

SECTION ALONG C OF BRIDGE
(BENTS ON SECTION A-A)

315'-0" (Length of Bridge from S141+51.42)
45'-0" 65'-0" 75'-0"

DESIGN DATA: 1.2.2 Load HL-516

WIND LOAD:
Bents #1, #2, #3, #4 = 4 tons per sq ft
Bents #5 & #6 = 30 tons per sq ft
Bent #6 = 24 tons per sq ft

NOTE: For other loads, rates and details, refer to sheet 24A.

NOTE: No payment will be made for excavation required for struts.

EXISTING AND REMOVED EXISTING STRUCTURE
After having been properly crossed, the existing structure shall be removed and the new structure shall be constructed in accordance with the specifications. The existing structure shall be removed in such a manner as to leave the ground surface in its original condition. The new structure shall be constructed in such a manner as to leave the ground surface in its original condition. The existing structure shall be removed in such a manner as to leave the ground surface in its original condition. The new structure shall be constructed in such a manner as to leave the ground surface in its original condition.

NOTE: All piles to be driven to a minimum depth of 52 ft long.

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NOTE: Piles for End Bent #1 and #2 shall be driven to a minimum bearing capacity of 20 tons each.

EXCAVATION SHALL BE ONE (1) MINIMUM EXPANSION JOINT AND JOINTS SHALL BE OF STRUCTURAL STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 209 OF THE SPECIFICATIONS. CONSTRUCTION METHODS AND PAYMENT FOR PILES SHALL BE AS PRESCRIBED IN SECTION 328 OF THE SPECIFICATIONS. MILLING AND PATCHING OF PAVEMENT WILL NOT BE REQUIRED.

NOTE: Piles for End Bent #1 and #2 shall be driven to a minimum bearing capacity of 20 tons each.

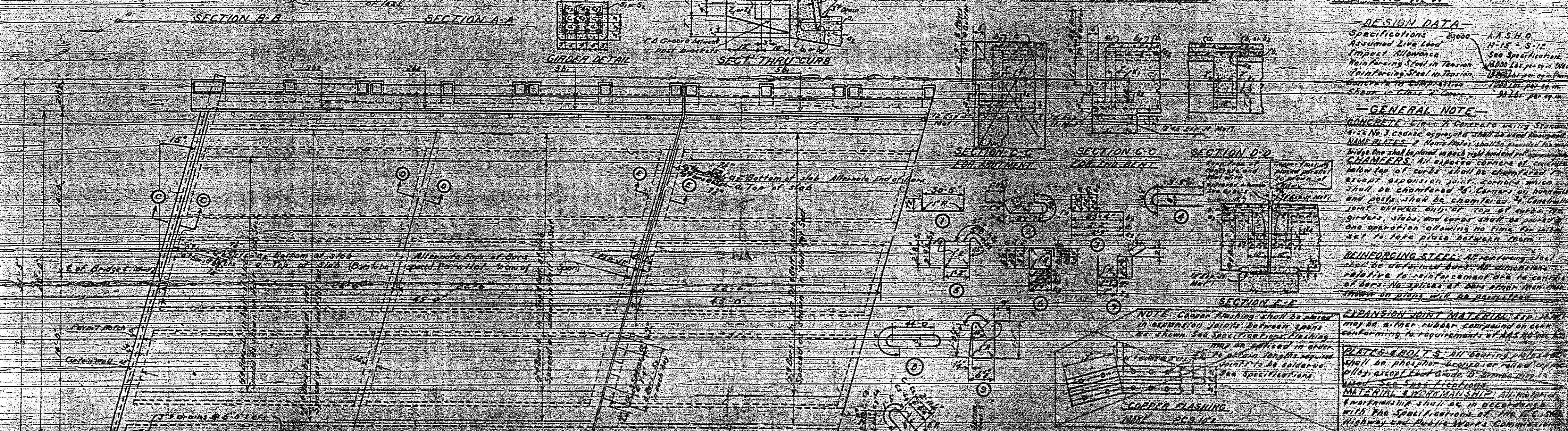
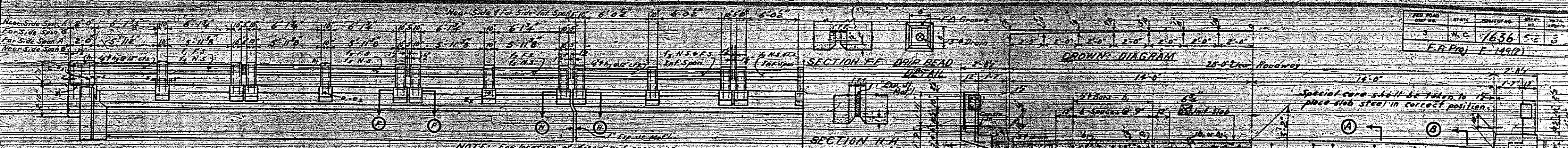
PROJECT NO. 1454
COUNTY
STATION: 50+32.5

TOTAL BILL OF MATERIAL

ITEM	QUANTITY	UNIT	PRICE	TOTAL	ITEM	QUANTITY	UNIT	PRICE	TOTAL
Concrete	4416	cu yds.	1.85	8169.60	Steel H Piles	117	lbs.	1.50	1755.00
End Bent #1	37.1	cu yds.	1.85	685.35	Steel H Piles	117	lbs.	1.50	1755.00
Bent #1	37.1	cu yds.	1.85	685.35	Steel H Piles	117	lbs.	1.50	1755.00
Bent #2	32.1	cu yds.	1.85	593.85	Steel H Piles	117	lbs.	1.50	1755.00
Bent #3	32.1	cu yds.	1.85	593.85	Steel H Piles	117	lbs.	1.50	1755.00
Bent #4	32.1	cu yds.	1.85	593.85	Steel H Piles	117	lbs.	1.50	1755.00
Bent #5	31.0	cu yds.	1.85	573.50	Steel H Piles	117	lbs.	1.50	1755.00
End Bent #6	117	lbs.	1.50	1755.00	Steel H Piles	117	lbs.	1.50	1755.00
Bent #6	32.1	cu yds.	1.85	593.85	Steel H Piles	117	lbs.	1.50	1755.00
TOTALS	272.2	cu yds.	1.85	503.57	Steel H Piles	117	lbs.	1.50	1755.00

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION
BALDWIN
GENERAL ENGINEER
L. H. HARRIS
S. H. HARRIS

APPROVED BY: _____ DATE: _____
DRAWN BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____



DESIGN DATA
Specifications - 25000 A.A.S.H.O.
Assumed Live Load 14-18 - S-12
Impact Allowance See Specifications
Reinforcing Steel in Tension 60000 lbs. per sq. in.
Reinforcing Steel in Compression 40000 lbs. per sq. in.
Concrete in Compression 1800 lbs. per sq. in.
Shape in Class II Concrete 2125 lbs. per sq. ft.

GENERAL NOTE
CONCRETE Class II Concrete using Standard
No. 3 coarse aggregate shall be used throughout.
NAME PLATES - Name plates shall be provided for
bridge and shall be placed on each side of the
chamfers. All exposed corners of concrete
below top of curb shall be chamfered.
except expansion joint corners which
shall be chamfered 1/4". Corners on horizontal
and vertical shall be chamfered 1/4". Corners
joint showed only at top of curb. The
girders, slabs, and curbs shall be painted
in one operation allowing no time for
set to take place between them.

REINFORCING STEEL All reinforcing steel
shall be deformed bars. All dimensions
relative to reinforcement are to center
of bars. No splices of bars other than
shown on plans will be permitted.

EXPANSION JOINT MATERIAL Exp. joint
may be either rubber compound or
conforming to requirements of AASHTO.

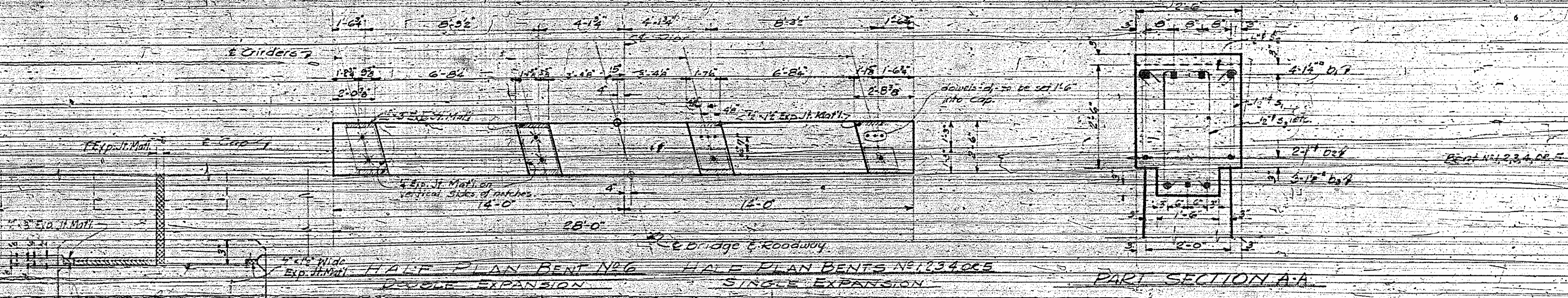
PLATES & BOLTS All bearing plates
shall be phosphor-bronze or rolled copper
alloy, except that Grade D bronze may be
used see Spec. Locations.

MATERIAL & WORKMANSHIP All material
& workmanship shall be in accordance
with the Specifications of the N.C. State
Highway and Public Works Commission.

BILL OF MATERIAL FOR 7 SPANS

Qty	No.	Size	Type	Length	Weight	Qty	No.	Size	Type	Length	Weight
1	1	12"	1	51.8	12500	1	1	12"	1	51.8	12500
1	2	12"	2	32.5	12500	1	2	12"	2	32.5	12500
1	3	12"	3	23.5	12500	1	3	12"	3	23.5	12500
1	4	12"	4	15.0	12500	1	4	12"	4	15.0	12500
1	5	12"	5	10.0	12500	1	5	12"	5	10.0	12500
1	6	12"	6	7.5	12500	1	6	12"	6	7.5	12500
1	7	12"	7	5.0	12500	1	7	12"	7	5.0	12500
1	8	12"	8	3.0	12500	1	8	12"	8	3.0	12500
1	9	12"	9	2.0	12500	1	9	12"	9	2.0	12500
1	10	12"	10	1.5	12500	1	10	12"	10	1.5	12500
1	11	12"	11	1.0	12500	1	11	12"	11	1.0	12500
1	12	12"	12	0.5	12500	1	12	12"	12	0.5	12500
1	13	12"	13	0.5	12500	1	13	12"	13	0.5	12500
1	14	12"	14	0.5	12500	1	14	12"	14	0.5	12500
1	15	12"	15	0.5	12500	1	15	12"	15	0.5	12500
1	16	12"	16	0.5	12500	1	16	12"	16	0.5	12500
1	17	12"	17	0.5	12500	1	17	12"	17	0.5	12500
1	18	12"	18	0.5	12500	1	18	12"	18	0.5	12500
1	19	12"	19	0.5	12500	1	19	12"	19	0.5	12500
1	20	12"	20	0.5	12500	1	20	12"	20	0.5	12500
1	21	12"	21	0.5	12500	1	21	12"	21	0.5	12500
1	22	12"	22	0.5	12500	1	22	12"	22	0.5	12500
1	23	12"	23	0.5	12500	1	23	12"	23	0.5	12500
1	24	12"	24	0.5	12500	1	24	12"	24	0.5	12500
1	25	12"	25	0.5	12500	1	25	12"	25	0.5	12500
1	26	12"	26	0.5	12500	1	26	12"	26	0.5	12500
1	27	12"	27	0.5	12500	1	27	12"	27	0.5	12500
1	28	12"	28	0.5	12500	1	28	12"	28	0.5	12500
1	29	12"	29	0.5	12500	1	29	12"	29	0.5	12500
1	30	12"	30	0.5	12500	1	30	12"	30	0.5	12500
1	31	12"	31	0.5	12500	1	31	12"	31	0.5	12500
1	32	12"	32	0.5	12500	1	32	12"	32	0.5	12500
1	33	12"	33	0.5	12500	1	33	12"	33	0.5	12500
1	34	12"	34	0.5	12500	1	34	12"	34	0.5	12500
1	35	12"	35	0.5	12500	1	35	12"	35	0.5	12500
1	36	12"	36	0.5	12500	1	36	12"	36	0.5	12500
1	37	12"	37	0.5	12500	1	37	12"	37	0.5	12500
1	38	12"	38	0.5	12500	1	38	12"	38	0.5	12500
1	39	12"	39	0.5	12500	1	39	12"	39	0.5	12500
1	40	12"	40	0.5	12500	1	40	12"	40	0.5	12500
1	41	12"	41	0.5	12500	1	41	12"	41	0.5	12500
1	42	12"	42	0.5	12500	1	42	12"	42	0.5	12500
1	43	12"	43	0.5	12500	1	43	12"	43	0.5	12500
1	44	12"	44	0.5	12500	1	44	12"	44	0.5	12500
1	45	12"	45	0.5	12500	1	45	12"	45	0.5	12500
1	46	12"	46	0.5	12500	1	46	12"	46	0.5	12500
1	47	12"	47	0.5	12500	1	47	12"	47	0.5	12500
1	48	12"	48	0.5	12500	1	48	12"	48	0.5	12500
1	49	12"	49	0.5	12500	1	49	12"	49	0.5	12500
1	50	12"	50	0.5	12500	1	50	12"	50	0.5	12500
1	51	12"	51	0.5	12500	1	51	12"	51	0.5	12500
1	52	12"	52	0.5	12500	1	52	12"	52	0.5	12500
1	53	12"	53	0.5	12500	1	53	12"	53	0.5	12500
1	54	12"	54	0.5	12500	1	54	12"	54	0.5	12500
1	55	12"	55	0.5	12500	1	55	12"	55	0.5	12500
1	56	12"	56	0.5	12500	1	56	12"	56	0.5	12500
1	57	12"	57	0.5	12500	1					

FED. ROAD DIST. NO. 3
 STATE N.C. 1636
 PROJECT F-149(2)

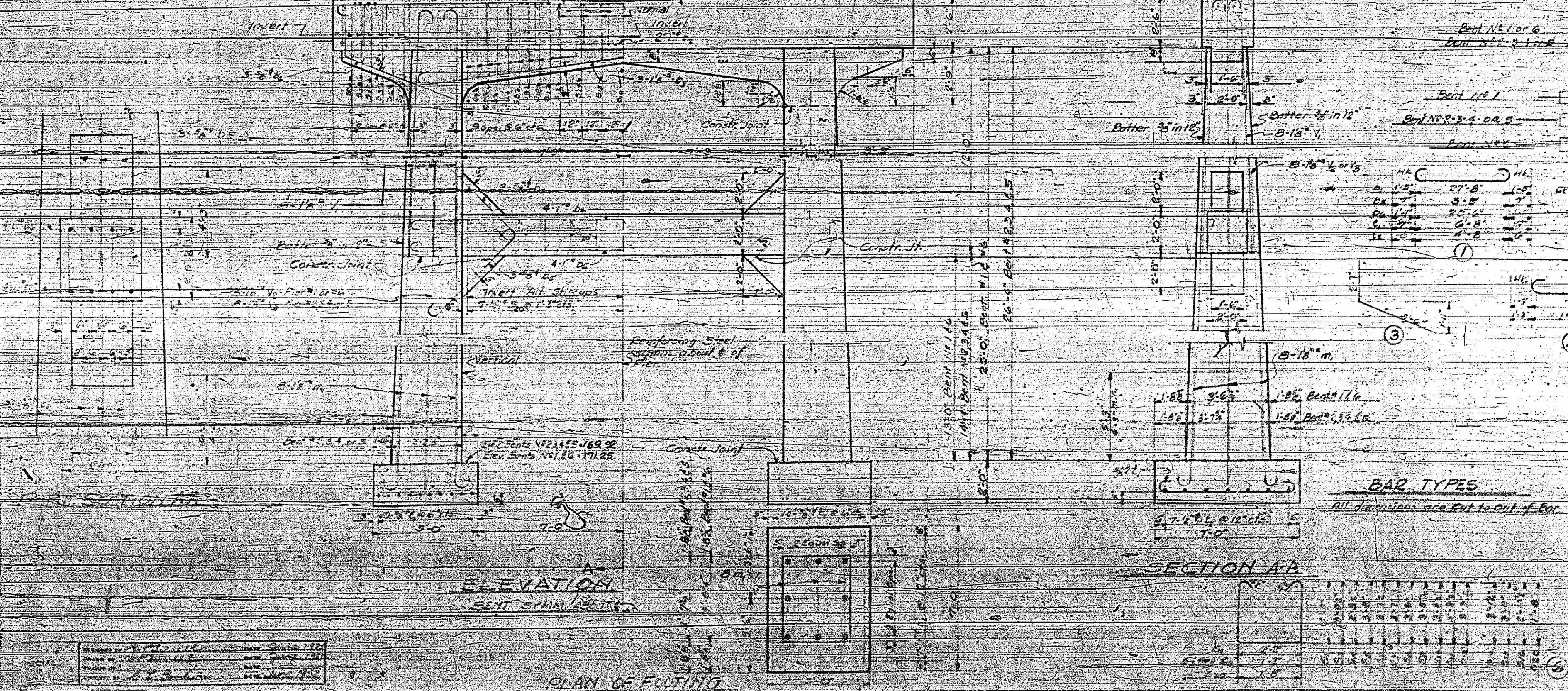


BILL OF MATERIAL FOR BENT NO. 1, 2, 3, 4, 5 OR 6

Bar	No.	Size	Qty	Length	Height
B1	4	1 1/4"	19	30'-6"	640
B2	2	1 1/4"	2	27'-8"	150
B3	3	1 1/4"	6	25'-6"	280
B4	6	3/8"	3	7'-6"	81
B5	12	3/8"	1	22'-8"	617
B6	8	3/8"	1	18'-0"	30
B7	16	1/2"	4	9'-0"	670
B8	22	1/2"	2	2'-2"	150
B9	16	2 1/4"	3	2'-11"	81
B10	4	2 1/4"	2	3'-0"	85
B11	8	2 1/4"	1	3'-11"	150
B12	8	2 1/4"	2	3'-11"	150
B13	2	2 1/4"	2	3'-11"	150
B14	2	2 1/4"	2	3'-11"	150
B15	4	2 1/4"	2	3'-11"	150
B16	8	2 1/4"	2	3'-11"	150
B17	4	2 1/4"	2	3'-11"	150
B18	2	2 1/4"	2	3'-11"	150
B19	2	2 1/4"	2	3'-11"	150
B20	4	2 1/4"	2	3'-11"	150
B21	8	2 1/4"	2	3'-11"	150
B22	4	2 1/4"	2	3'-11"	150
B23	2	2 1/4"	2	3'-11"	150
B24	2	2 1/4"	2	3'-11"	150
B25	4	2 1/4"	2	3'-11"	150
B26	8	2 1/4"	2	3'-11"	150
B27	4	2 1/4"	2	3'-11"	150
B28	2	2 1/4"	2	3'-11"	150
B29	2	2 1/4"	2	3'-11"	150
B30	4	2 1/4"	2	3'-11"	150
B31	8	2 1/4"	2	3'-11"	150
B32	4	2 1/4"	2	3'-11"	150
B33	2	2 1/4"	2	3'-11"	150
B34	2	2 1/4"	2	3'-11"	150
B35	4	2 1/4"	2	3'-11"	150
B36	8	2 1/4"	2	3'-11"	150
B37	4	2 1/4"	2	3'-11"	150
B38	2	2 1/4"	2	3'-11"	150
B39	2	2 1/4"	2	3'-11"	150
B40	4	2 1/4"	2	3'-11"	150
B41	8	2 1/4"	2	3'-11"	150
B42	4	2 1/4"	2	3'-11"	150
B43	2	2 1/4"	2	3'-11"	150
B44	2	2 1/4"	2	3'-11"	150
B45	4	2 1/4"	2	3'-11"	150
B46	8	2 1/4"	2	3'-11"	150
B47	4	2 1/4"	2	3'-11"	150
B48	2	2 1/4"	2	3'-11"	150
B49	2	2 1/4"	2	3'-11"	150
B50	4	2 1/4"	2	3'-11"	150
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B52	4	2 1/4"	2	3'-11"	150
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B68	2	2 1/4"	2	3'-11"	150
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B74	2	2 1/4"	2	3'-11"	150
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B77	4	2 1/4"	2	3'-11"	150
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B180	4	2 1/4"	2	3'-11"	150
B181	8	2 1/4"	2	3'-11"	150
B182	4	2 1/4"	2	3'-11"	150
B183	2	2 1/4"	2	3'-11"	150
B184	2	2 1/4"	2	3'-11"	150
B185	4	2 1/4"	2	3'-11"	150
B186	8	2 1/4"	2	3'-11"	150
B187	4	2 1/4"	2	3'-11"	150
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B191	8	2 1/4"	2	3'-11"	150
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B194	2	2 1/4"	2	3'-11"	150
B195	4	2 1/4"	2	3'-11"	150
B196	8	2 1/4"	2	3'-11"	150
B197	4	2 1/4"	2	3'-11"	150
B198	2	2 1/4"	2	3'-11"	150
B199	2	2 1/4"	2	3'-11"	150
B200	4	2 1/4"	2	3'-11"	150

Reinforcing Steel - Lbs. 5,915
 Class A Concrete - Cuys. 3,850
 Reinforcing Steel - Lbs. 3,500
 Class A Concrete - Cuys. 3,011
 Reinforcing Steel - Lbs. 3,313
 Class A Concrete - Cuys. 3,130

DETAIL AT SINGLE EXPANSION BENT
 SHOWING PLATES
 DOUBLE EXPANSION BENT SIMILAR



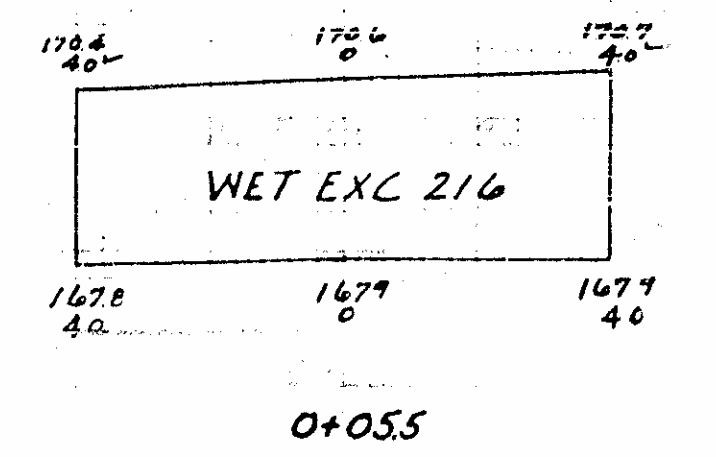
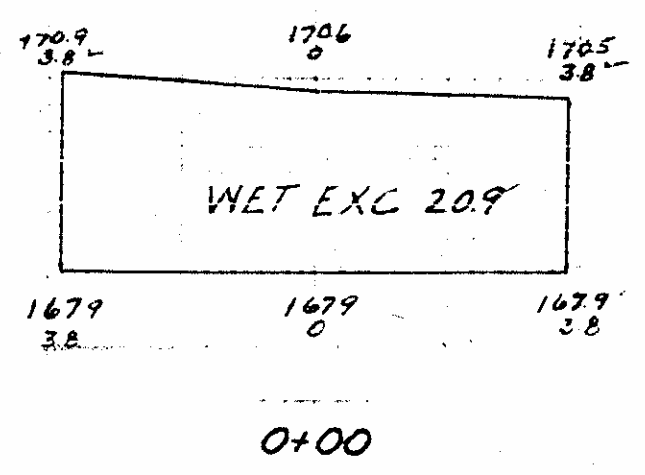
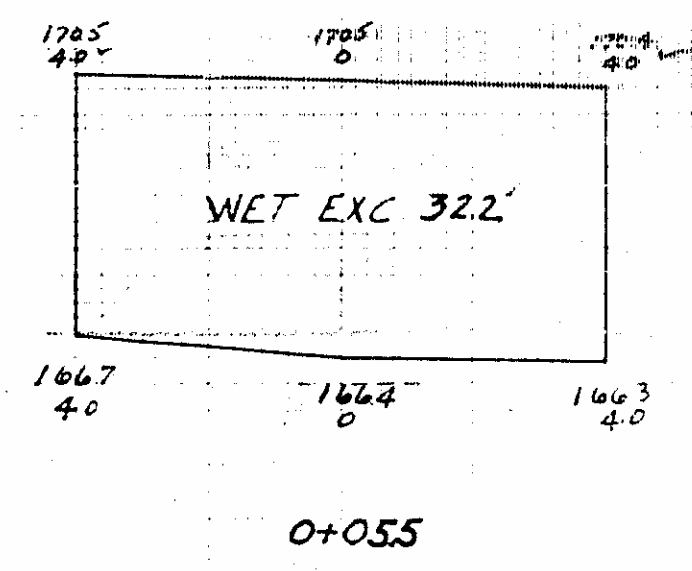
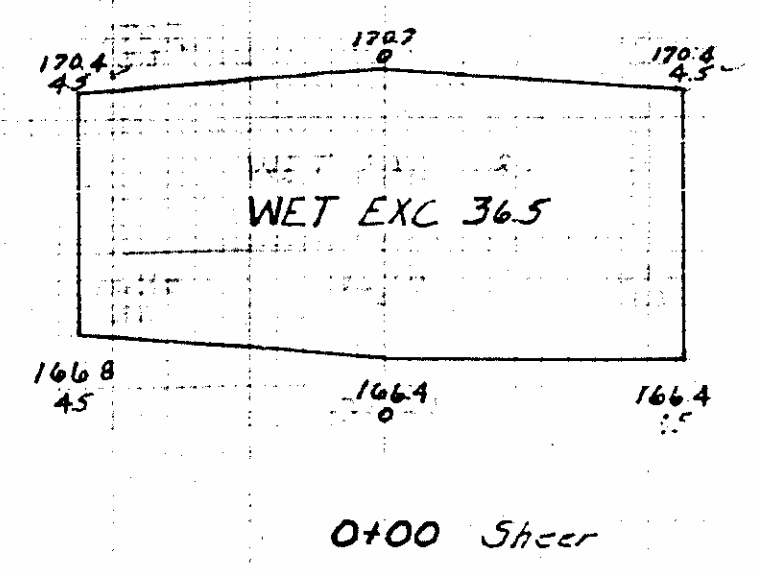
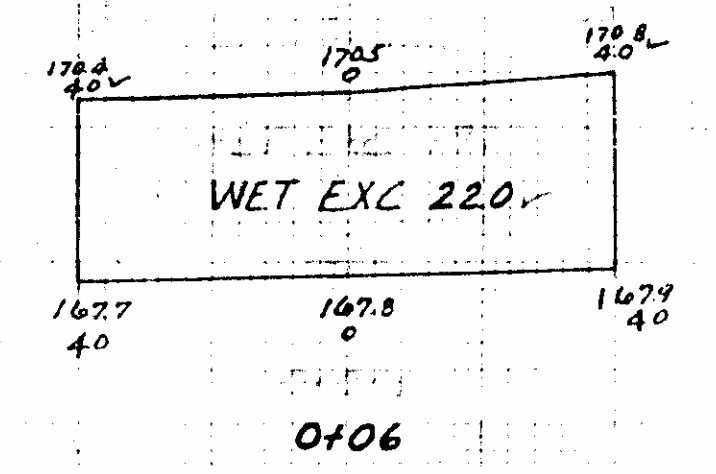
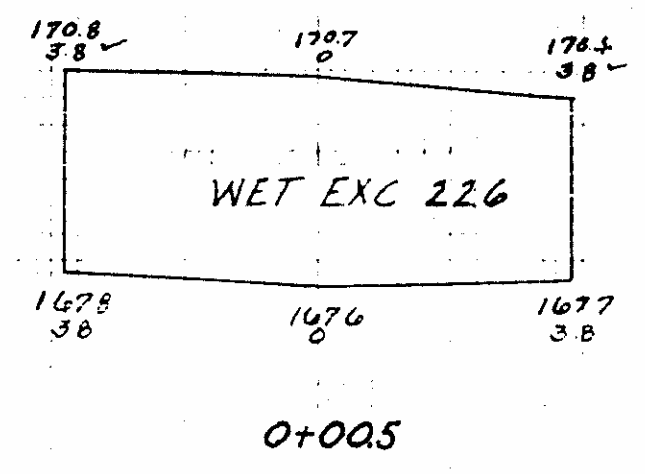
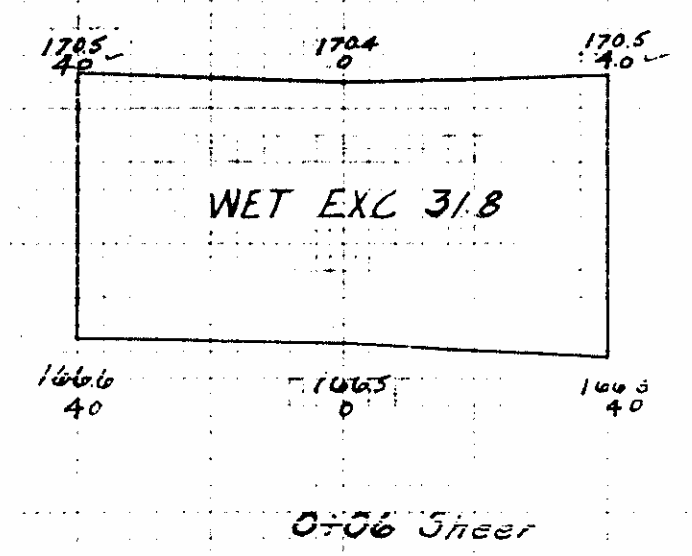
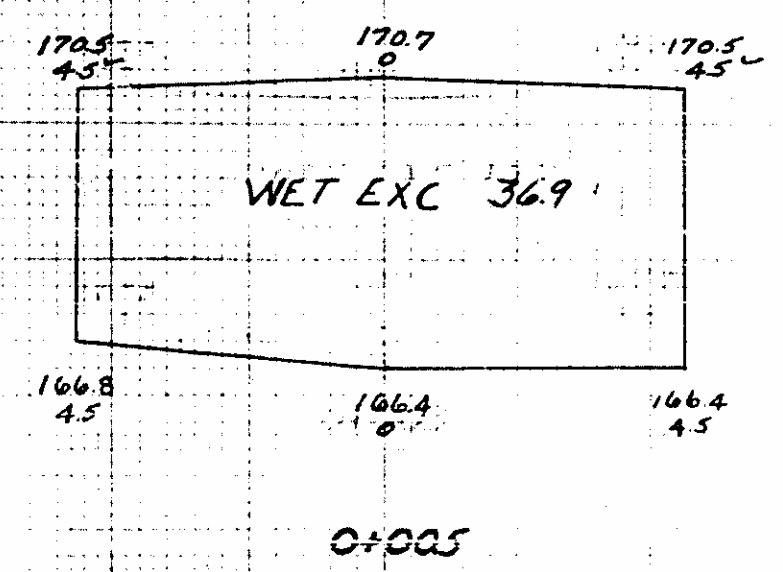
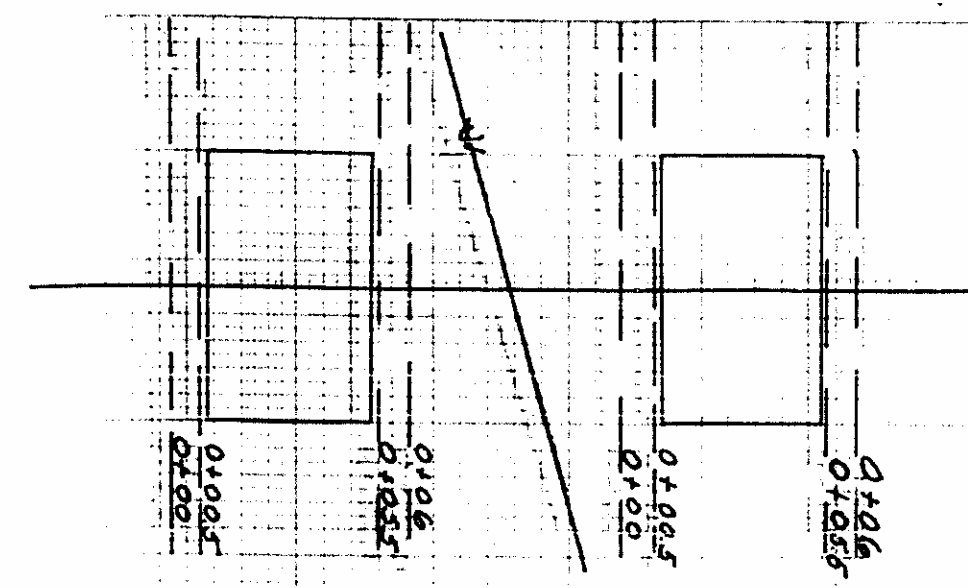
BAR TYPES
 All dimensions are cut to cut of bar

PROJECT NO. 1636
 NASH COUNTY
 STATION: 56+32.5

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND
 PUBLIC WORKS COMMISSION
 BALDWIN
SUBSTRUCTURE
 BENTS NO. 1, 2, 3, 4, 5 & 6
 JUNE 1954

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

BENT N^o 3



See Book #1 Page # 40

Extra Concrete in Footing Bent #3 - Left

Top of Footing Elev Bent #3 - 169.92
 Normal depth - 2.00
 Bottom of Footing Elev - 167.92
 Footing 5.0' x 7.0'

Sta	Dist	Area	Doub Area	Cu Yds
0+00		10.1		
0+055	50	10.3	20.4	1.9 Total
extra Conc. Bent #3				

See Book N^o 1
 Page N^o 9-10

END BENT # 1 PILE RECORD ON END BENTS NO 1 & 2

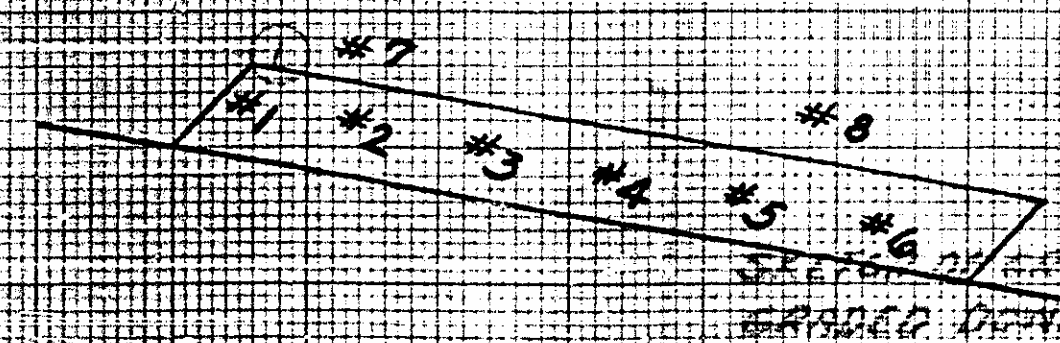
2700 LB. HAMMER END BENT NO 1

PILE NO	LAST 5 BLOWS	HEIGHT	TONS	ORDER LENGTH	LENGTH CUT OFF	PAY LENGTH
1	1 3/4"	15'	31.8	32'	4' 3"	27' 9"
2	1 3/4"	15'	31.2	32'	4' 5"	27' 7"
3	1 3/4"	15'	32.7	32'	4' 10"	27' 2"
4	1 3/4"	15'	30.5	32'	3' 7"	28' 5"
5	1 3/4"	15'	32.4	32'	4' 11"	27' 1"
6	1 3/4"	15'	32.7	32'	7"	31' 5"
7	1 3/4"	15'	31.8	32'	4' 4"	27' 8"
8	1 3/4"	15'	33.1	32'	4' 2"	27' 10"
TOTAL				31' 1"	224' 11"	

2700 LB. HAMMER END BENT NO 2

PILE NO	LAST 5 BLOWS	HEIGHT	TONS	ORDER LENGTH	LENGTH CUT OFF	PAY LENGTH
9	1 3/4"	15'	31.8	32'	4' 3"	27' 9"
10	1 3/4"	15'	31.8	32'	1' 2"	30' 10"
11	1 3/4"	15'	30.5	32'	0' 8"	31' 4"
12	1 3/4"	15'	31.2	32'	12"	30' 2"
13	1 3/4"	15'	31.2	32'	1' 10"	30' 2"
14	1 3/4"	15'	30.0	32'	0' 5"	31' 7"
15	1 3/4"	15'	31.2	32'	1' 7"	30' 5"
16	1 3/4"	15'	30.5	32'	1' 9"	30' 5"
TOTAL				10' 6"	245' 6"	

TOTAL END BENT NO 1 CUT OFF PAY LENGTH
 31' 1" 31' 1" 224' 11"
TOTAL END BENT NO 2 10' 6" 245' 6"
TOTAL END BENTS 1 & 2 41' 7" = 41.58 L.F. 470' 5" = 470.82 L.F.
 Deduct for 16 Pile Caps @ 6" 0' 8"
Net Pile Cut-Off 33' 7" = 33.58 L.F.



GROUND BEFORE AND AFTER CONSTRUCTION
 GRADED DOWN THE ORIGINAL GROUND BENT NO 2

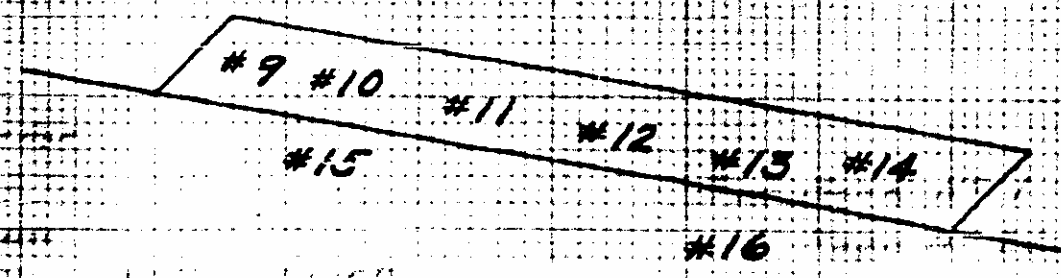


TABLE OF OVERRUNS AND UNDERRUNS

UNIT	ITEM	ORIGINAL ESTIMATE	FINAL ESTIMATE	UNDERRUN	OVERRUN	EXPLANATION
CY	EXCAVATION	230	1732	568		These quantities are based on the actual measurements, which are somewhat less than the quantities that would be arrived at if the full measurements allowed in the contract were used.
CY	EXCAVATION	120	978	222		Same as above.
LS	MAINTENANCE OF EXISTING STRUCTURE	10000	87500	92500		Removal of old structure was deleted from contract and contractor was paid for maintenance of bridge during construction period only. Therefore this item underrun.
CY	CLASS 'A' CONCRETE	6772	6793	0.0	1.9	Footings for Bent #3 Left was deepened approximately 18' causing this overrun.
LBS	REINFORCING STEEL	158232	158232	0.0	0.0	No variation.
LF	12" x 13" STEEL H PILES	512	47042	4158		Superior bearing was obtained at this location, shown the location of pile cut-offs plus 80' for Pile Caps equals underrun of Steel Piles.
LF	CUT OFF ON STEEL H PILES	0.0	3358		3358	Same as above.
SY	CONCRETE RIP RAP	1090	1243.75		153.75	Bent #1 overrun 85.75 SY because the terrain around EBNI was so irregular and crossed by a ditch that we asked the Contractor to dress this down before staking the Rip Rap, and also because the material used in the embankment caused this to put it on a flatter slope in order for it to stand. Bent #2 the actual overrun was 68.05 SY of which 18.1 SY was caused by construction variation and 52.95 SY was caused by the lowering of the elevation of the terrain by the action of the Contractor and floods where it was agreed that the Highway Commission would pay one half of the overrun of 105.90 SY due to the action of the factors mentioned above.

See Sheet No. 17

THE ABOVE ESTIMATE CHECKED BY [Name] AND [Name]
 AND [Name] AND [Name]

SIGNED: [Name]
 PROJECT ENGINEER

EXAMINED AND APPROVED BY: [Name]
 MANAGER

NOT TO BE STRUCK OUT

THE FINAL ESTIMATE
 NG PROJECT NO 1636 F-1490

	AMOUNT	UNIT	ITEM	CONTRACT UNIT PRICE	AMOUNT
SEE SHEETS	1732	CY	DRY EXCAVATION	2000	346400
9-14-5 (compilation sheets)	111	CY	WET EXCAVATION	3000	333000
9-14-5 (compilation sheets)	61500	LS	MAINTENANCE OF EXISTING STRUCTURE	15	91500
SEE SHEET ORDER NO. 7	6193	CY	CLASS 2 CONCRETE	1400	867020
SEE PLAN QUANTITIES	15432	LBS	REINFORCING STEEL	15	231480
SEE PLAN QUANTITIES	1044	LF	1/2" X 4" STEEL H PILES	800	835200
SEE PLAN QUANTITIES	215	LF	CUT OFF ON STEEL H PILES	215	46225
SEE PLAN QUANTITIES	15335	SY	CONCRETE RIP RAP	600	9199500

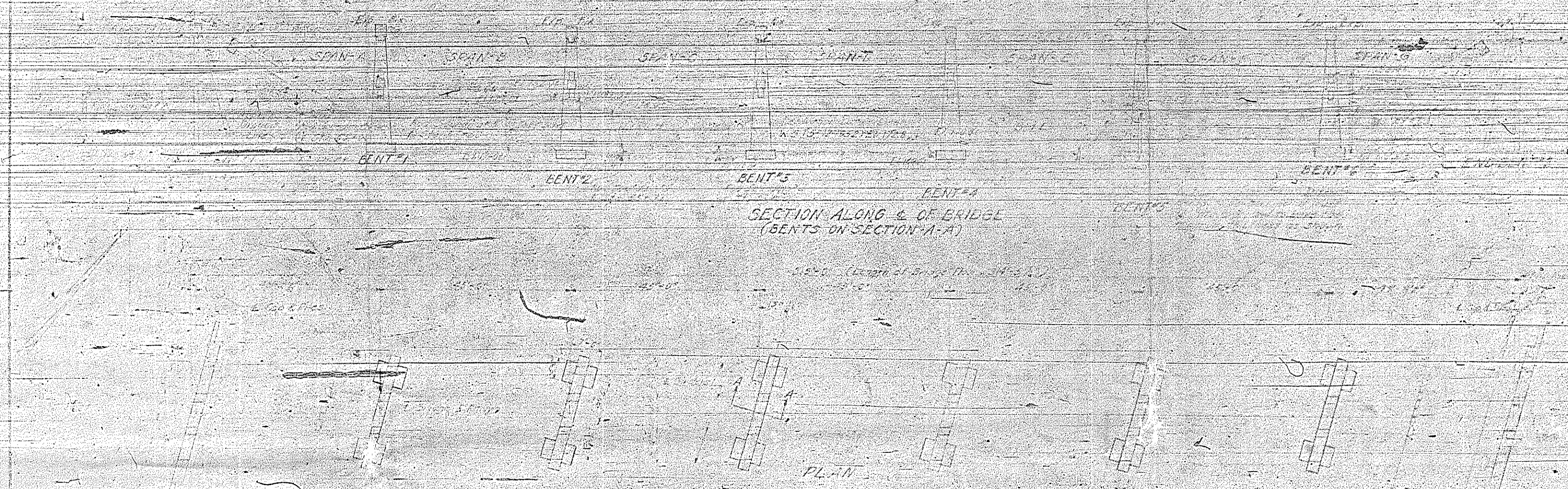
TOTAL AMOUNT OF FINAL ESTIMATE 10758.71
 LESS PREVIOUS PAYMENTS (ETS IS INCL) 8507.00
 AMOUNT DUE ON FINAL ESTIMATE 2251.71

I HEREBY CERTIFY THAT I HAVE CHECKED THIS ESTIMATE AND IT IS TRUE AND CORRECT ACCORDING TO MY BEST KNOWLEDGE AND BELIEF

SIGNED _____ DATE 11/1/57
 RESIDENT ENGINEER

EXAMINED AND APPROVED BY _____ DATE 11/1/57
 DIVISION ENGINEER

1	2	3	4
5	6	7	8



SECTION ALONG & OF BRIDGE
(BENTS ON SECTION A-A)

PLAN

DESIGN OF BRIDGE
Bents #1, 2, 3, 4, 5
Bent #1 - 44 tons per sq ft
Bent #2 - 36 tons per sq ft
Bent #3 - 36 tons per sq ft
Bent #4 - 36 tons per sq ft
Bent #5 - 44 tons per sq ft

NOTE: No payment will be made for excavation required for struts.

EXPANSION JOINTS AND BENT HEADS shall be constructed in accordance with the requirements of Section 503 of the Specifications and construction methods and payment for plates shall be as prescribed in Section 328 of the Specifications. Milling and polishing of plates will not be required.

NOTE: Piles for Bent #1 and #5 shall be driven to a minimum bearing capacity of 30 tons each.

CONSTRUCTION OF BRIDGE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 503 OF THE SPECIFICATIONS AND THE REQUIREMENTS OF SECTION 328 OF THE SPECIFICATIONS. MILLING AND POLISHING OF PLATES WILL NOT BE REQUIRED.

CONSTRUCTION OF BRIDGE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 503 OF THE SPECIFICATIONS AND THE REQUIREMENTS OF SECTION 328 OF THE SPECIFICATIONS. MILLING AND POLISHING OF PLATES WILL NOT BE REQUIRED.

PROJECT NO. _____
COUNTY _____
STATION: _____

TOTAL BILL OF MATERIALS									
Item	Quantity	Unit	Weight	Volume	Area	Perimeter	Surface	Volume	Weight
Steel Plate	111.6	Sq Ft	120,000	15.15					
Steel Pipe	111.6	Lbs	1,262						
Steel Angle	32.1	Lbs	5,506						
Steel Channel	32.1	Lbs	5,506						
Steel I-Beam	32.1	Lbs	5,506						
Steel Joist	32.1	Lbs	5,506						
Steel Joist	32.1	Lbs	5,506						
Steel Joist	32.1	Lbs	5,506						
Steel Joist	32.1	Lbs	5,506						
Steel Joist	32.1	Lbs	5,506						
TOTAL	472.4		158,232						

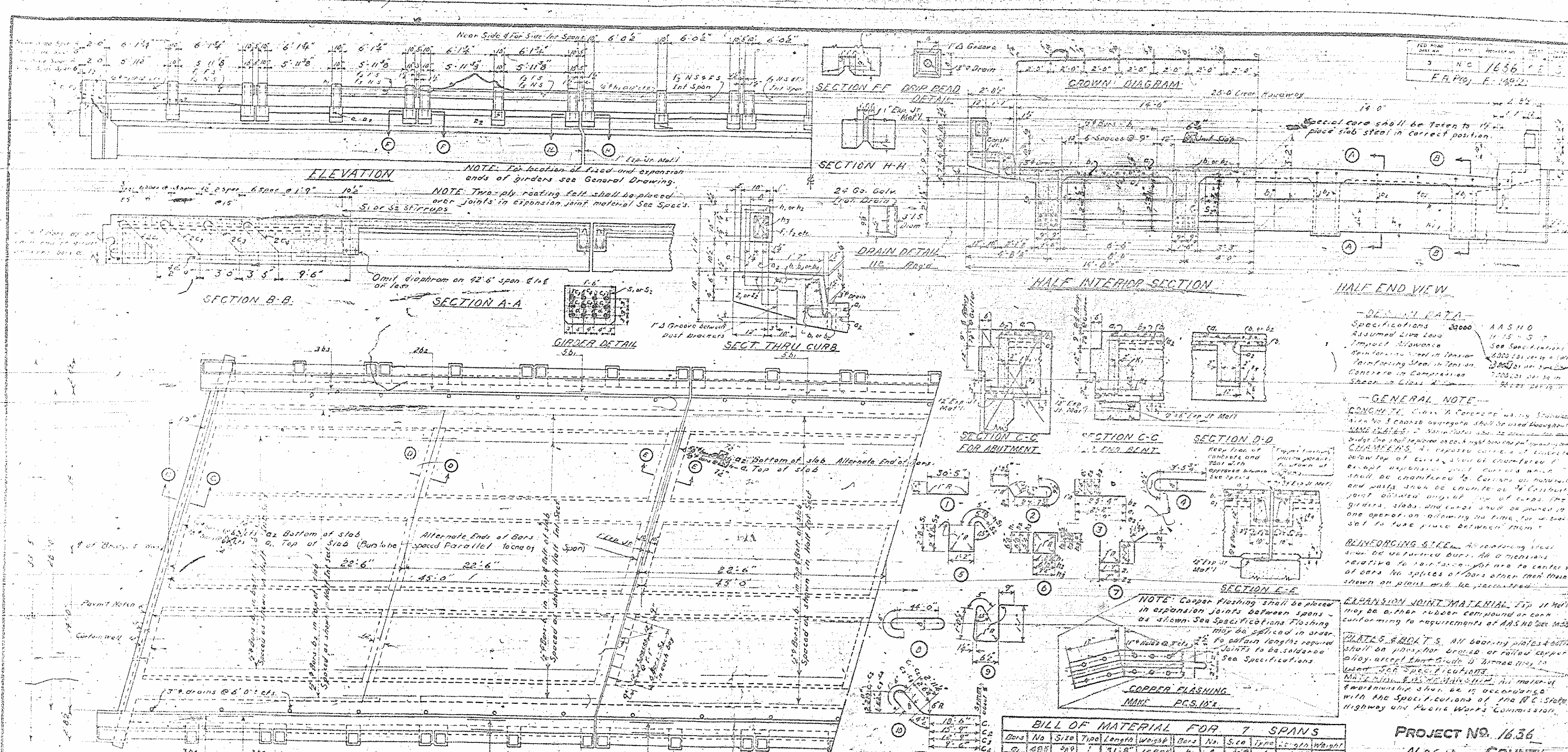
STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION

APPROVED BY: _____
DATE: _____

DESIGNED BY: _____ DATE: _____
DRAWN BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____

Ref 538
Pos - 1
64-32-10
NASH

RECEIVED
MAR 12 '80
BIBBER & ASSOCIATES, INC.
ENGINEERS



1656
 F.A. Proj. E. 1656

2'-3 1/2"

GENERAL DATA
 Specifications 3000 A.A.S.H.O.
 Assumed Live Load 16.5 S-7
 Assumed Wind Pressure 4000 lbs per sq ft
 Reinforcing Steel in Tension 60,000 lbs per sq ft
 Concrete in Compression 2000 lbs per sq ft
 Shrinkage and Creep 2000 lbs per sq ft

GENERAL NOTE
 CONCRETE SHALL BE PLACED IN LAYERS NOT EXCEEDING 4 INCHES IN THICKNESS UNLESS OTHERWISE SPECIFIED. THE CURB SHALL BE PLACED IN PLACE AND FINISHED BEFORE THE GIRDERS ARE PLACED IN PLACE. THE CURB SHALL BE PLACED IN PLACE AND FINISHED BEFORE THE GIRDERS ARE PLACED IN PLACE. THE CURB SHALL BE PLACED IN PLACE AND FINISHED BEFORE THE GIRDERS ARE PLACED IN PLACE.

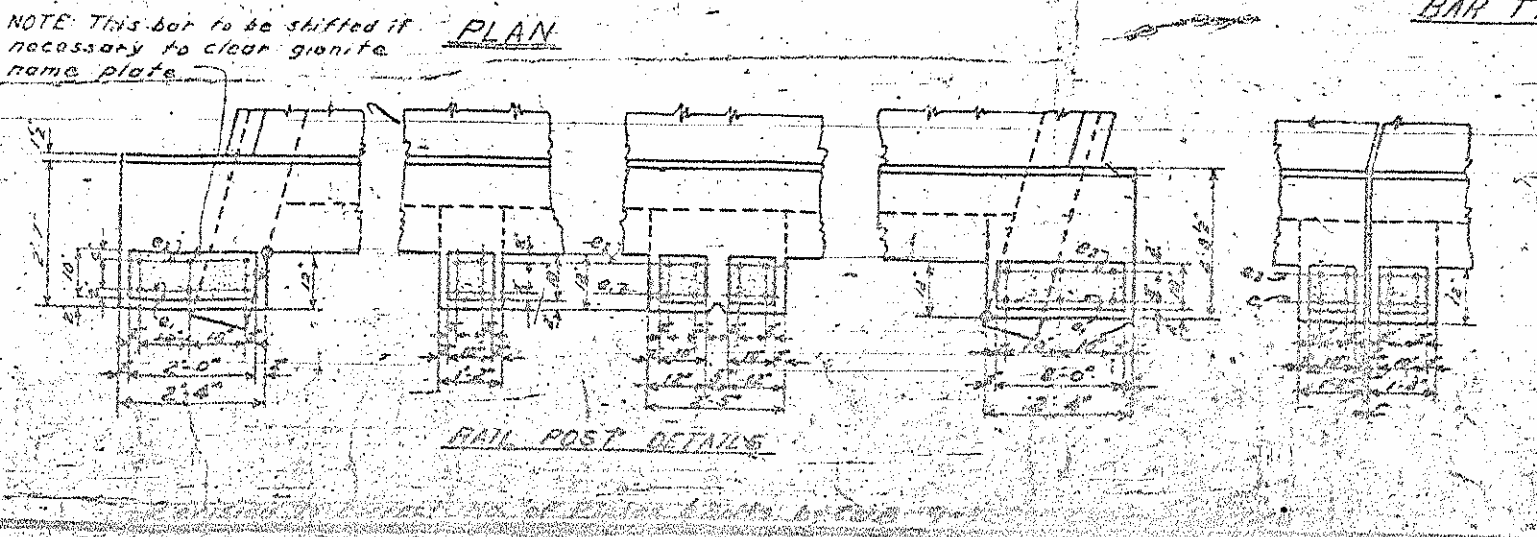
EXPANSION JOINT MATERIAL - If not otherwise specified, the expansion joint material shall be of the type specified in the specifications of the R.C. State Highway and Public Works Commission.

BILL OF MATERIAL FOR 7 SPANS											
Bar No	Size	Length	Weight	Bar No	Size	Length	Weight	Bar No	Size	Length	Weight
1	1/2"	31'-8"	12.50	11	1/2"	31'-8"	12.50	21	1/2"	31'-8"	12.50
2	1/2"	32'-10"	12.50	12	1/2"	32'-10"	12.50	22	1/2"	32'-10"	12.50
3	1/2"	23'-4"	9.01	13	1/2"	23'-4"	9.01	23	1/2"	23'-4"	9.01
4	1/2"	24'-0"	9.01	14	1/2"	24'-0"	9.01	24	1/2"	24'-0"	9.01
5	1/2"	22'-3"	8.01	15	1/2"	22'-3"	8.01	25	1/2"	22'-3"	8.01
6	1/2"	22'-6"	8.01	16	1/2"	22'-6"	8.01	26	1/2"	22'-6"	8.01
7	1/2"	22'-6"	8.01	17	1/2"	22'-6"	8.01	27	1/2"	22'-6"	8.01
8	1/2"	22'-6"	8.01	18	1/2"	22'-6"	8.01	28	1/2"	22'-6"	8.01
9	1/2"	22'-6"	8.01	19	1/2"	22'-6"	8.01	29	1/2"	22'-6"	8.01
10	1/2"	22'-6"	8.01	20	1/2"	22'-6"	8.01	30	1/2"	22'-6"	8.01

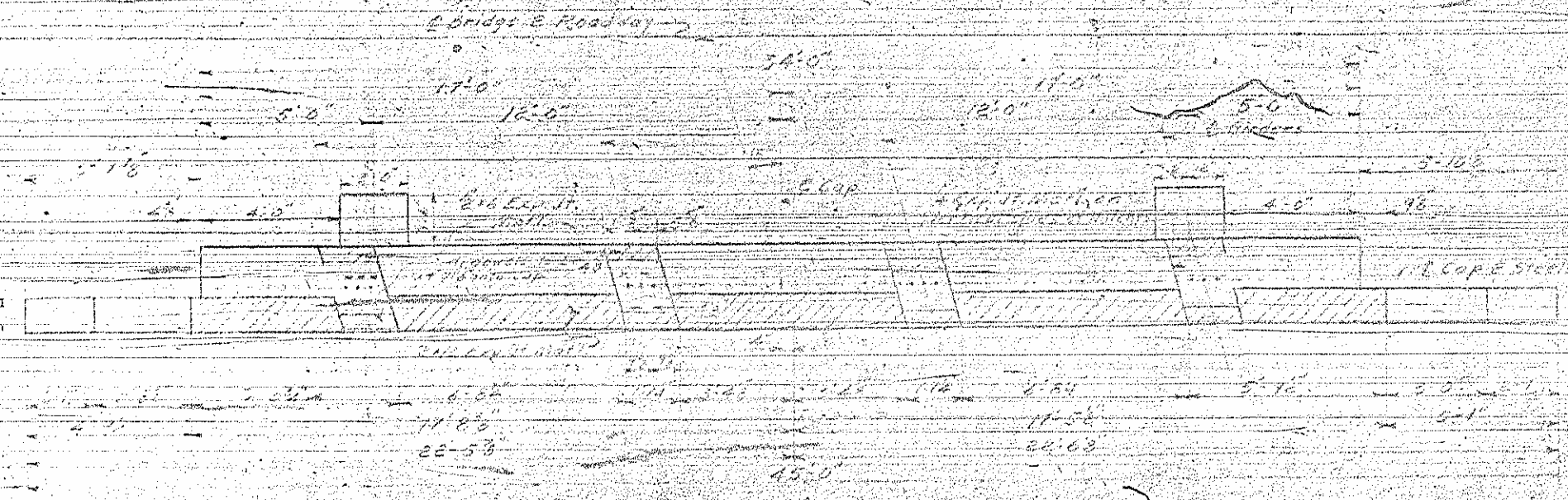
PROJECT NO. 1636
 NASHA COUNTY
 STATION: 56+32.5

STATE OF NORTH CAROLINA,
 STATE HIGHWAY AND
 PUBLIC WORKS COMMISSION
 STANDARD
 REINFORCED CONCRETE
 DECK GIRDER
 LEFT HAND SKEW
 SPAN 22'-0" ROADWAY
 AUGUST 1943

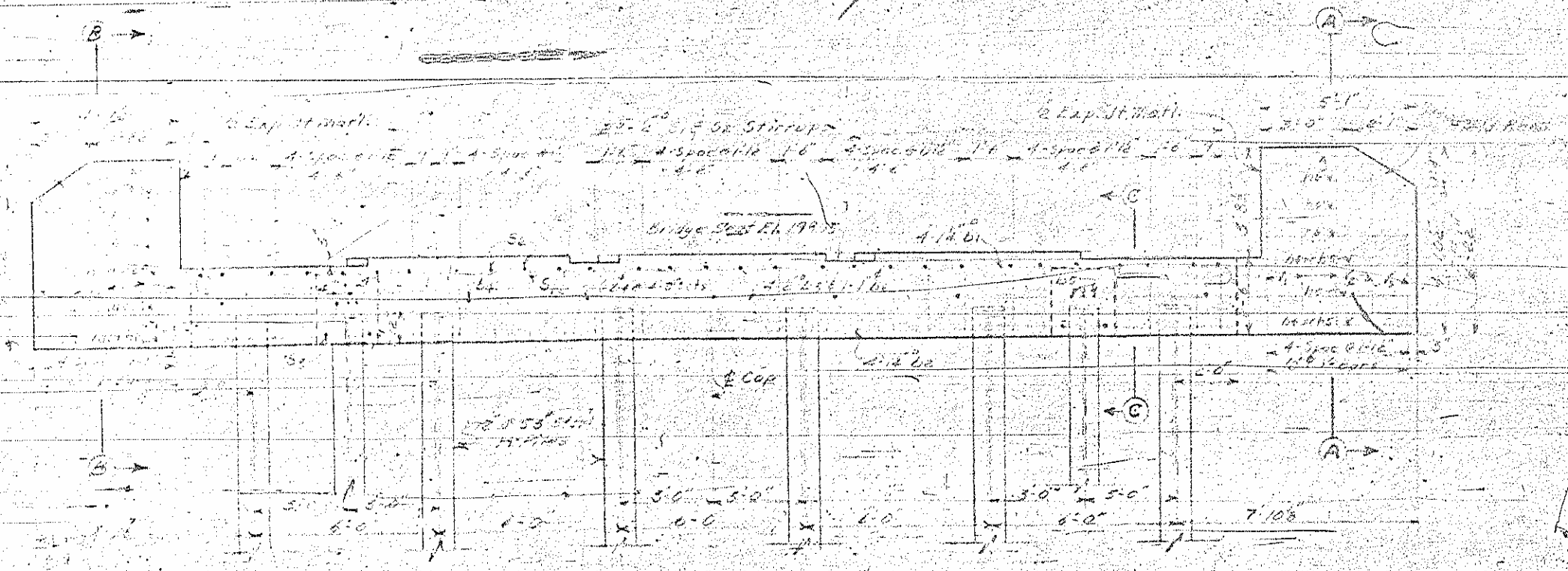
NOTE: This bar to be shifted if necessary to clear granite name plate.
 BOLT DETAIL
 RAIL POST DETAILS



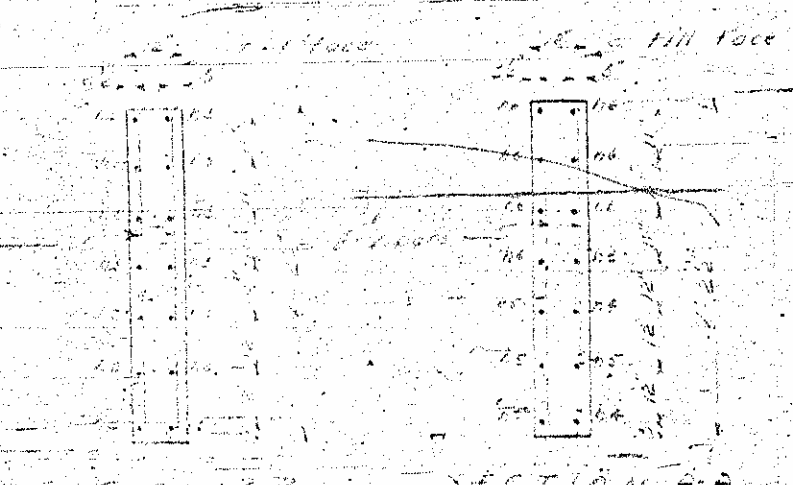
PROJECT NO.	1650
DATE	JUNE 1952
BY	...
CHECKED BY	...



PLAN OF CAP- END BENT NO. 1
END BENT NO. 2 SIMILAR BY ROTATION

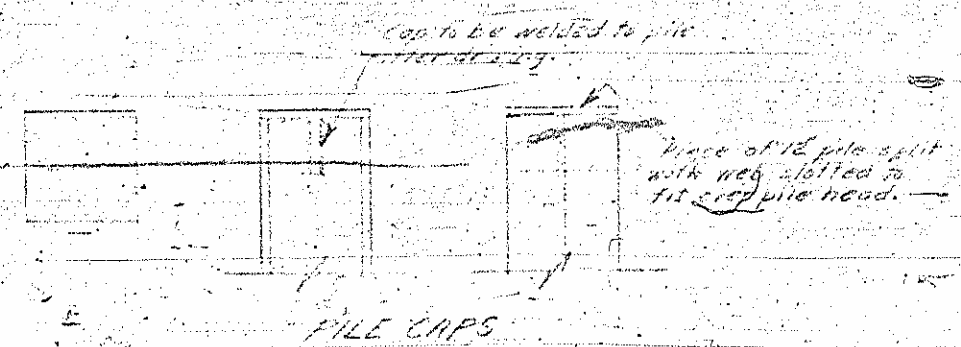


ELEVATION

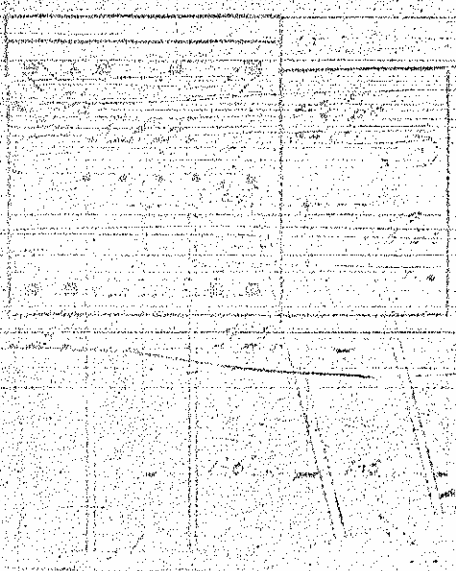


SECTION B-B

SECTION A-A



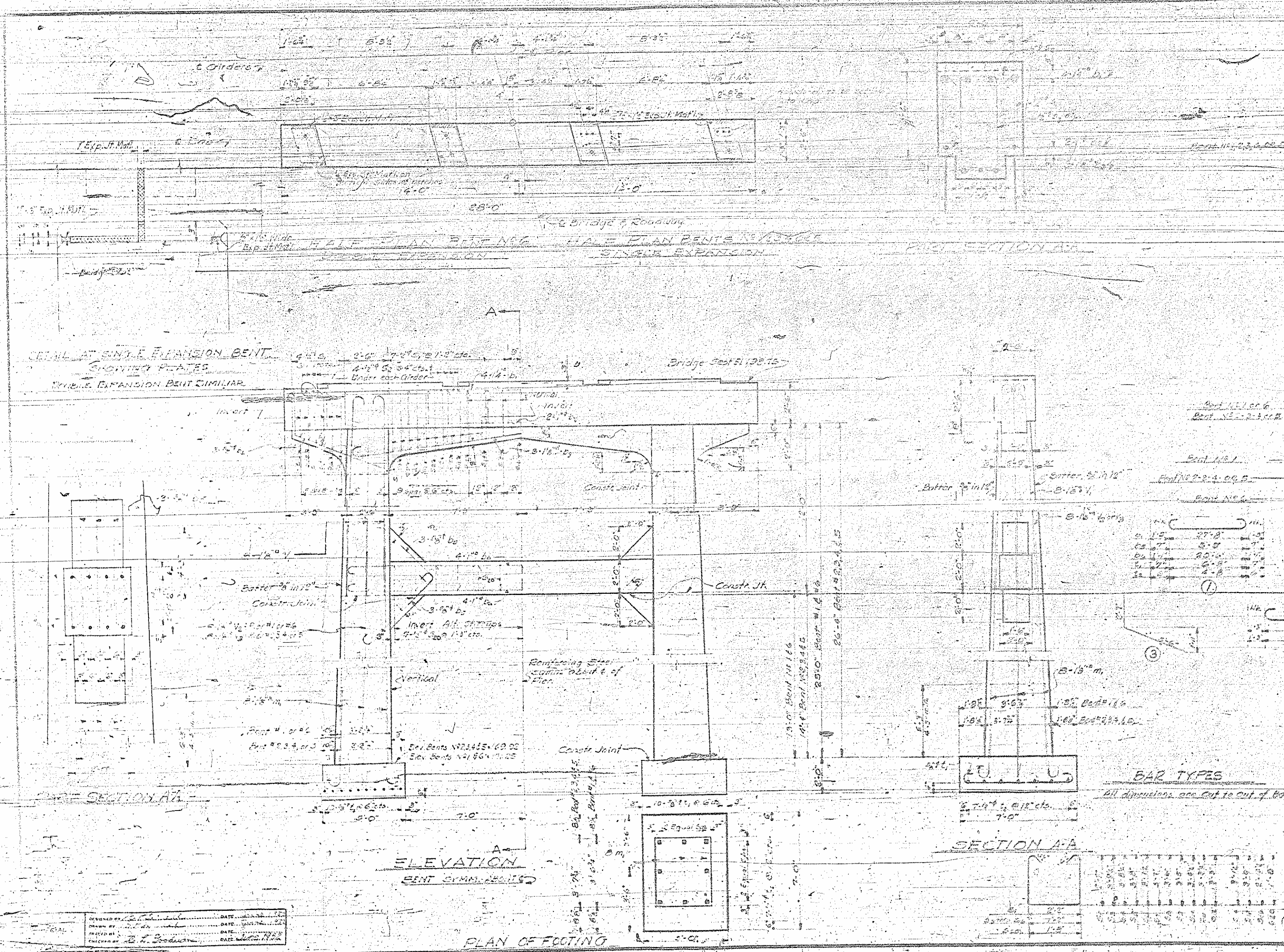
FILE CAPS
Note: caps to be welded to pile after driving.
Three of 12 pile split with web slotted to fit steel pile head.



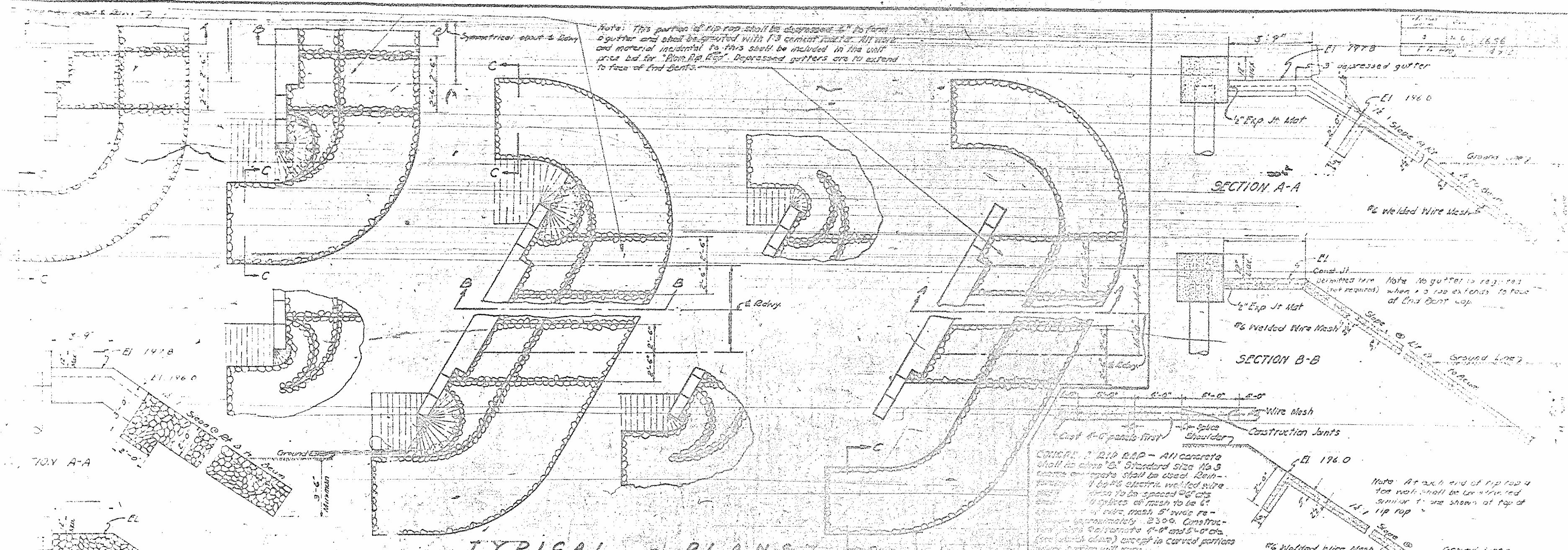
SECTION C-C

BILL OF MATERIAL FOR END BENT NO. 1

Qty	Size	Weight	Notes
2	12"	10.0	
2	14"	14.0	
2	16"	18.0	
2	18"	22.0	
2	20"	26.0	
2	22"	30.0	
2	24"	34.0	
2	26"	38.0	
2	28"	42.0	
2	30"	46.0	
2	32"	50.0	
2	34"	54.0	
2	36"	58.0	
2	38"	62.0	
2	40"	66.0	
2	42"	70.0	
2	44"	74.0	
2	46"	78.0	
2	48"	82.0	
2	50"	86.0	
2	52"	90.0	
2	54"	94.0	
2	56"	98.0	
2	58"	102.0	
2	60"	106.0	
2	62"	110.0	
2	64"	114.0	
2	66"	118.0	
2	68"	122.0	
2	70"	126.0	
2	72"	130.0	
2	74"	134.0	
2	76"	138.0	
2	78"	142.0	
2	80"	146.0	
2	82"	150.0	
2	84"	154.0	
2	86"	158.0	
2	88"	162.0	
2	90"	166.0	
2	92"	170.0	
2	94"	174.0	
2	96"	178.0	
2	98"	182.0	
2	100"	186.0	
2	102"	190.0	
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2	112"	210.0	
2	114"	214.0	
2	116"	218.0	
2	118"	222.0	
2	120"	226.0	
2	122"	230.0	
2	124"	234.0	
2	126"	238.0	
2	128"	242.0	
2	130"	246.0	
2	132"	250.0	
2	134"	254.0	
2	136"	258.0	
2	138"	262.0	
2	140"	266.0	
2	142"	270.0	
2	144"	274.0	
2	146"	278.0	
2	148"	282.0	
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2	156"	298.0	
2	158"	302.0	
2	160"	306.0	
2	162"	310.0	
2	164"	314.0	
2	166"	318.0	
2	168"	322.0	
2	170"	326.0	
2	172"	330.0	
2	174"	334.0	
2	176"	338.0	
2	178"	342.0	
2	180"	346.0	
2	182"	350.0	
2	184"	354.0	
2	186"	358.0	
2	188"	362.0	
2	190"	366.0	
2	192"	370.0	
2	194"	374.0	
2	196"	378.0	
2	198"	382.0	
2	200"	386.0	
2	202"	390.0	
2	204"	394.0	
2	206"	398.0	
2	208"	402.0	
2	210"	406.0	
2	212"	410.0	
2	214"	414.0	
2	216"	418.0	
2	218"	422.0	
2	220"	426.0	
2	222"	430.0	
2	224"	434.0	
2	226"	438.0	
2	228"	442.0	
2	230"	446.0	
2	232"	450.0	
2	234"	454.0	
2	236"	458.0	
2	238"	462.0	
2	240"	466.0	
2	242"	470.0	
2	244"	474.0	
2	246"	478.0	
2	248"	482.0	
2	250"	486.0	
2	252"	490.0	
2	254"	494.0	
2	256"	498.0	
2	258"	502.0	
2	260"	506.0	
2	262"	510.0	
2	264"	514.0	
2	266"	518.0	
2	268"	522.0	
2	270"	526.0	
2	272"	530.0	
2	274"	534.0	
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2	320"	626.0	
2	322"	630.0	
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2	344"	674.0	
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2	350"	686.0	
2	352"	690.0	
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2	360"	706.0	
2	362"	710.0	
2	364"	714.0	
2	366"	718.0	
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2	388"	762.0	
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2	392"	770.0	
2	394"	774.0	
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2	400"	786.0	
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2	412"	810.0	
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2	416"	818.0	
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2	422"	830.0	
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2	460"	906.0	
2	462"	910.0	
2	464"	914.0	
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2	480"	946.0	
2	482"	950.0	
2	484"	954.0	
2	486"	958.0	
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2	500"	986.0	
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2	510"	1006.0	
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2	558"	1102.0	
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2	594"	1174.0	
2	596"	1178.0	
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2	652"	1290.0	
2	654"	1294.0	
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2	658"	1302.0	
2	660"	1306.0	
2	662"	1310.0	
2	664"	1314.0	
2	666"	1318.0	
2	668"	1322.0	
2	670"	1326.0	
2	672"	1330.0	
2	674"	1334.0	
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2	678"	1342.0	
2	680"	1346.0	
2	682"	1350.0	
2	684"	1354.0	
2	686"	1358.0	
2	688"	1362.0	
2	690"	1366.0	
2	692"	1370.0	
2</			



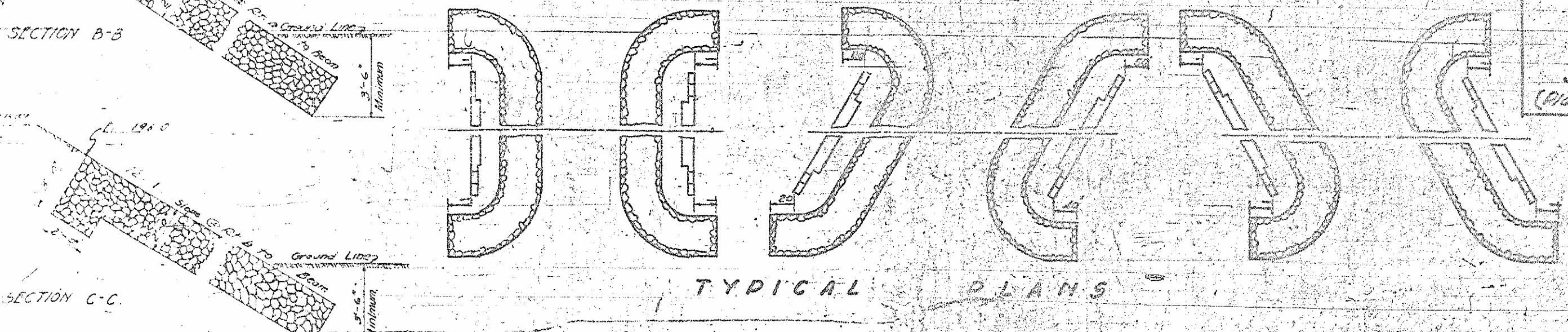
OF MATERIALS			
FOR BENT NO. 1, 2, 3, 4, 5			
Bar	Size	Length	Weight
1	1/2"	100'	100
2	3/4"	100'	150
3	1"	100'	200
4	1 1/4"	100'	300
5	1 1/2"	100'	400
6	2"	100'	600
7	2 1/2"	100'	800
8	3"	100'	1000
9	3 1/2"	100'	1200
10	4"	100'	1500
11	4 1/2"	100'	1800
12	5"	100'	2200
13	5 1/2"	100'	2600
14	6"	100'	3000
15	6 1/2"	100'	3500
16	7"	100'	4000
17	7 1/2"	100'	4500
18	8"	100'	5000
19	8 1/2"	100'	5500
20	9"	100'	6000
21	9 1/2"	100'	6500
22	10"	100'	7000
23	10 1/2"	100'	7500
24	11"	100'	8000
25	11 1/2"	100'	8500
26	12"	100'	9000
27	12 1/2"	100'	9500
28	13"	100'	10000
29	13 1/2"	100'	10500
30	14"	100'	11000
31	14 1/2"	100'	11500
32	15"	100'	12000
33	15 1/2"	100'	12500
34	16"	100'	13000
35	16 1/2"	100'	13500
36	17"	100'	14000
37	17 1/2"	100'	14500
38	18"	100'	15000
39	18 1/2"	100'	15500
40	19"	100'	16000
41	19 1/2"	100'	16500
42	20"	100'	17000
43	20 1/2"	100'	17500
44	21"	100'	18000
45	21 1/2"	100'	18500
46	22"	100'	19000
47	22 1/2"	100'	19500
48	23"	100'	20000
49	23 1/2"	100'	20500
50	24"	100'	21000
51	24 1/2"	100'	21500
52	25"	100'	22000
53	25 1/2"	100'	22500
54	26"	100'	23000
55	26 1/2"	100'	23500
56	27"	100'	24000
57	27 1/2"	100'	24500
58	28"	100'	25000
59	28 1/2"	100'	25500
60	29"	100'	26000
61	29 1/2"	100'	26500
62	30"	100'	27000
63	30 1/2"	100'	27500
64	31"	100'	28000
65	31 1/2"	100'	28500
66	32"	100'	29000
67	32 1/2"	100'	29500
68	33"	100'	30000
69	33 1/2"	100'	30500
70	34"	100'	31000
71	34 1/2"	100'	31500
72	35"	100'	32000
73	35 1/2"	100'	32500
74	36"	100'	33000
75	36 1/2"	100'	33500
76	37"	100'	34000
77	37 1/2"	100'	34500
78	38"	100'	35000
79	38 1/2"	100'	35500
80	39"	100'	36000
81	39 1/2"	100'	36500
82	40"	100'	37000
83	40 1/2"	100'	37500
84	41"	100'	38000
85	41 1/2"	100'	38500
86	42"	100'	39000
87	42 1/2"	100'	39500
88	43"	100'	40000
89	43 1/2"	100'	40500
90	44"	100'	41000
91	44 1/2"	100'	41500
92	45"	100'	42000
93	45 1/2"	100'	42500
94	46"	100'	43000
95	46 1/2"	100'	43500
96	47"	100'	44000
97	47 1/2"	100'	44500
98	48"	100'	45000
99	48 1/2"	100'	45500
100	49"	100'	46000
101	49 1/2"	100'	46500
102	50"	100'	47000
103	50 1/2"	100'	47500
104	51"	100'	48000
105	51 1/2"	100'	48500
106	52"	100'	49000
107	52 1/2"	100'	49500
108	53"	100'	50000
109	53 1/2"	100'	50500
110	54"	100'	51000
111	54 1/2"	100'	51500
112	55"	100'	52000
113	55 1/2"	100'	52500
114	56"	100'	53000
115	56 1/2"	100'	53500
116	57"	100'	54000
117	57 1/2"	100'	54500
118	58"	100'	55000
119	58 1/2"	100'	55500
120	59"	100'	56000
121	59 1/2"	100'	56500
122	60"	100'	57000
123	60 1/2"	100'	57500
124	61"	100'	58000
125	61 1/2"	100'	58500
126	62"	100'	59000
127	62 1/2"	100'	59500
128	63"	100'	60000
129	63 1/2"	100'	60500
130	64"	100'	61000
131	64 1/2"	100'	61500
132	65"	100'	62000
133	65 1/2"	100'	62500
134	66"	100'	63000
135	66 1/2"	100'	63500
136	67"	100'	64000
137	67 1/2"	100'	64500
138	68"	100'	65000
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140	69"	100'	66000
141	69 1/2"	100'	66500
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143	70 1/2"	100'	67500
144	71"	100'	68000
145	71 1/2"	100'	68500
146	72"	100'	69000
147	72 1/2"	100'	69500
148	73"	100'	70000
149	73 1/2"	100'	70500
150	74"	100'	71000
151	74 1/2"	100'	71500
152	75"	100'	72000
153	75 1/2"	100'	72500
154	76"	100'	73000
155	76 1/2"	100'	73500
156	77"	100'	74000
157	77 1/2"	100'	74500
158	78"	100'	75000
159	78 1/2"	100'	75500
160	79"	100'	76000
161	79 1/2"	100'	76500
162	80"	100'	77000
163	80 1/2"	100'	77500
164	81"	100'	78000
165	81 1/2"	100'	78500
166	82"	100'	79000
167	82 1/2"	100'	79500
168	83"	100'	80000
169	83 1/2"	100'	80500
170	84"	100'	81000
171	84 1/2"	100'	81500
172	85"	100'	82000
173	85 1/2"	100'	82500
174	86"	100'	83000
175	86 1/2"	100'	83500
176	87"	100'	84000
177	87 1/2"	100'	84500
178	88"	100'	85000
179	88 1/2"	100'	85500
180	89"	100'	86000
181	89 1/2"	100'	86500
182	90"	100'	87000
183	90 1/2"	100'	87500
184	91"	100'	88000
185	91 1/2"	100'	88500
186	92"	100'	89000
187	92 1/2"	100'	89500
188	93"	100'	90000
189	93 1/2"	100'	90500
190	94"	100'	91000
191	94 1/2"	100'	91500
192	95"	100'	92000
193	95 1/2"	100'	92500
194	96"	100'	93000
195	96 1/2"	100'	93500
196	97"	100'	94000
197	97 1/2"	100'	94500
198	98"	100'	95000
199	98 1/2"	100'	95500
200	99"	100'	96000
201	99 1/2"	100'	96500
202	100"	100'	97000
203	100 1/2"	100'	97500
204	101"	100'	98000
205	101 1/2"	100'	98500
206	102"	100'	99000
207	102 1/2"	100'	99500
208	103"	100'	100000
209	103 1/2"	100'	100500
210	104"	100'	101000
211	104 1/2"	100'	101500
212	105"	100'	102000
213	105 1/2"	100'	102500
214	106"	100'	103000
215	106 1/2"	100'	103500
216	107"	100'	104000
217	107 1/2"	100'	104500
218	108"	100'	105000
219	108 1/2"	100'	105500
220	109"	100'	106000
221	109 1/2"	100'	106500
222	110"	100'	107000
223	110 1/2"	100'	107500
224	111"	100'	108000
225	111 1/2"	100'	108500
226	112"	100'	109000
227	112 1/2"	100'	109500
228	113"	100'	110000
229	113 1/2"	100'	110500
230	114"	100'	111000
231	114 1/2"	100'	111500
232	115"	100'	112000
233	115 1/2"	100'	112500
234	116"	100'	113000
235	116 1/2"	100'	113500
236	117"	100'	114000
237	117 1/2"	100'	114500
238	118"	100'	115000
239	118 1/2"	100'	115500
240	119"	100'	116000
241	119 1/2"	100'	116500
242	120"	100'	117000
243	120 1/2"	100'	117500
244	121"	100'	118000
245	121 1/2"	100'	118500
246	122"	100'	119000
247	122 1/2"	100'	119500
248	123"	100'	120000
249	123 1/2"	100'	120500
250	124"	100'	121000
251	124 1/2"	100'	121500
252	125"	100'	122000
253	125 1/2"	100'	122500
254	126"	100'	123000
255	126 1/2"	100'	123500
256	127"	100'	124000
257	127 1/2"	100'	124500
258	128"	100'	125000
259	128 1/2"	100'	125500
260	129"	100'	126000
261	129 1/2"	100'	126500
262	130"	100'	127000
263	130 1/2"	100'	127500
264	131"	100'	128000
265	131 1/2"	100'	128500
266	132"	100'	129000
267	132 1/2"	100'	129500
268	133"	100'	130000
269	133 1/2"	100'	130500
270	134"	100'	131000
271	134 1/2"	100'	131500
272	135"	100'	132000
273	135 1/2"	100'	132500
274	136"	100'	133000
275	136 1/2"	100'	133500
276	137"	100'	134000
277	137 1/2"	100'	134500
278	138"	100'	135000
279	138 1/2"	100'	135500
280	139"	100'	136000
281	139 1/2"	100'	136500
282	140"	100'	137000
283	140 1/2"	100'	137500
284	141"	100'	138000
285	141 1/2"	100'	138500
286	142"	100'	139000
287	142 1/2"	100'	139500
288	143"	100'	140000
289	143 1/2"	100'	140500
290	144"	100'	141000
291	144 1/2"	100'	141500
292	145"	100'	142000
293	145 1/2"	100'	142500
294	146"	100'	143000
295	146 1/2"	100'	143500
296	147"	100'	144000
297	147 1/2"	100'	144500
298	148"	100'	145000
299	148 1/2"	100'	145500
300	149"	100'	146000
301	149 1/2"	100'	146500
302	150		



Note: This portion of rip rap shall be depressed 5" to form a gutter and shall be sloped with 1:3 convex finish. All work and material incidental to this shall be included in the unit price bid for "Plain Rip Rap". Depressed gutters are to extend to face of End Berth.

CONCRETE RIP RAP - All concrete shall be class "B" Standard Size No. 3 coarse aggregate shall be used. Reinforcement shall be spaced 24" c/c. 14 gages of mesh to be 5' x 5' approximately 2300. Construction approximately 4" and 5" c/c. (See plan detail) except in curved portions where spacing will vary.

SECTIONS FOR CONCRETE RIP RAP
(Plan of concrete rip rap similar to that shown for plain rip rap)



PLAIN RIP RAP DETAILS

Note: At each end of rip rap a cap wall shall be constructed similar to one shown at top of rip rap.

Designed by	J. B. Giddens	DATE	June 1932
Checked by	W. H. Smith	DATE	June 1932
Approved by	W. H. Smith	DATE	Oct. 1932
Revised by	W. H. Smith	DATE	July 1932
Revised by	W. H. Smith	DATE	Aug. 1932

Revised for use on Project No. 1636 at Station 56+32.5

PROJECT NO. 1636
NASH COUNTY
STATION: 56+32.5

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION

**STANDARD
RIP RAP
DETAILS**

OCT 1947

DESIGNED BY: W. H. Smith
APPROVED BY: W. H. Smith
DATE: OCT 1947

TRUCKER NO. M. E. P. 1