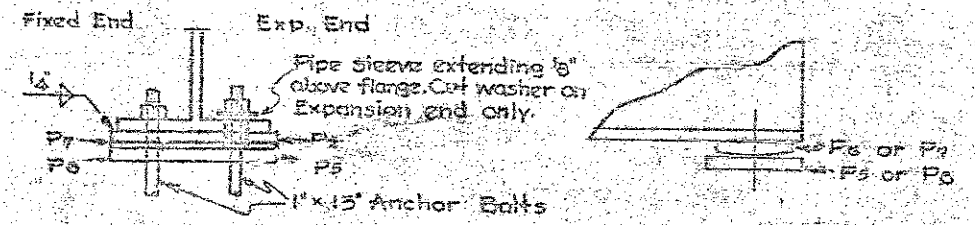
Reqd: 12-P<sub>5</sub> 8" x 1" x 1/2", Plane to 1"  
12-P<sub>6</sub> 6" x 1/2" x 1/2", as detailed.  
12-P<sub>7</sub> 6" x 1/2" x 1/2", as detailed.  
12-P<sub>8</sub> 8" x 1" x 1/2", hot straighten.



WELDING DETAIL COVER PLATE

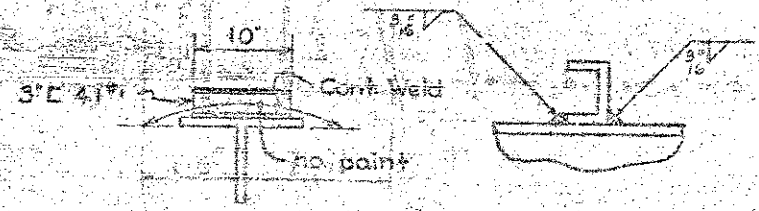


SECTION THRU DIAPHRAM



SECTION THRU BEAM

BEARING PLATE



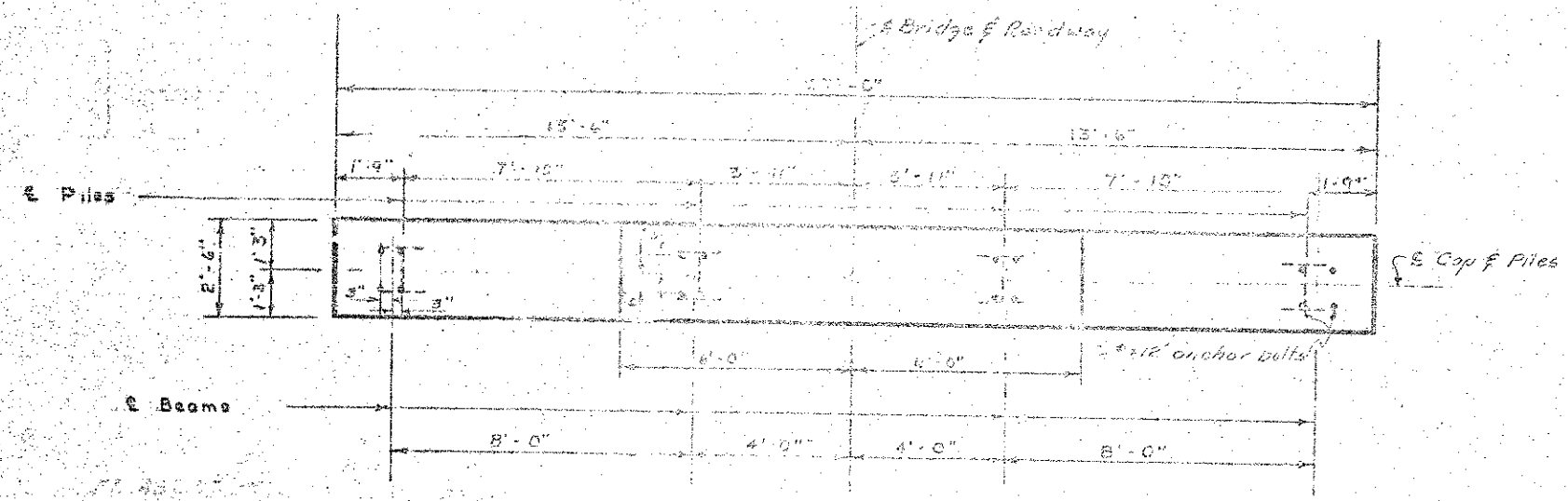
WELDING DETAIL SHEAR CONNECTORS

NO.	DATE	BY	CHKD.	APP'D.	DESCRIPTION
1					REVISION
2					REVISION
3					REVISION
4					REVISION
5					REVISION

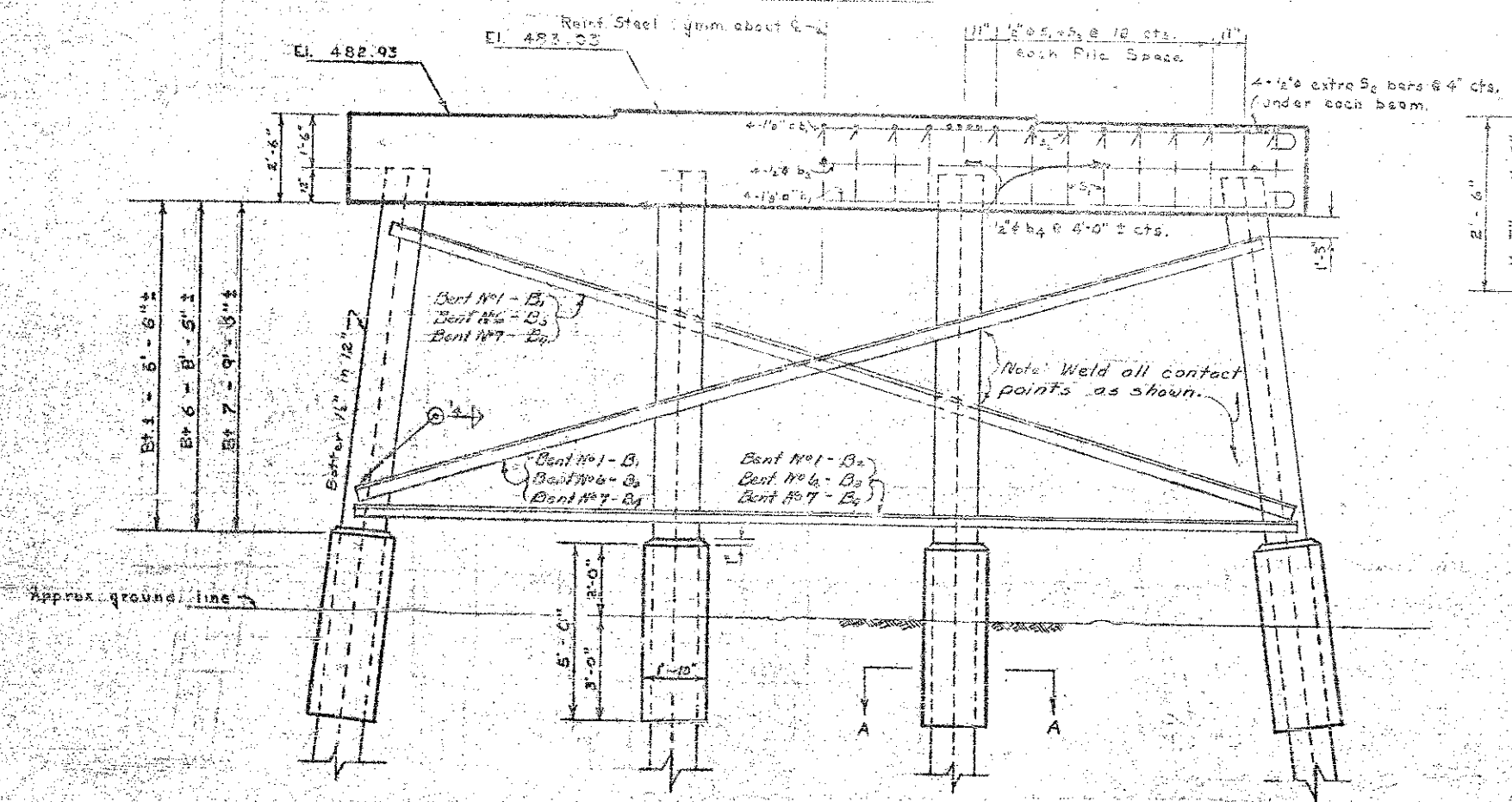
APPROVED BY: [Signature]  
DATE: [Date]

PROJECT NO. 1000  
SECTION NO. 1000  
SPANS C, D, E

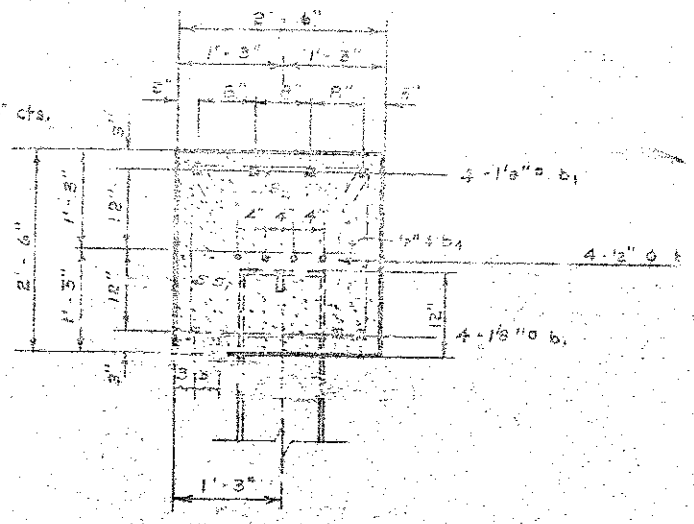




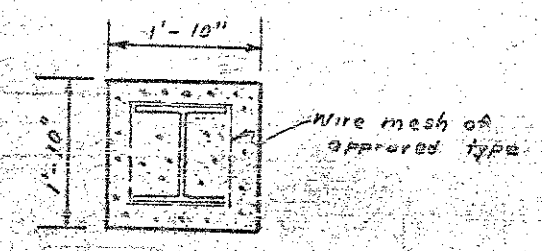
PLAN  
BENTS No. 1, 6-7



ELEVATION  
BENTS No. 1, 6-7



SECTION THRU CAP



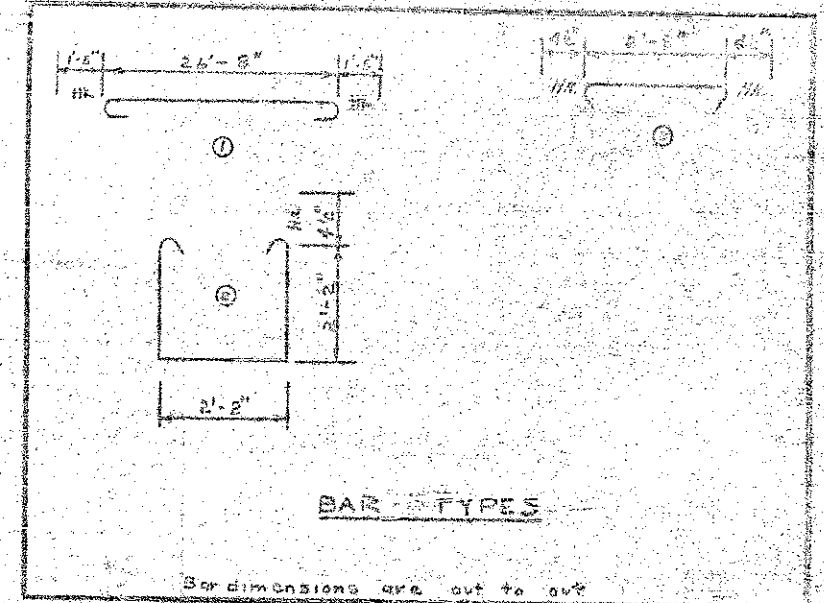
SECTION A-A

Note: All piles for Bent #1, 6, 7 shall be driven to a minimum bearing capacity of 24 tons each.

BILL OF MATERIAL					
ONE BENT		2 REQUIRED			
Bar	No.	Size	Type	Length	Qty.
a	3	1 1/2"	St.	27'-3"	120
b <sub>1</sub>	4	1 1/2"	St.	15'-0"	72
b <sub>2</sub>	7	1 1/2"	St.	27'-2"	108
S <sub>1</sub>	25	4" x 4"	St.	7'-3"	112
S <sub>2</sub>	24	4" x 4"	St.	7'-3"	112
ANGLE IRONING					
Bent No. 1	B <sub>1</sub>	2	3" x 3" x 5/16"	24'-0"	112
Bent No. 6	B <sub>2</sub>	1	3" x 3" x 5/16"	24'-0"	112
Bent No. 7	B <sub>3</sub>	3	3" x 3" x 5/16"	24'-0"	112
Str. 1507 - Reinforcing Steel Lbs. 4000 Str. 1507 - Cast. Concrete Cuy. 400 Bl. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.					

Bent No. 1  
Bent No. 6  
Bent No. 7

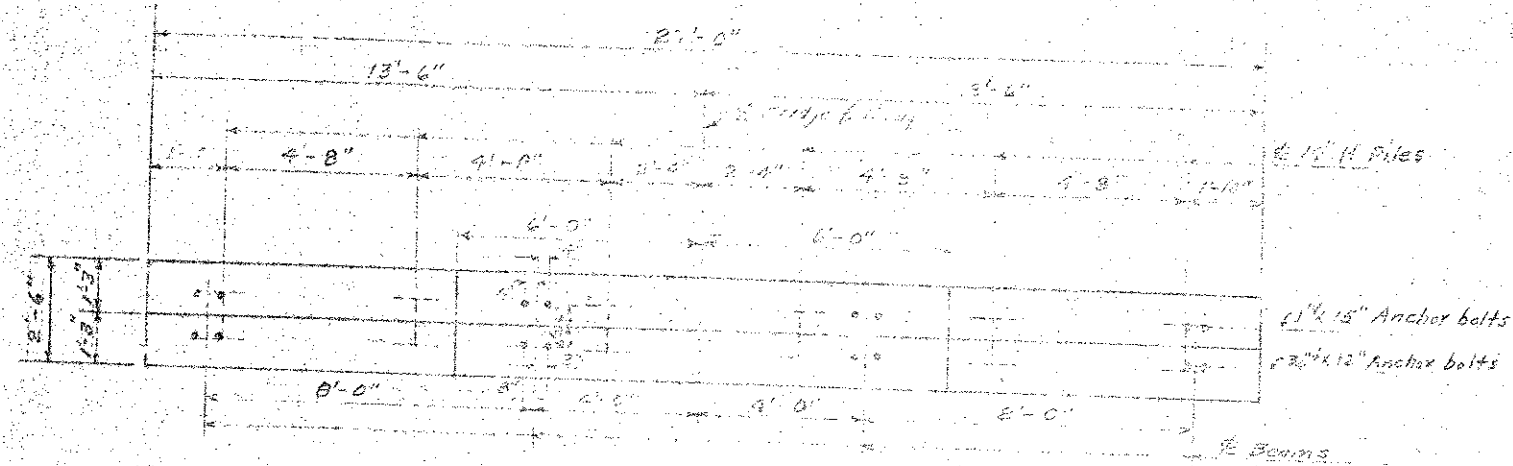
Concrete displaced by piles has been grouted



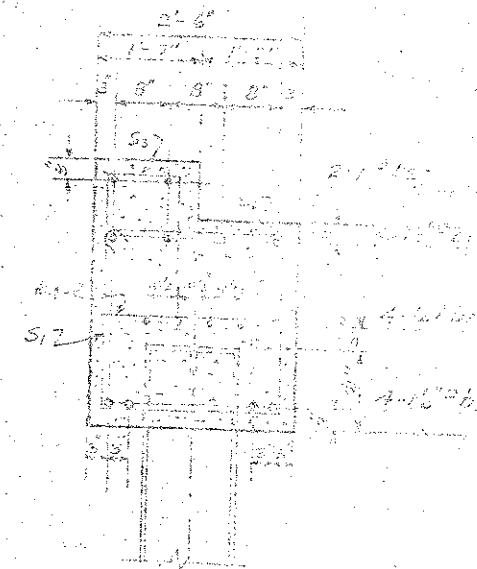
PROJECT NO. 4331  
GASTON COUNTY  
STATION 12+50

STATE OF NORTH CAROLINA  
STATE HIGHWAY AND  
PUBLIC WORKS COMMISSION  
BENT No. 1, 6-7  
APRIL 1915

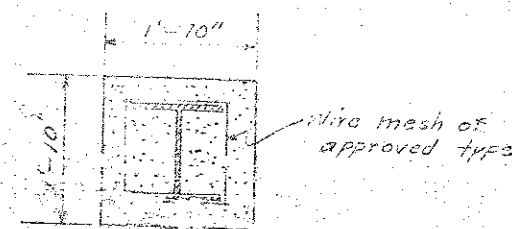
DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE



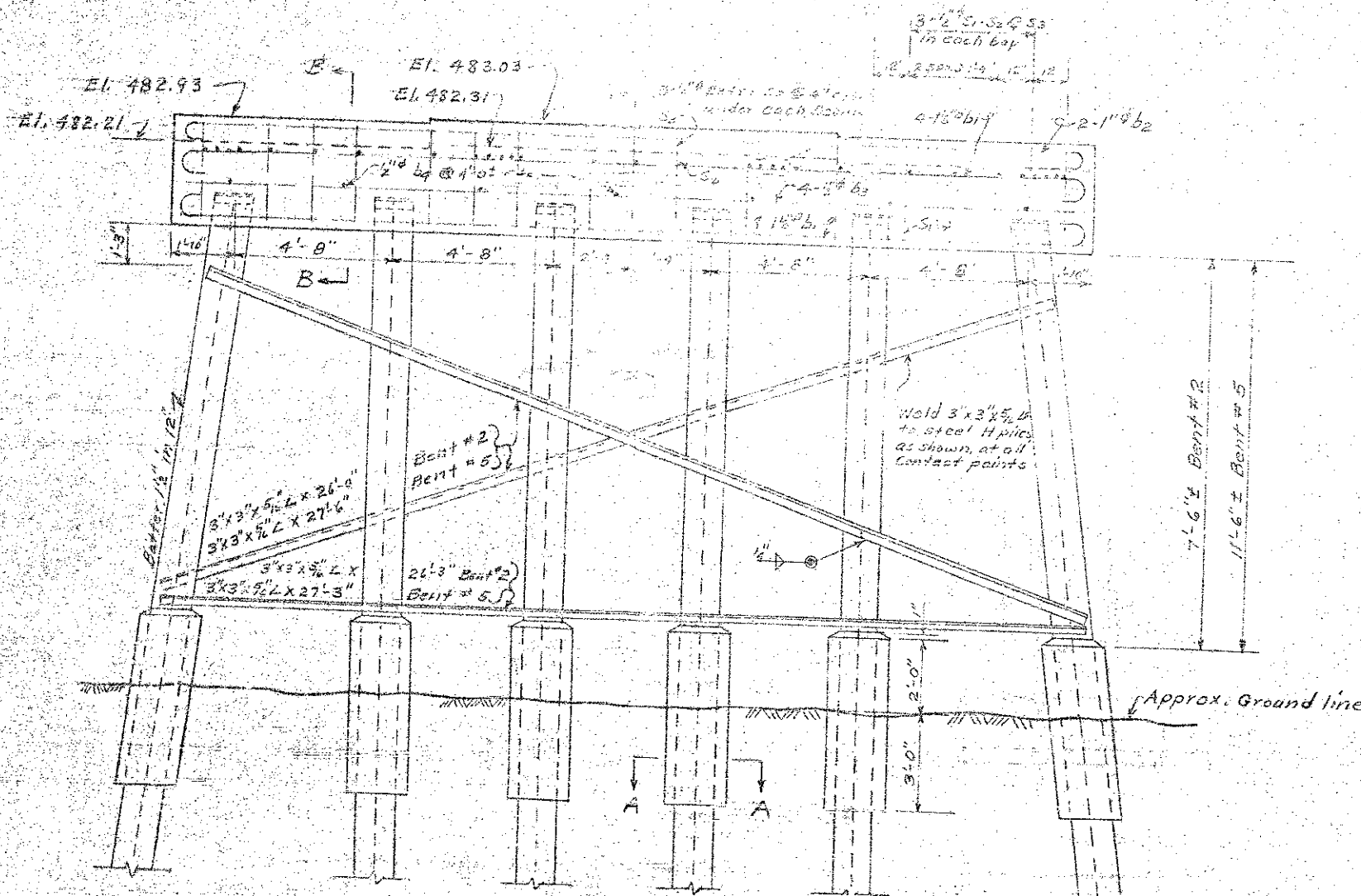
PLAN BENT No. 2  
Bent No. 2 Elevation



SECTION B-B



SECTION A-A



ELEVATION

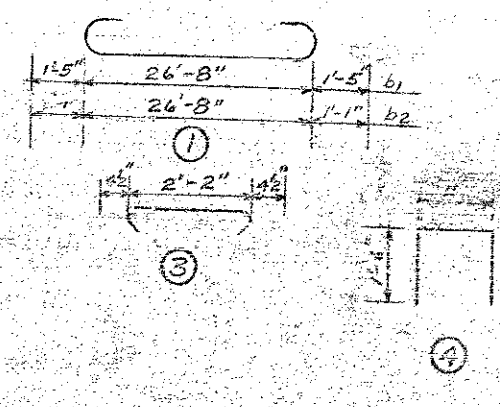
NOTES  
All piles for Bent #2 & #5 shall be driven to a minimum bearing capacity of 31 tons each.

BILL OF MATERIAL FOR ONE BENT  
(TWO REQUIRED)

Bar No	Size	Type	Length	Weight
b1	1 1/2"	1	24'-6"	1015
b2	2"	1	28'-10"	154
b3	0"	3 1/2"	14'-0"	75
b4	7"	2"	2'-3"	11
S1	17"	4"	7'-3"	22
S2	29"	4"	2'-11"	57
S3	17"	4"	3'-11"	45

Reinforcing Steel - Lbs. 1439  
Class "A" Concrete Cuyds. 10.8  
1 1/2" @ 75" Steel H piles No. 6  
Bent #2 Structural Steel Approx. Lbs. 495  
Bent #5 Structural Steel Approx. Lbs. 505

\* Volume of steel H piles has been deducted from concrete.



BAR DETAILS  
All dimensions are out to out

PROJECT NO. 6331  
GASTON COUNTY  
STATION 13P50

STATE OF NORTH CAROLINA  
STATE HIGHWAY AND  
PUBLIC WORKS COMMISSION  
SUBSTRUCTURE  
BENT No. 2 & BEAT  
APRIL

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

