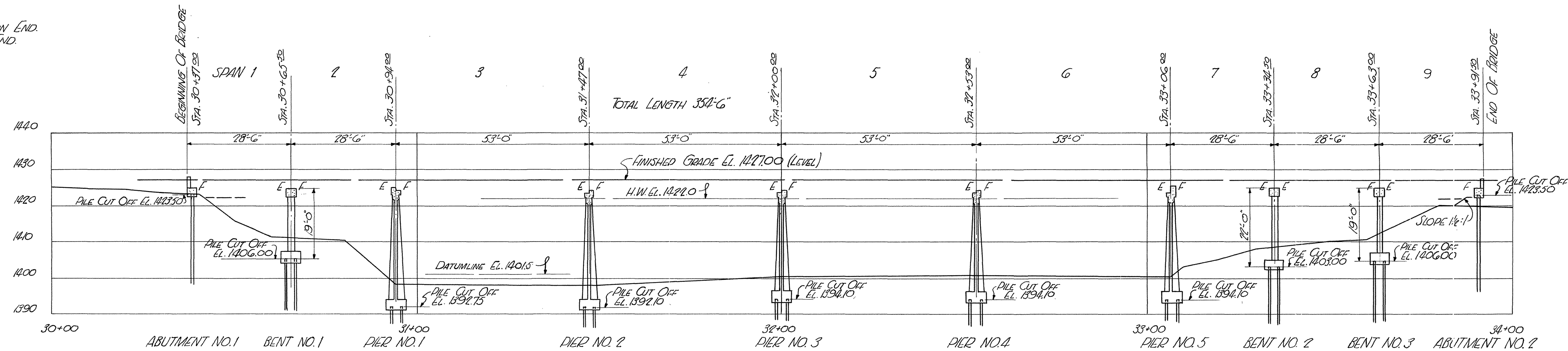
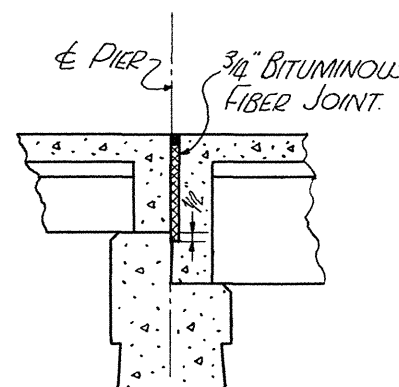
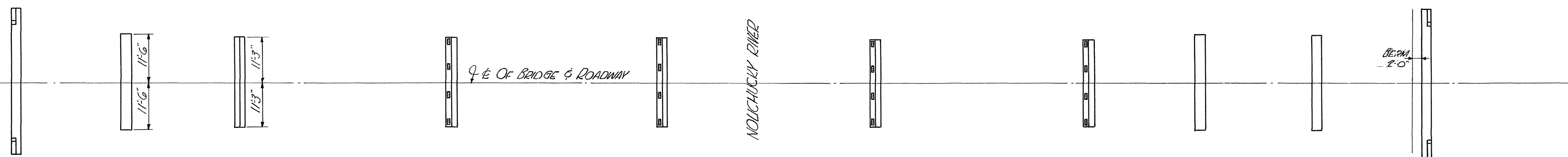


S-2386(1)

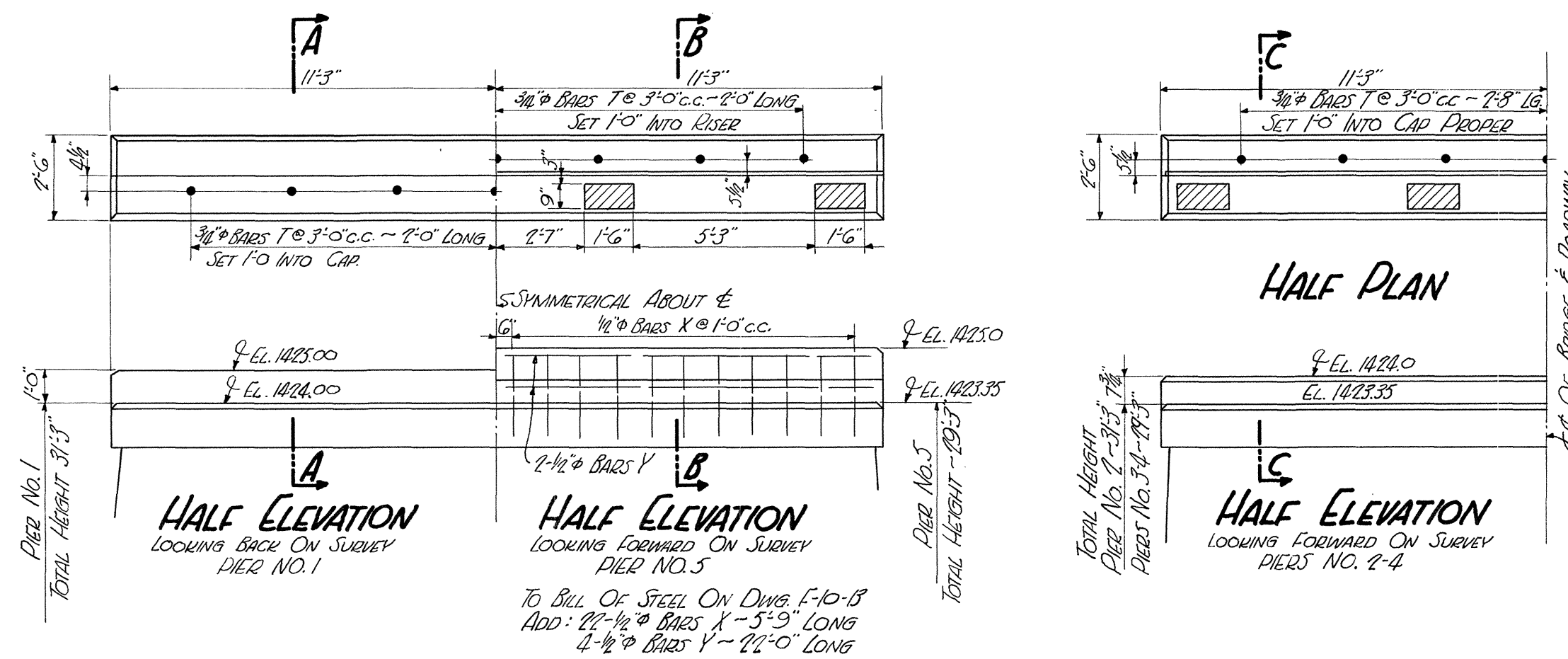
NOTE: E-EXPANSION END
F-FIXED ENDSECTION ALONG E OF BRIDGE & ROADWAY
SCALE 1"=20'

NOTE: AFTER FOUNDATIONS FOR THE BENTS & PIERS HAVE BEEN EXCAVATED TO THE PILE CUT OFF ELEVATIONS SHOWN, ROD SOUNDINGS SHALL BE MADE TO DETERMINE WHETHER OR NOT STEEL PILES WILL BE USED OR THE FOOTING CARRIED TO ROCK. COST OF ROD SOUNDINGS TO BE INCLUDED IN THE COST OF ITEMS BID ON.

PILES SHALL BE DRIVEN TO REFUSAL ON ROCK OR A MINIMUM BEARING OF 71 TONS FOR THE ABUTMENTS 16 TONS FOR THE BENTS AND 31 TONS FOR THE PIERS.

SKETCH SHOWING LOCATION OF
EXPANSION JOINT ON PIER NO. 1

PLAN



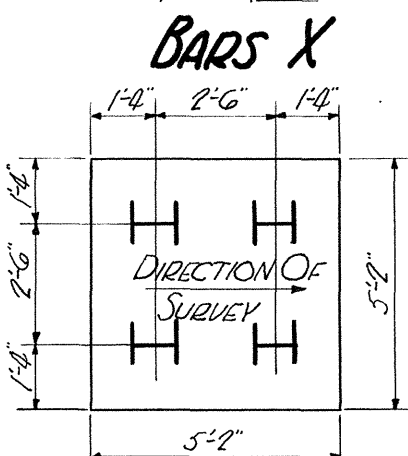
HALF PLAN

HALF ELEVATION

SECTION A-A

SECTION B-B

SECTION C-C

HALF PILE PLAN
PIERS NO. 1-5PILE PLAN FOR
BENTS

ESTIMATED QUANTITIES

ITEM	EXCAVATION CU. YDS.			CONCRETE CLASS "A" CU. YDS.	STEEL LBS.			STEEL PILES 10" @ 44" LIN. FT. *
	Dry	Wet	Rock		REINFORCING	STRUCTURAL	FORGINGS	
SUPERSTRUCTURE	-	-	-	10.8	4,578	-	-	-
DECK GIRDERS	-	-	-	407.2	114,123	2080	2780	-
SUBSTRUCTURE	-	-	-	-	-	-	-	-
ABUTMENT NO. 1	11	-	-	9.1	1090	-	-	36
BENT NO. 1	44	-	-	16.2	1894	-	-	136
PIER NO. 1	-	80	9	64.9	2196	-	-	150
PIER NO. 2	-	65	15	61.6	2203	-	-	150
PIER NO. 3	-	78	-	57.9	2098	-	-	150
PIER NO. 4	-	85	-	57.9	2098	-	-	150
PIER NO. 5	-	85	-	58.9	2235	-	-	150
BENT NO. 2	45	-	-	11.1	1949	-	-	152
BENT NO. 3	45	-	-	16.2	1894	-	-	136
ABUTMENT NO. 2	-	-	-	9.1	1090	-	-	120
TOTAL	143	398	24	792.9	137,434	2080	2780	1390

* NO ALTERNATE PILES PERMITTED.

LUMP SUM FOR COMPLETE REMOVAL OF PRESENT BRIDGE - TOTAL LENGTH 308'. 2'-10" STEEL TRUSS, 117' ROADWAY TIMBER FLOOR, ON CONCRETE SUBSTRUCTURE. THE STEEL TRUSSES TO REMAIN THE PROPERTY OF THE COUNTY.

DESIGN DATA

DRAINAGE AREA 874 Sq. Mi.
A FACTOR C=3 IN TALBOT'S FORMULA GIVES
WATER AREA REQUIRED 6196 Sq. Ft.
WATER AREA PROVIDED 6250 Sq. Ft.

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD & BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS & PUBLIC WORKS.
LOADING: H15-44
CONCRETE: TO BE CLASS "A"
REINFORCING STEEL: SEE SPECIFICATIONS.
FORMS & FINISH: SEE SPECIFICATIONS.
PILES: TO BE 10" STEEL PILES @ 44".

LIST OF DRAWINGS

HANDRAIL
SPANS NO. 1, 2 & 3 - 26' CLEAR SPANS
SPANS NO. 3, 4, 5 - 30' CLEAR SPANS
ABUTMENTS NO. 1 & 2
* BENTS NO. 1-3 - TYPE "B" FOOTING
* PIERS NO. 1-5 - L-10'-0"
* SEE ALSO DETAILS ON THIS SHEET

DWG. NO.

E-12-104
F-10-7
F-10-42
F-10-116
E-2-10
F-10-13

REQUIRED: 1 1/2" - 3" TRANSITE DRAINS OR EQUAL - 8" LONG

24'-0" ROADWAY
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

LAYOUT OF BRIDGE

STA. 30+37.00
NOLICHUCKY RIVER
WASHINGTON CO.
1978

DESIGNED BY W. SUTER
DRAWN BY W. SUTER
TRACED BY J. W. SOUTHERLAND
CHECKED BY
DATE
DATE
DATE
DATE

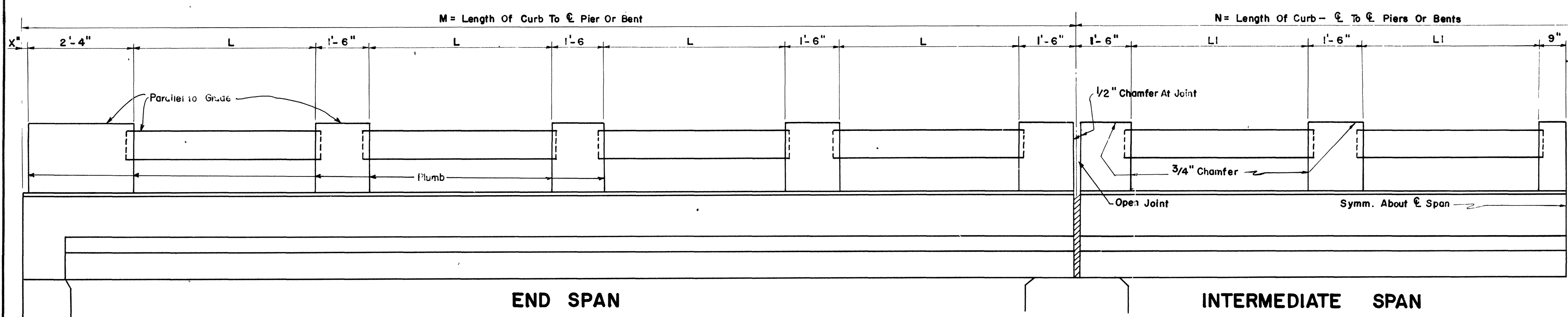
CORRECT

Fred Gray

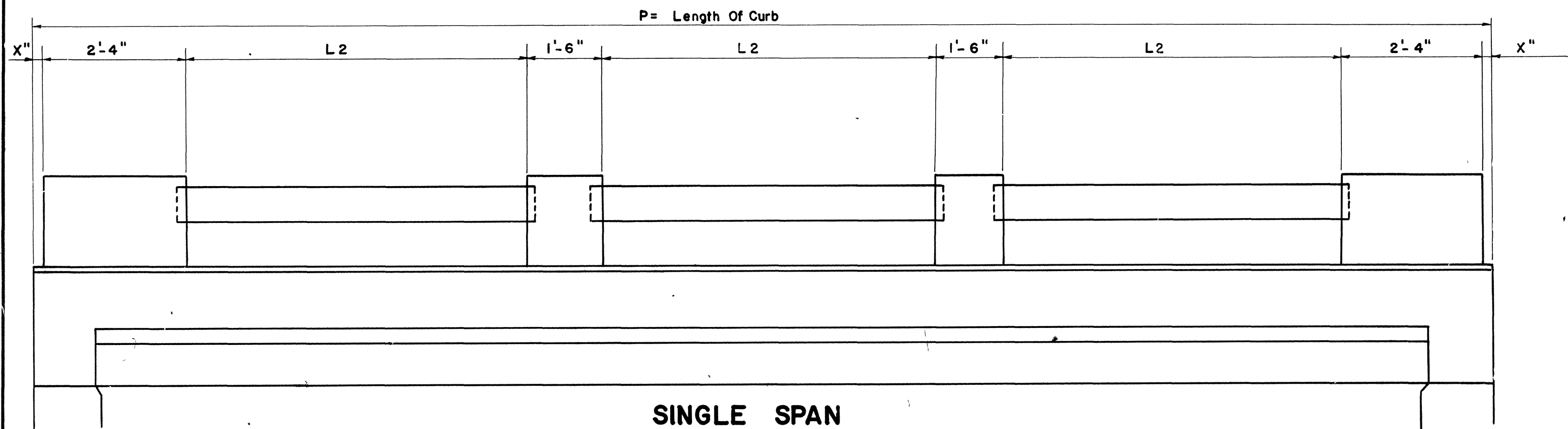
BRIDGE ENGINEER

APPROVED
STATE HIGHWAY ENGINEER

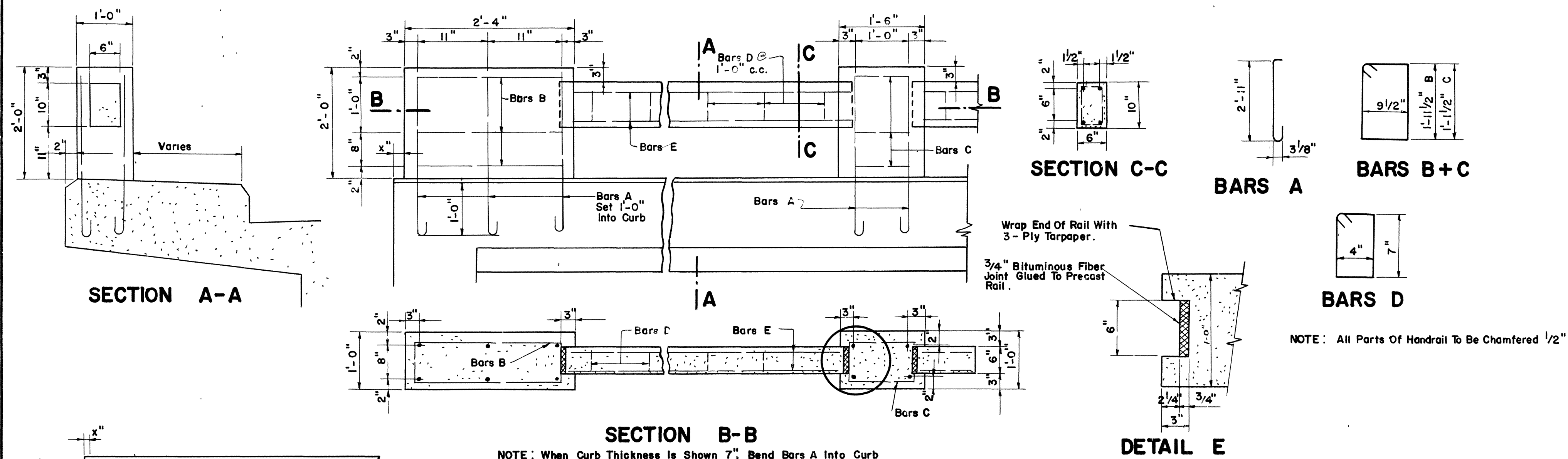
G-1-141



END SPAN										
CLEAR SPAN FEET	DIMENSIONS			REINFORCING STEEL					QUANTITIES	
	"M"	"X"	" L "	Bars A 5/8"x3'-5"	Bars B 1/2"x6'-4"	Bars C 1/2"x4'-8"	Bars D 3/8"x2'-6"	Bars E 1/2"x	Concrete Class "A" Cu. Yds.	Reinforcing Steel Lbs.
				No.	No.	No.	No.	No.		
16	18'-6"	2"	2 @ 6'-6"	28	6	12	28	16 6'-8"	1.2	261
18	20'-6"	2"	3 @ 4'-6"	36	6	18	30	24 4'-8"	1.4	313
20	22'-6"	2"	3 @ 5'-2"	36	6	18	36	24 5'-4"	1.5	330
22	24'-6"	2"	3 @ 5'-10"	36	6	18	36	24 6'-0"	1.6	340
24	26'-6"	2"	3 @ 6'-6"	36	6	18	42	24 6'-8"	1.6	357
26	28'-6"	2"	4 @ 5'-0 1/2"	44	6	24	40	32 5'-2"	1.9	406
28	31'-0"	2"	4 @ 5'-7 1/2"	44	6	24	48	32 5'-10"	1.9	428
30	33'-0"	2"	4 @ 6'-1 1/2"	44	6	24	56	32 6'-4"	2.0	446
32	35'-0"	2"	4 @ 6'-7 1/2"	44	6	24	56	32 6'-10"	2.1	457
34	37'-0"	2 1/4"	5 @ 5'-4 3/4"	52	6	30	60	40 5'-7"	2.3	511
36	39'-0"	2 1/2"	5 @ 5'-9 1/2"	52	6	30	60	40 6'-0"	2.4	522
38	41'-0"	2 3/4"	5 @ 6'-2 1/4"	52	6	30	70	40 6'-5"	2.4	543
40	43'-0"	3"	5 @ 6'-7"	52	6	30	70	40 6'-9"	2.5	551
50	53'-0"	2"	6 @ 6'-11"	60	6	36	84	48 7'-0"	3.0	656



INTERMEDIATE SPAN									
CLEAR SPAN FEET	DIMENSIONS		REINFORCING STEEL					QUANTITIES	
	"N"	"L1"	Bars A 5/8"x3'-5"	Bars B 1/2"x6'-4"	Bars C 1/2"x4'-8"	Bars D 3/8"x2'-6"	Bars E 1/2"x	Concrete Class "A" Cu. Yds.	Reinforcing Steel Lbs.
			No.	No.	No.	No.	No. Length		
16	18'-6"	2 @ 7'-0"	24	—	18	28	16 7'-2"	1.1	245
18	20'-6"	3 @ 4'-10"	32	—	24	30	24 5'-0"	1.4	298
20	22'-6"	3 @ 5'-6"	32	—	24	36	24 5'-8"	1.4	314
22	24'-6"	3 @ 6'-2"	32	—	24	42	24 6'-4"	1.5	331
24	26'-6"	3 @ 6'-10"	32	—	24	42	24 7'-0"	1.6	342
26	28'-6"	4 @ 5'-3"	40	—	30	48	32 5'-5"	1.8	398
28	31'-0"	4 @ 5'-10 1/2"	40	—	30	48	32 6'-1"	1.9	412
30	33'-0"	4 @ 6'-4 1/2"	40	—	30	56	32 6'-7"	1.9	431
32	35'-0"	4 @ 6'-10 1/2"	40	—	30	56	32 7'-1"	2.0	441
34	37'-0"	4 @ 6'-7 1/4" 1 @ 5'-7"	48	—	36	60	40 5'-9"	2.2	495
36	39'-0"	5 @ 6'-0"	48	—	36	60	40 6'-2"	2.3	506
38	41'-0"	4 @ 6'-4 3/4" 1 @ 6'-5"	48	—	36	70	40 6'-7"	2.4	527
40	43'-0"	4 @ 6'-9 5/8" 1 @ 6'-9 1/2"	48	—	36	70	40 7'-0"	2.4	538
50	53'-0"	6 @ 7'-1"	56	—	42	84	48 7'-3"	2.9	643



SINGLE SPAN										
CLEAR SPAN FEET	DIMENSIONS			REINFORCING STEEL					QUANTITIES	
	"P"	"X"	"L2"	Bars A 5/8"x3'-5"	Bars B 1/2"x 6'-4"	Bars C 1/2"x4'-8"	Bars D 3/8"x2'-6"	Bars E 1/2"x	Concrete Class "A" Cu. Yds.	Reinforcing Steel Lbs.
				No.	No.	No.	No.	No.		
16	18'-6"	2"	2 @ 6'-0"	32	12	6	24	16 6'-2"	1.3	272
18	20'-6"	2"	3 @ 4'-2"	40	12	12	30	24 4'-4"	1.5	329
20	22'-6"	2"	3 @ 4'-10"	40	12	12	30	24 5'-0"	1.6	339
22	24'-6"	2"	3 @ 5'-6"	40	12	12	36	24 5'-8"	1.6	356
24	26'-6"	2"	3 @ 6'-2"	40	12	12	42	24 6'-4"	1.7	372
26	28'-6"	2"	3 @ 6'-10"	40	12	12	42	24 7'-0"	1.8	383
28	31'-0"	2"	4 @ 5'-4 1/2"	48	12	18	48	32 5'-7"	2.0	443
30	33'-0"	2"	4 @ 5'-10 1/2"	48	12	18	48	32 6'-1"	2.1	454
32	35'-0"	2"	4 @ 6'-4 1/2"	48	12	18	56	32 6'-7"	2.1	472
34	37'-0"	2"	4 @ 6'-10 1/2"	48	12	18	56	32 7'-1"	2.2	483
36	39'-0"	2 1/2"	5 @ 5'-7"	56	12	24	60	40 5'-9"	2.4	536
38	41'-0"	2"	5 @ 6'-0"	56	12	24	60	40 6'-2"	2.5	547
40	43'-0"	2 3/8"	5 @ 6'-4 3/4	56	12	24	70	40 6'-7"	2.6	568
50	53'-0"	2"	6 @ 6'-9"	64	12	30	84	48 6'-11"	3.1	674

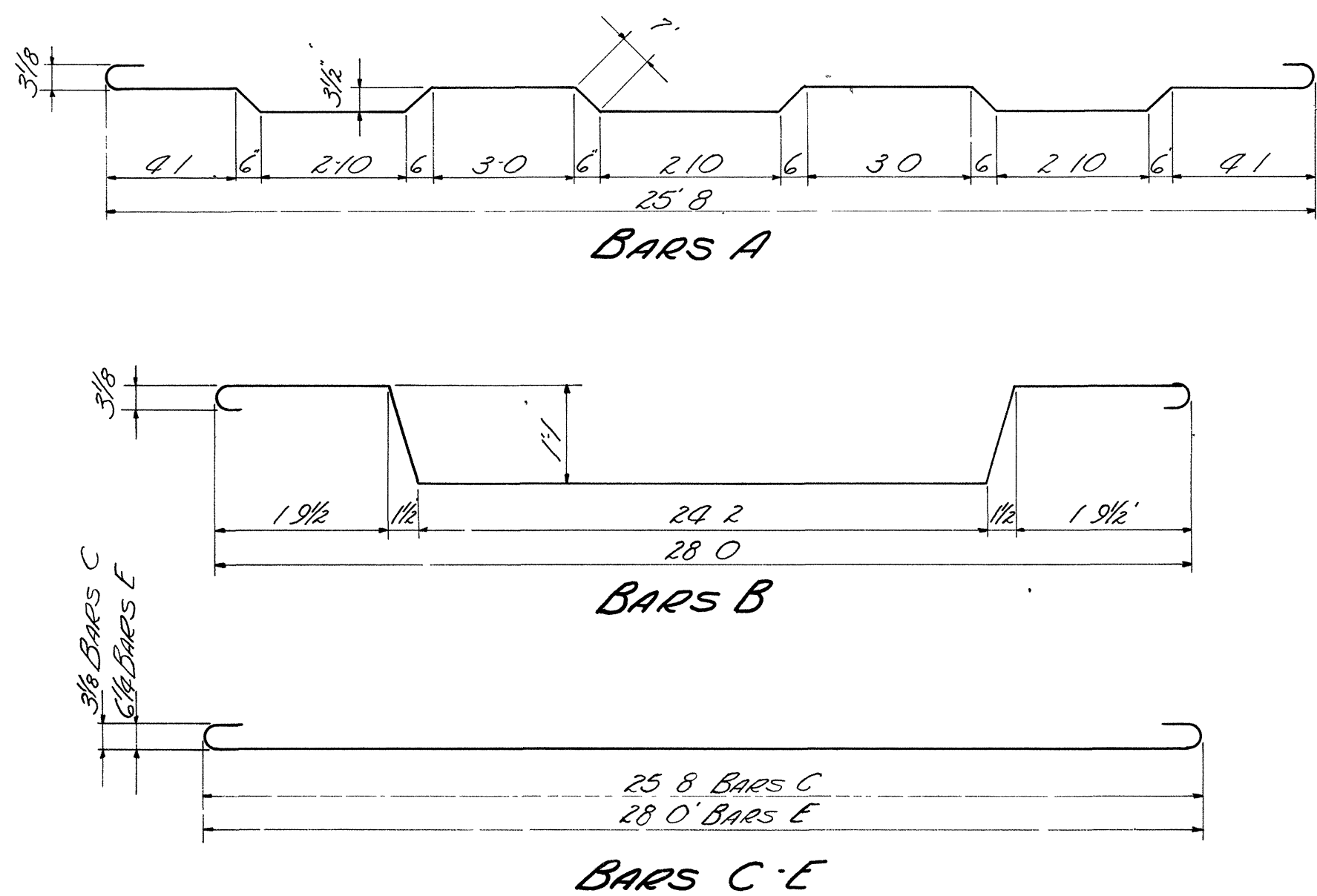
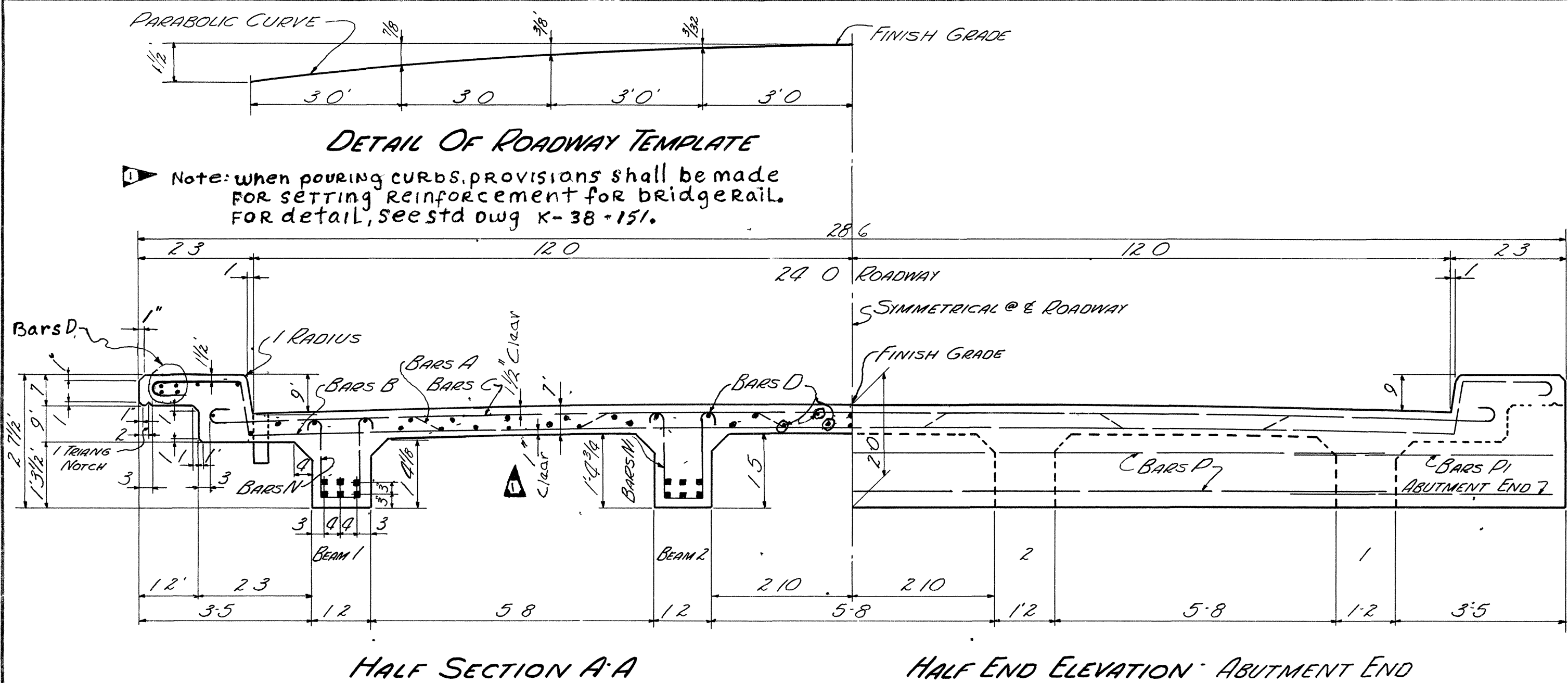
GENERAL NOTES:
SPECIFICATIONS: Standard Road And Bridge Specifications Of The Tennessee Department Of Highways.
CONCRETE: To Be Class "A".
REINFORCING STEEL: See Specifications.
FORMS and FINISH: See Specifications.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE
STANDARD
CONCRETE HANDRAIL
RAIL TYPE
FOR DECK GIRDERS AND I BEAM SPANS
1953

CORRECT: Fred Green
BRIDGE ENGINEER
APPROVED: [Signature]
STATE HIGHWAY ENGINEER

Revised 7-20-62
REVISED - FOR CHAIRMAN 8-27-59
REVISED - TO SHOW CHAMFER AT JOINT 7-31-57
REVISED - 10-8-56

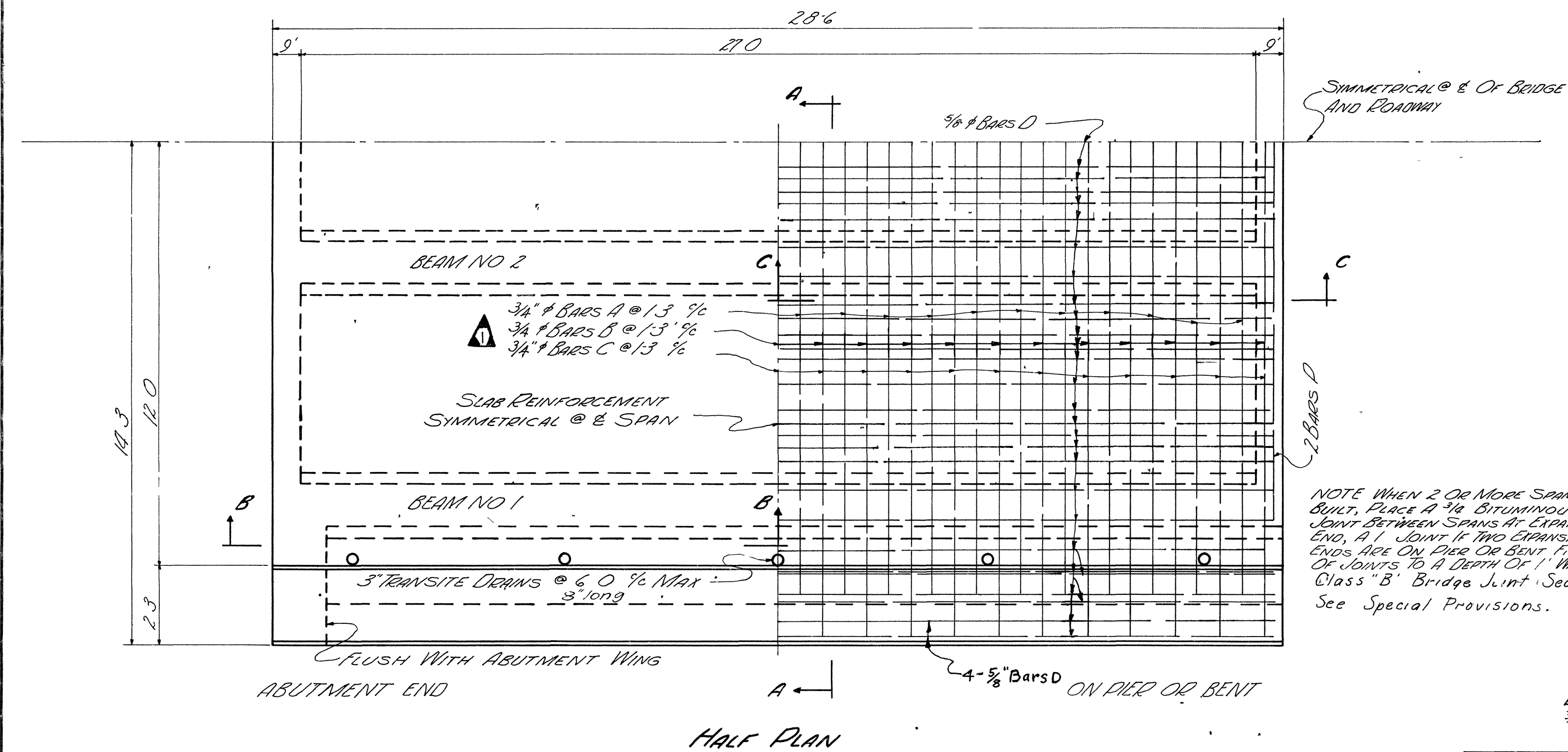
DESIGNED BY: DATE:
DRAWN BY: DATE:
RETRACTED BY: A. KELLY (REVISED BY) J. B. CANTRELL DATE: MAR. 6-1962
CHECKED BY: DATE:



BILL OF STEEL
INTERMEDIATE SPAN

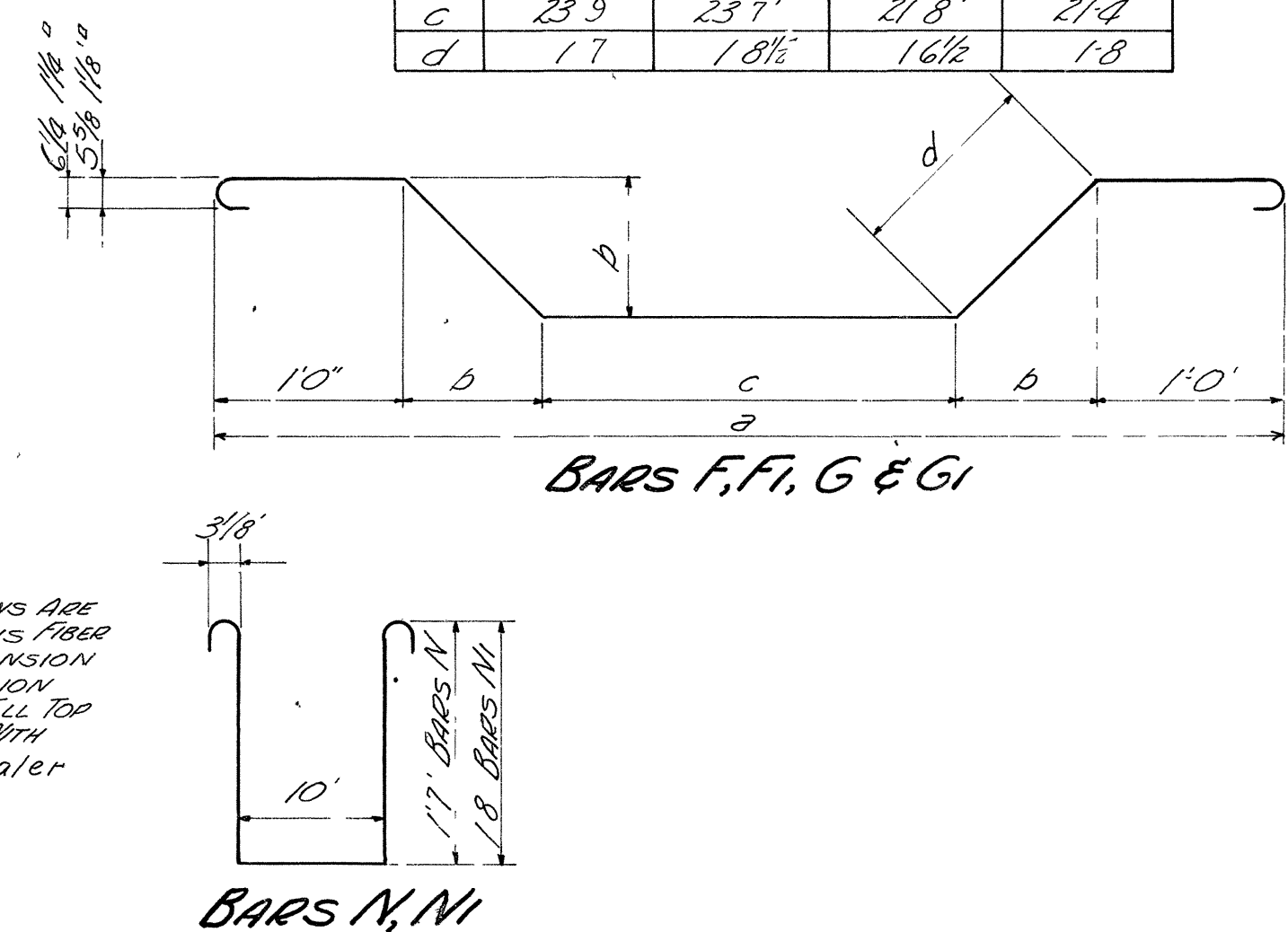
BAR	SIZE	NO.	LENGTH
A	3/4" ϕ	22	27.2'
B	"	23	30.11'
C	3/4" ϕ	23	26.8'
D	5/8" ϕ	62	28.0'
E	1 1/4" ϕ	12	30.0'
F	"	4	30.11'
FI	"	4	31.0'
G	1 1/4" ϕ	2	28.9'
GI	1 1/8" ϕ	2	28.6'
N	5/8" ϕ	50	5.0'
NI	5/8" ϕ	50	5.2'
P	5/8" ϕ	4	21.2'

NOTE: FOR EACH ABUTMENT END
Add 4 5/8" ϕ & 5.2' Bars PI



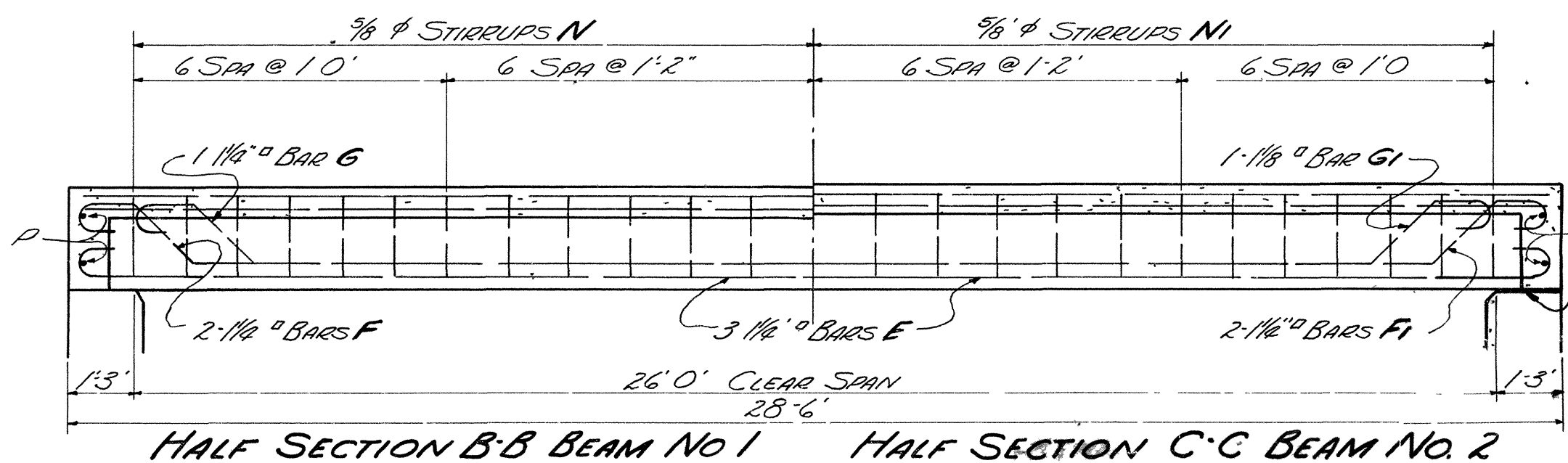
STEEL BENDING TABLE

	BARS F	BARS FI	BARS G	BARS GI
a	28.0	28.0	25.10	25.8
b	11 1/2	12 1/2	11	12
c	23.9	23.7	21.8	21.4
d	1.7	1.8 1/2	1.6 1/2	1.8

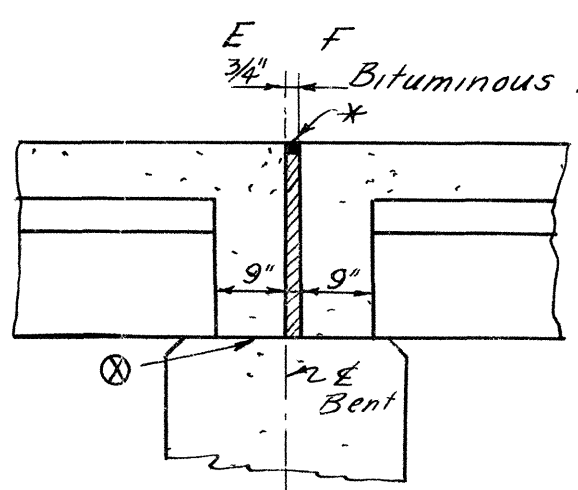


GENERAL NOTES

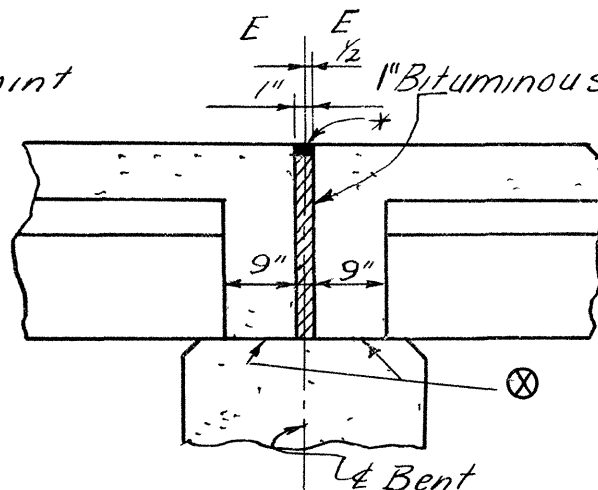
SPECIFICATIONS: STANDARD ROAD AND BRIDGE
SPECIFICATIONS OF THE TENNESSEE DEPARTMENT
OF HIGHWAYS AND PUBLIC WORKS
LOADING: H-15.44
CONCRETE: TO BE CLASS A
REINFORCING STEEL: TO BE INTERMEDIATE OR HARD
FORMS & FINISH: SEE SPECIFICATIONS



**SECTION ALONG ϵ OF ROADWAY
SHOWING JOINT LOCATION
ONE EXPANSION & ONE FIXED END**



**SECTION ALONG ϵ OF ROADWAY
SHOWING JOINT LOCATION
TWO EXPANSION ENDS**



ESTIMATED QUANTITIES

	CONCRETE CLASS A CU YDS	REINFORCING STEEL LB
END SPAN	28.2	9117
INTERMEDIATE SPAN	27.6	9095

NOTE: COST OF 3" TRANSVERSE DRAIN, JOINT MATERIAL, & JOHNS-MANVILLE SERVICE SHEET PACKING
TO BE INCLUDED IN UNIT PRICE FOR CLASS A CONCRETE

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

**STANDARD
CONCRETE BRIDGE**

DECK GIRDER TYPE

26'0" CLEAR SPAN 24'0" ROADWAY

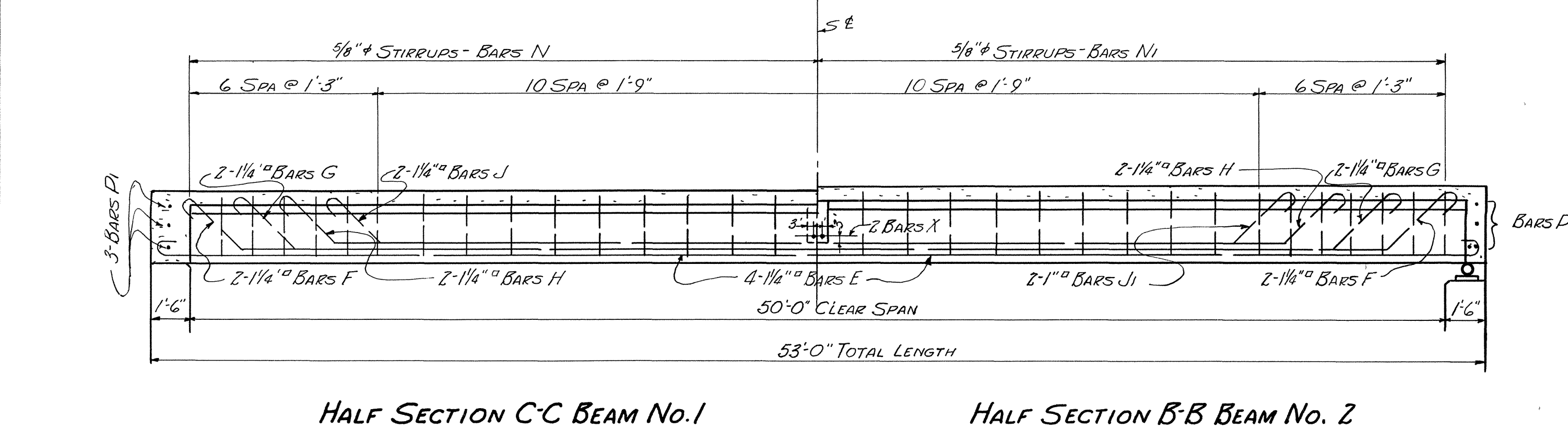
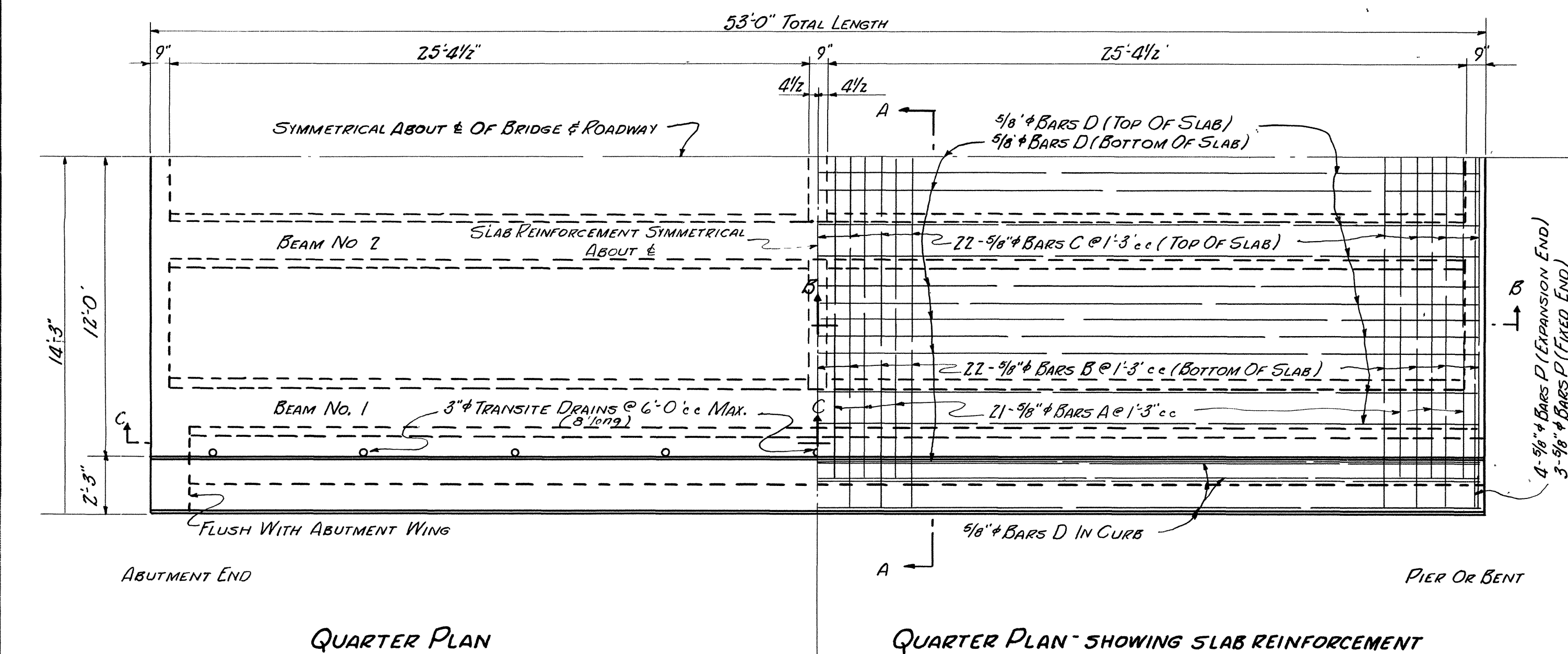
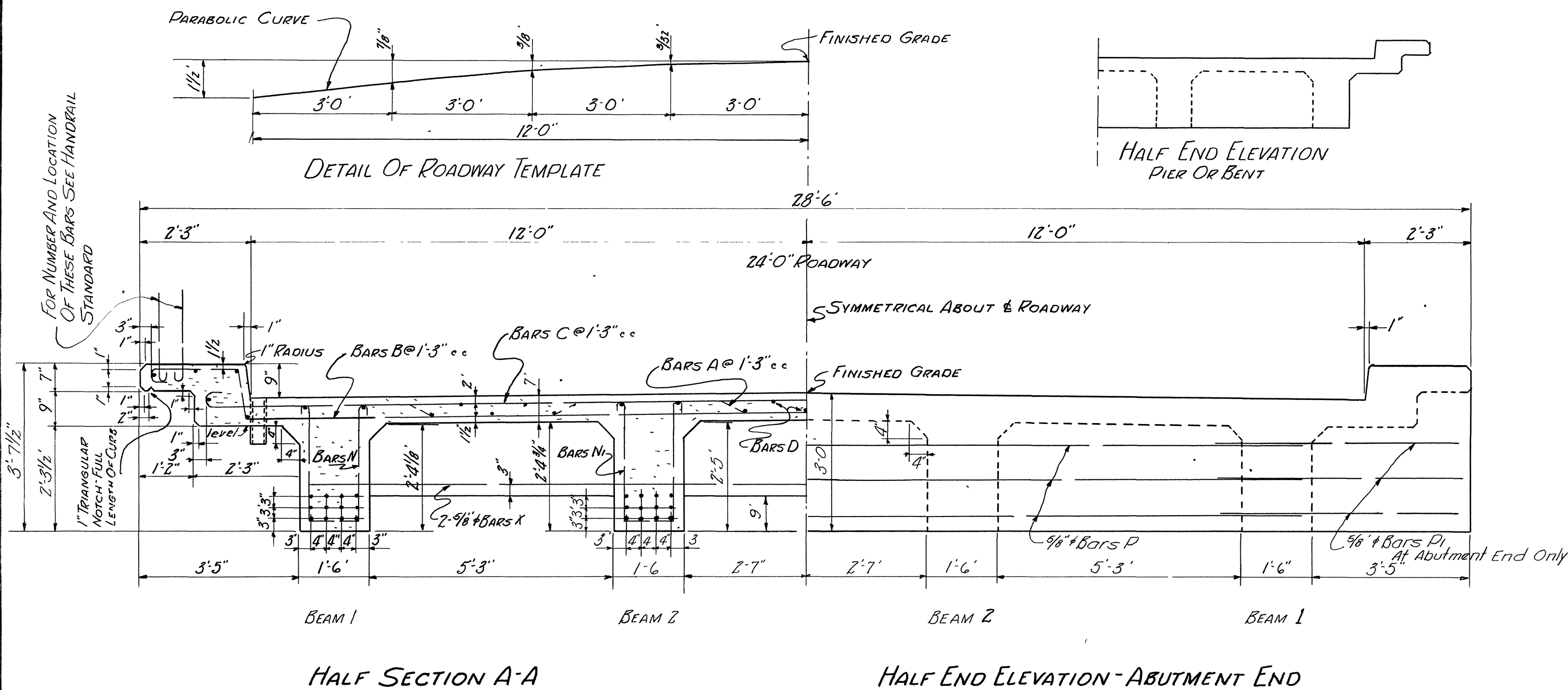
1956

CORRECT

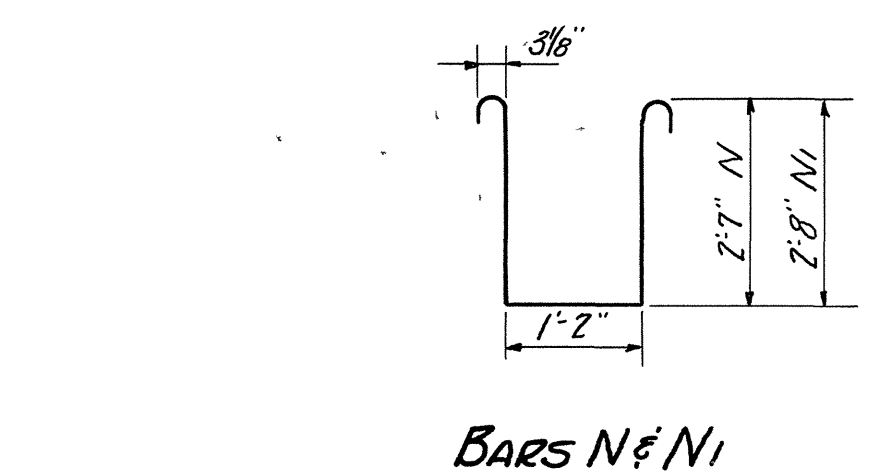
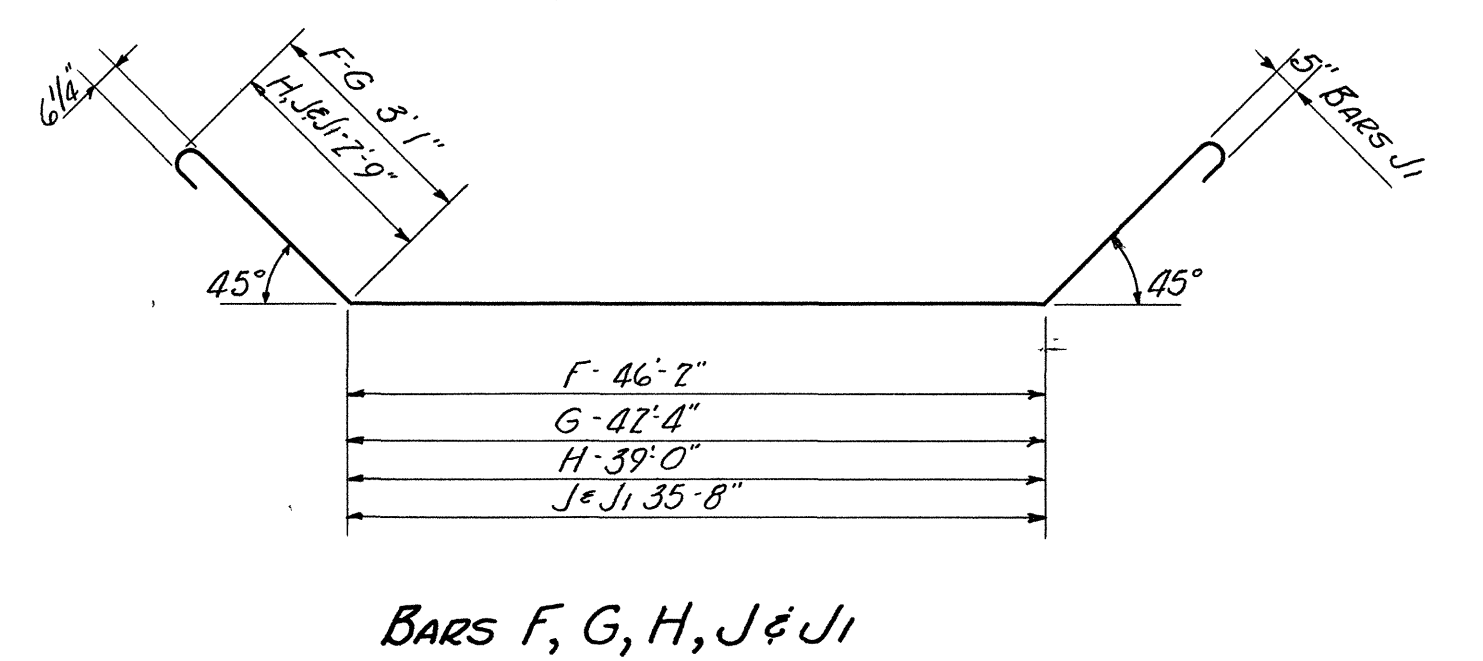
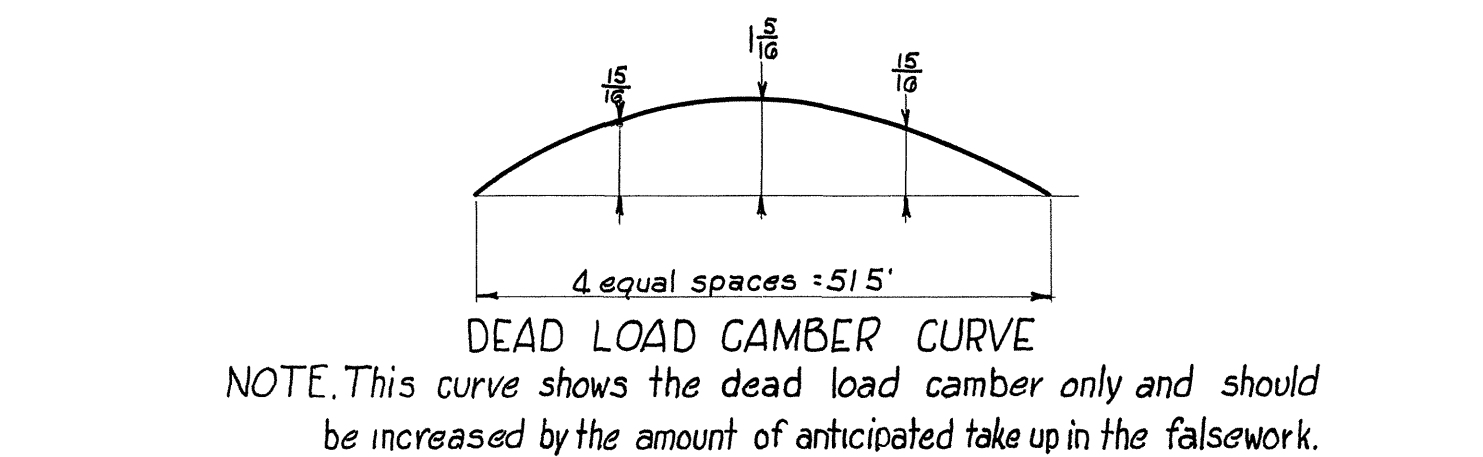
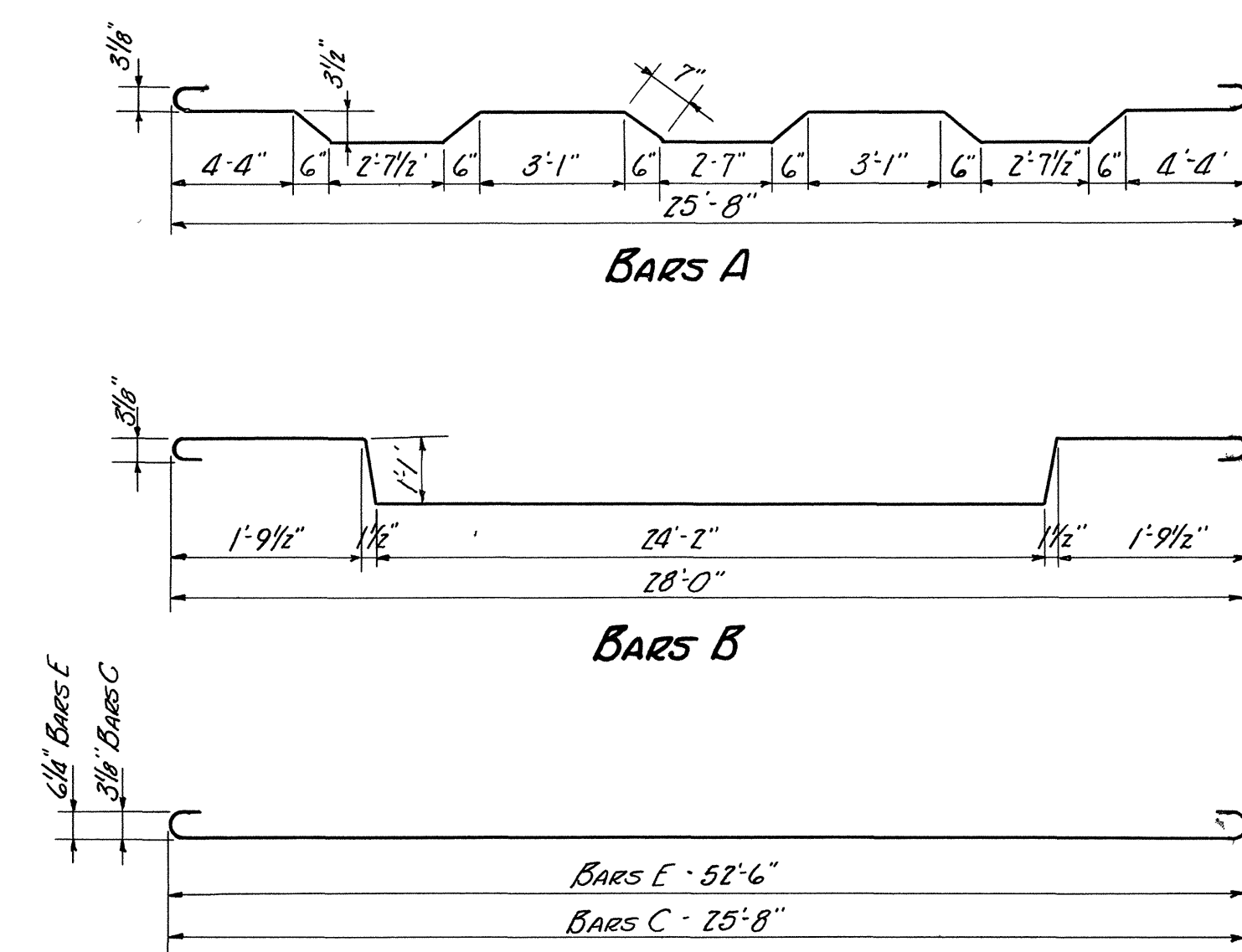
APPROVED

F-10-7

2 COPIES



DESIGNED BY H.W.D. DATE 10-17-56
 DRAWN BY H.W.D. DATE 10-22-56
 TRACED BY A.BURKE DATE 11-6-56
 CHECKED BY M.S. DATE 10-25-56



BILL OF STEEL
ONE INTERMEDIATE SPAN

BAR	SIZE	NO.	LENGTH
A	3/8"	42	27'-2"
B	"	43	30'-11"
C	"	43	26'-8"
D	3/8"	33	57'-6"
E	1 1/4"	16	54'-6"
F	"	8	54'-4"
G	"	8	50'-6"
H	"	8	46'-6"
I	1 1/4"	4	43'-2"
J	1"	4	42'-10"
K	3/8"	66	7'-4"
L	"	66	7'-6"
M	"	7	21'-2"
N	"	—	5'-6"
O	3/8"	2	21'-2"

*FOR EACH ABUTMENT END
ADD 6 P. BARS.

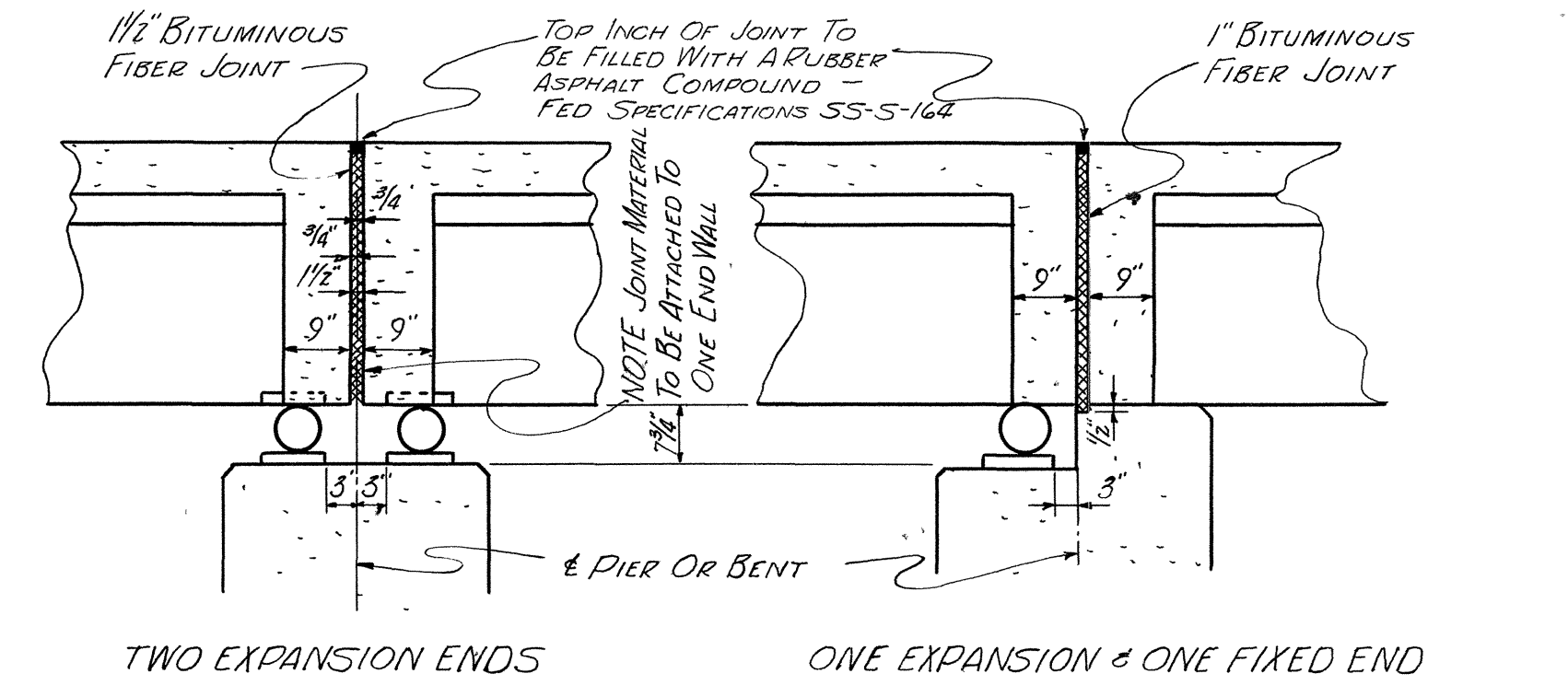
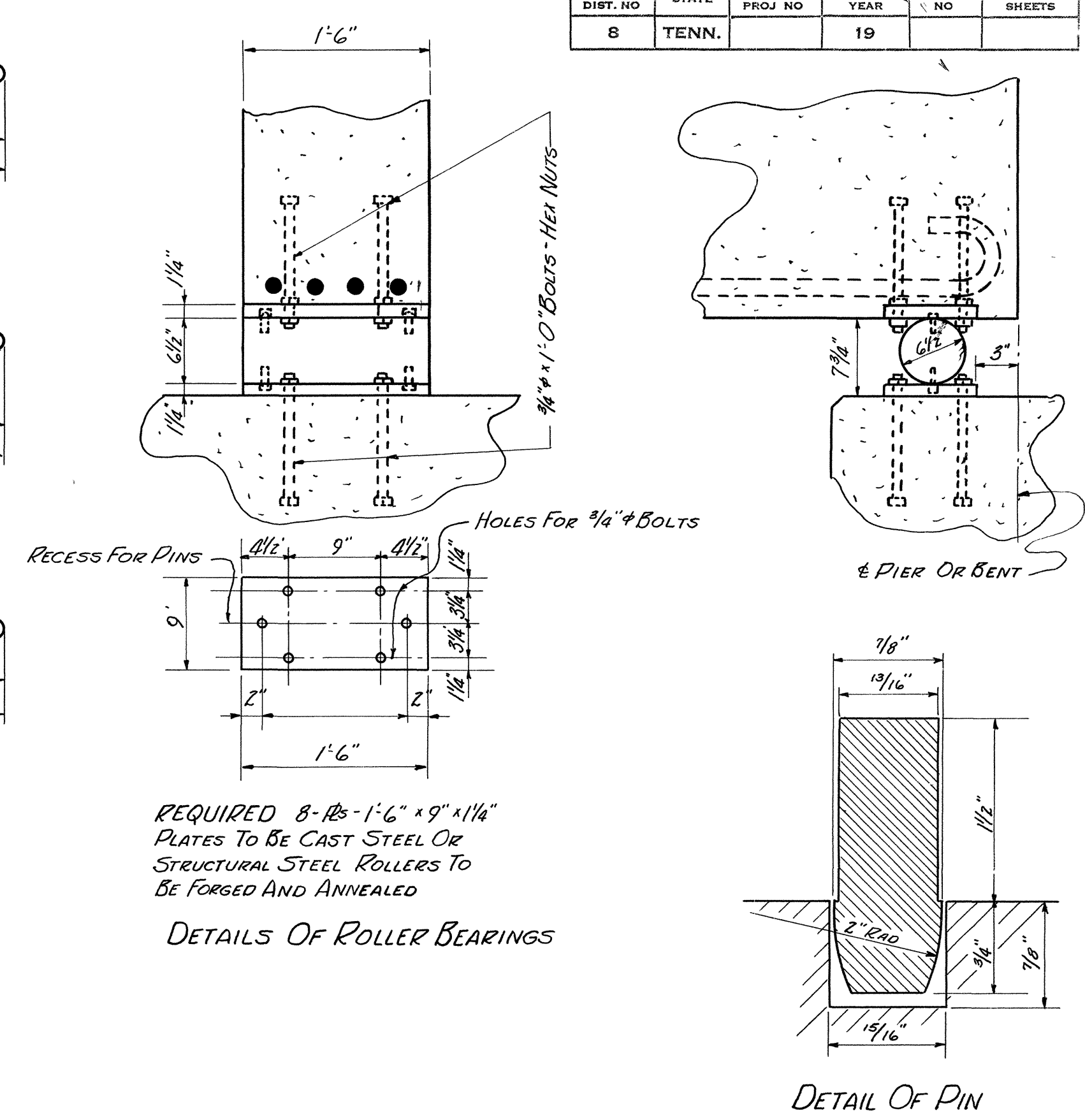
ESTIMATED QUANTITIES
(FOR ONE INTERMEDIATE SPAN)

ITEM	QUANTITY	UNIT
CONCRETE CLASS "A"	670	Cu Yds
REINFORCING STEEL	19,338	Lbs.
STRUCTURAL STEEL	520	Lbs.
FORGINGS	680	Lbs.

FOR EACH ABUTMENT ADD

ITEM	QUANTITY	UNIT
CONCRETE CLASS "A"	1.0	Cu Yds.
REINFORCING STEEL	34	Lbs.

NOTE: COST OF TRANSITE DRAINS AND ALL JOINT MATERIAL TO BE INCLUDED IN UNIT PRICE BID FOR CLASS "A" CONCRETE.



GENERAL NOTES:
 SPECIFICATIONS: STANDARD ROAD & BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS & PUBLIC WORKS.
 LOADING: H-15-44.
 CONCRETE: TO BE CLASS "A".
 REINFORCING STEEL: SEE SPECIFICATIONS.
 FORMS & FINISH: SEE SPECIFICATIONS.

STATE OF TENNESSEE
 DEPARTMENT OF HIGHWAYS
 AND PUBLIC WORKS
 NASHVILLE

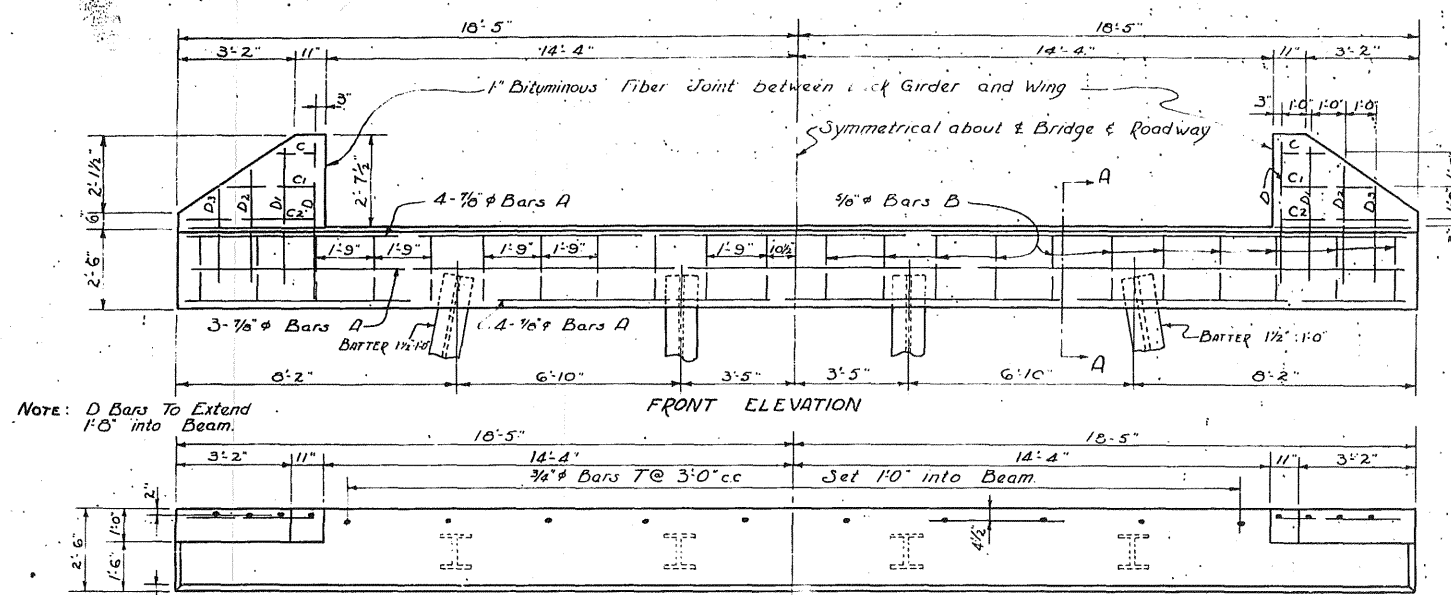
STANDARD
CONCRETE BRIDGE
 DECK GIRDER TYPE
 50' CLEAR SPAN 24'-0" ROADWAY

1956

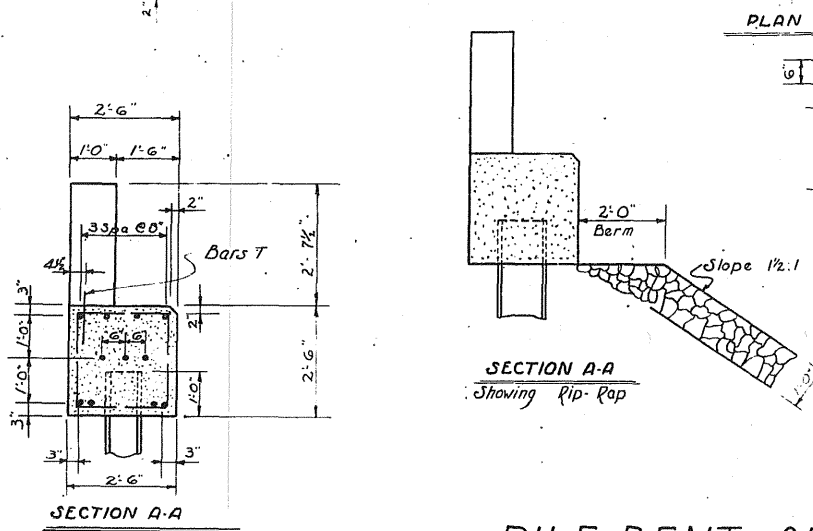
CORRECT: Fred Gray
 APPROVED: [Signature]
 STATE HIGHWAY ENGINEER

F-10-22

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	TENN.		19		



Note: D Bars To Extend 1'-0" into Beam.



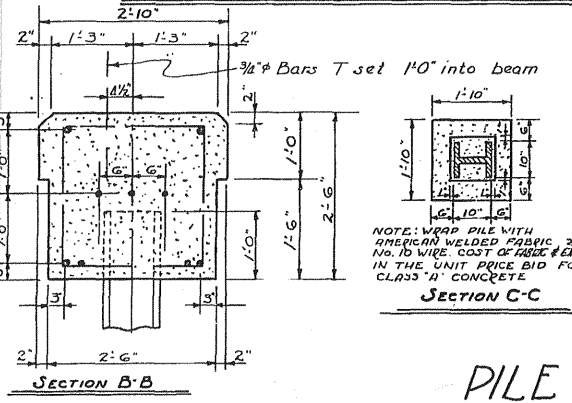
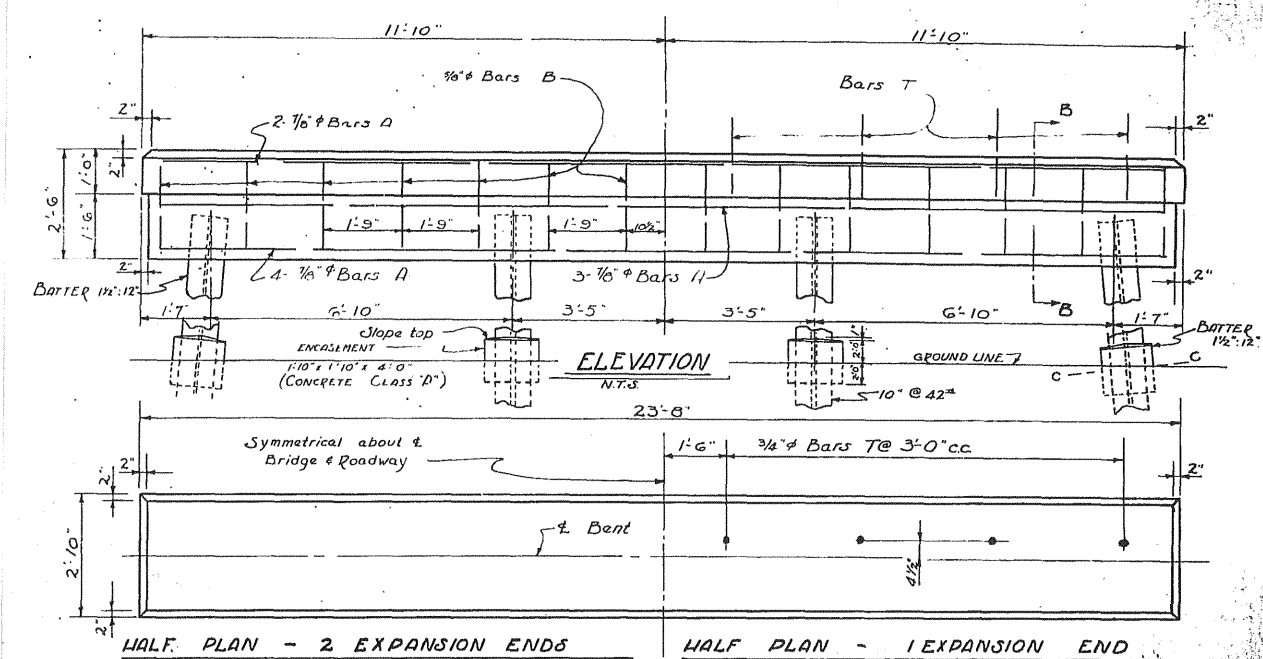
ESTIMATED QUANTITIES

Concrete Class "A"	9.1	Cu. Yds.
Reinforcing Steel	10.90	Lbs.

BILL OF STEEL

Bar	No.	Size	Length
A	11	7/8"	36'-4"
B	22	3/8"	9'-6"
C	2	1/2"	1'-0"
C1	2	"	2'-6"
C2	2	1/2"	4'-0"
D	2	1/2"	4'-0"
D1	2	"	3'-9"
D2	2	"	3'-0"
D3	2	1/2"	2'-6"
T	10	3/4"	2'-0"

PILE BENT ABUTMENT



ESTIMATED QUANTITIES

Concrete Class "A"	7.7	Cu. Yds.
Reinforcing Steel	558	Lbs.

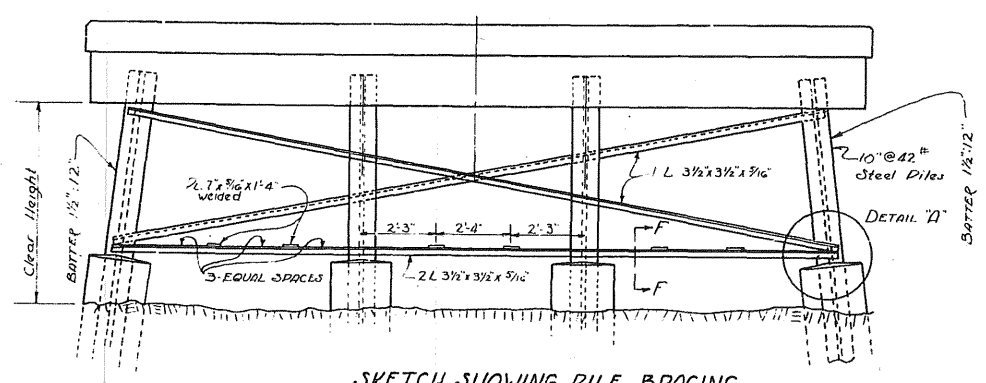
BILL OF STEEL

Bar	No.	Size	Length
A	9	7/8"	22'-10"
B	14	3/8"	9'-6"

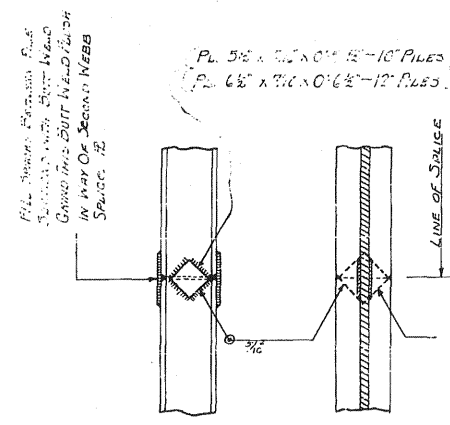
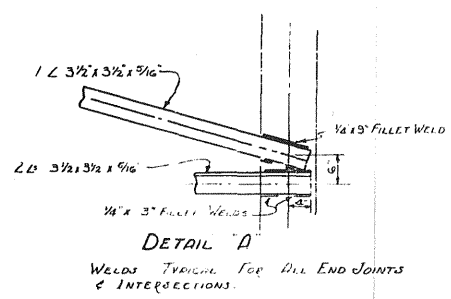
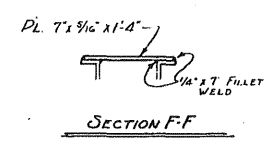
Note: For each Fixed End add 8 Bars T 3/4" x 2'-0" and 24 Lbs. Steel.

*Class "A" Concrete
*Reinforcing Steel
*Includes 10 Cu. Yds. for Pile Encasement

PILE BENT



NOTE: BRACING IS REQUIRED IF CLEAR HEIGHT IS GREATER THAN 10'-0" WHEN BRACING IS REQUIRED SEE LAYOUT SHEET OF EACH BRIDGE FOR STRUCTURAL STEEL QUANTITIES



GENERAL NOTES

SPECIFICATIONS: Standard Road & Bridge Specifications of the Tennessee Department of Highways & Public Works.

LOADING: H-15-44

CONCRETE: To be Class "A"

REINFORCING STEEL: See Specifications.

FORMS & FINISH: See Specifications.

PILE-PAV: See Specifications.

PILES: To be 10" x 42" Steel Piles.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

STANDARD CONCRETE BENT AND ABUTMENT

PILE BENT TYPE
24'-0" ROADWAY SPAN 26'-0"

SKREW 90°
1957

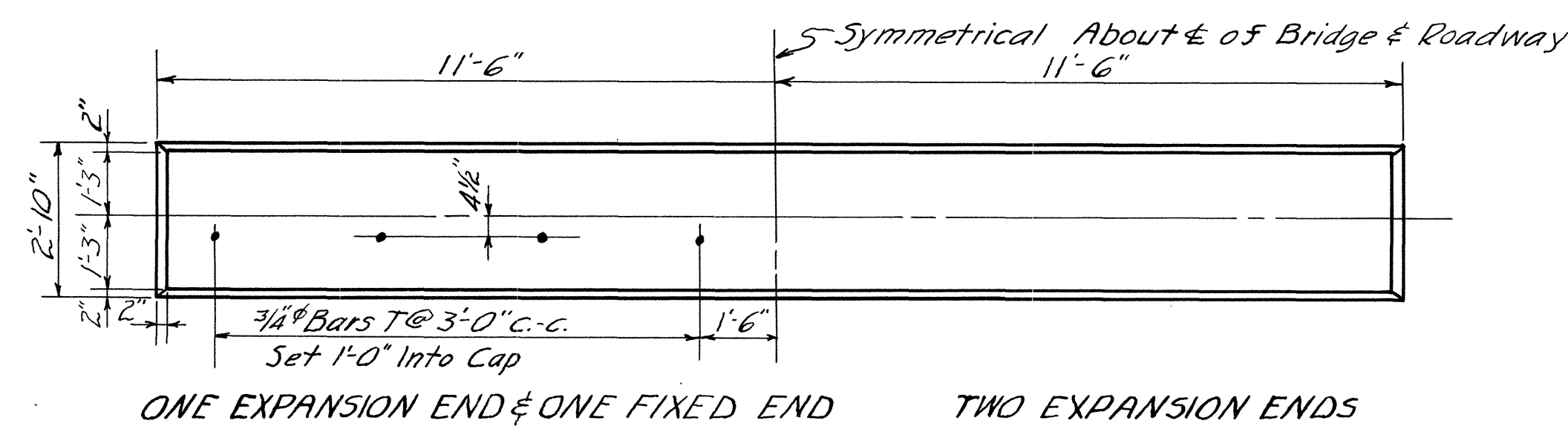
CORRECT: Fred Gage
APPROVED: [Signature]
F-10

MICROFILM ONLY

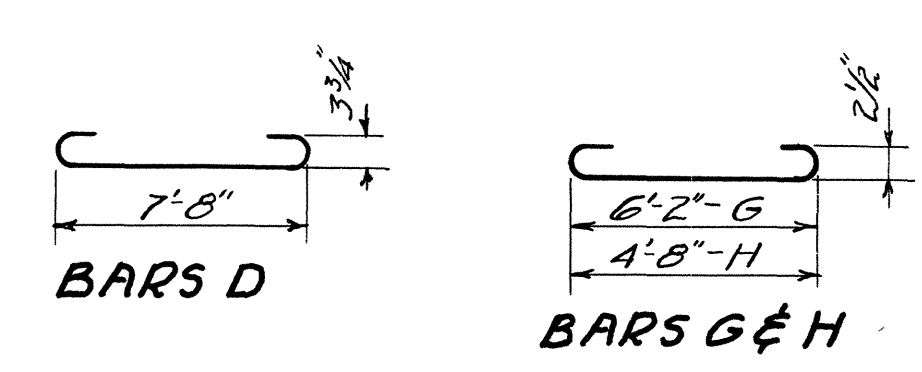
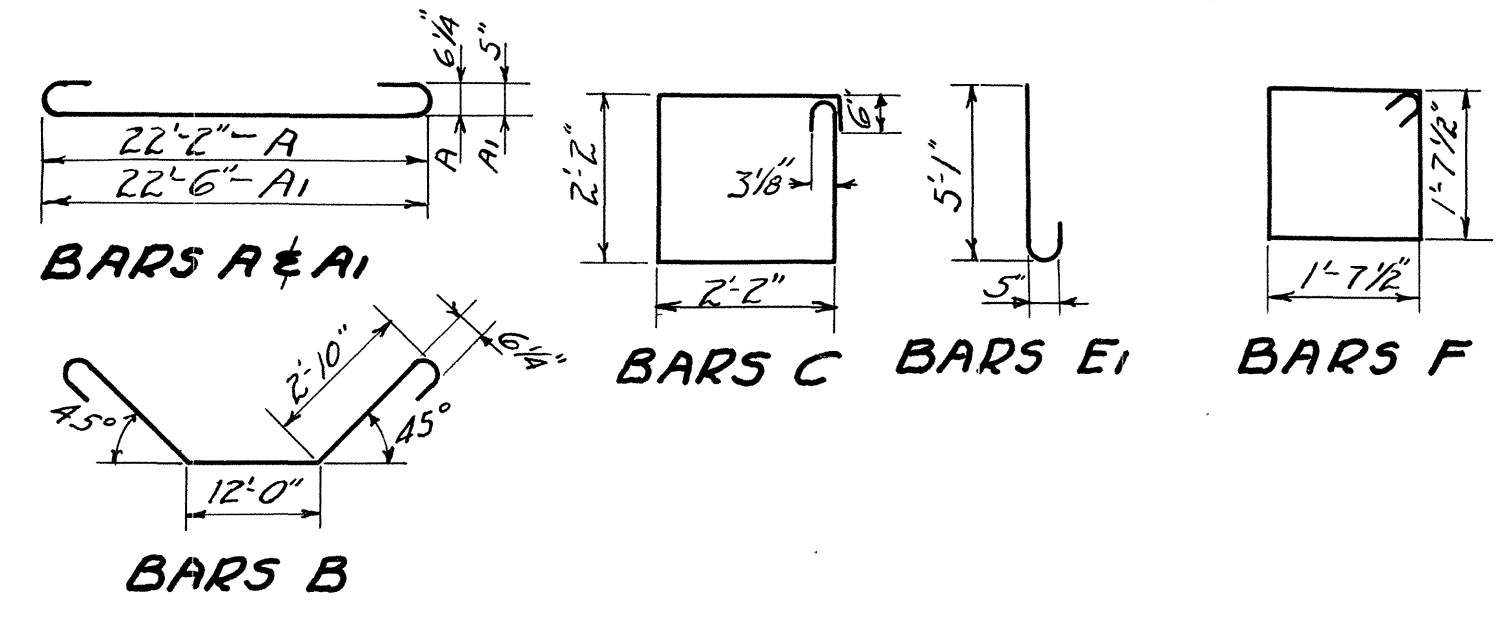
F-10-116

Rev 9/5/58
Rev 5-16-58
Class "A" Concrete Pile Bent

DESIGNED BY: [Signature]
DRAWN BY: [Signature]
CHECKED BY: [Signature]
DATE: 9-19-57
DATE: 12-1-57
DATE: 1-1-58



PLAN OF CAP



BILL OF STEEL
CONSTANT FOR ALL HEIGHTS

TYPE "A" FOOTING				TYPE "B" FOOTING			
Bar No.	Size	Length	Bar No.	Size	Length	Bar No.	Size
A	4	1 1/4"	24'-2"	A	4	1 1/4"	24'-2"
A1	2	1" 8	24'-2"	A1	2	1" 8	24'-2"
B	2	1 1/4"	19'-8"	B	2	1 1/4"	19'-8"
C	13	3/8"	9'-8"	C	13	3/8"	9'-8"
D	6	3/4"	9'-0"	D	6	3/4"	9'-0"
E1	8	1"	5'-11"	E1	8	1"	5'-11"
G	52	1/2"	7'-0"	H	40	1/2"	5'-6"

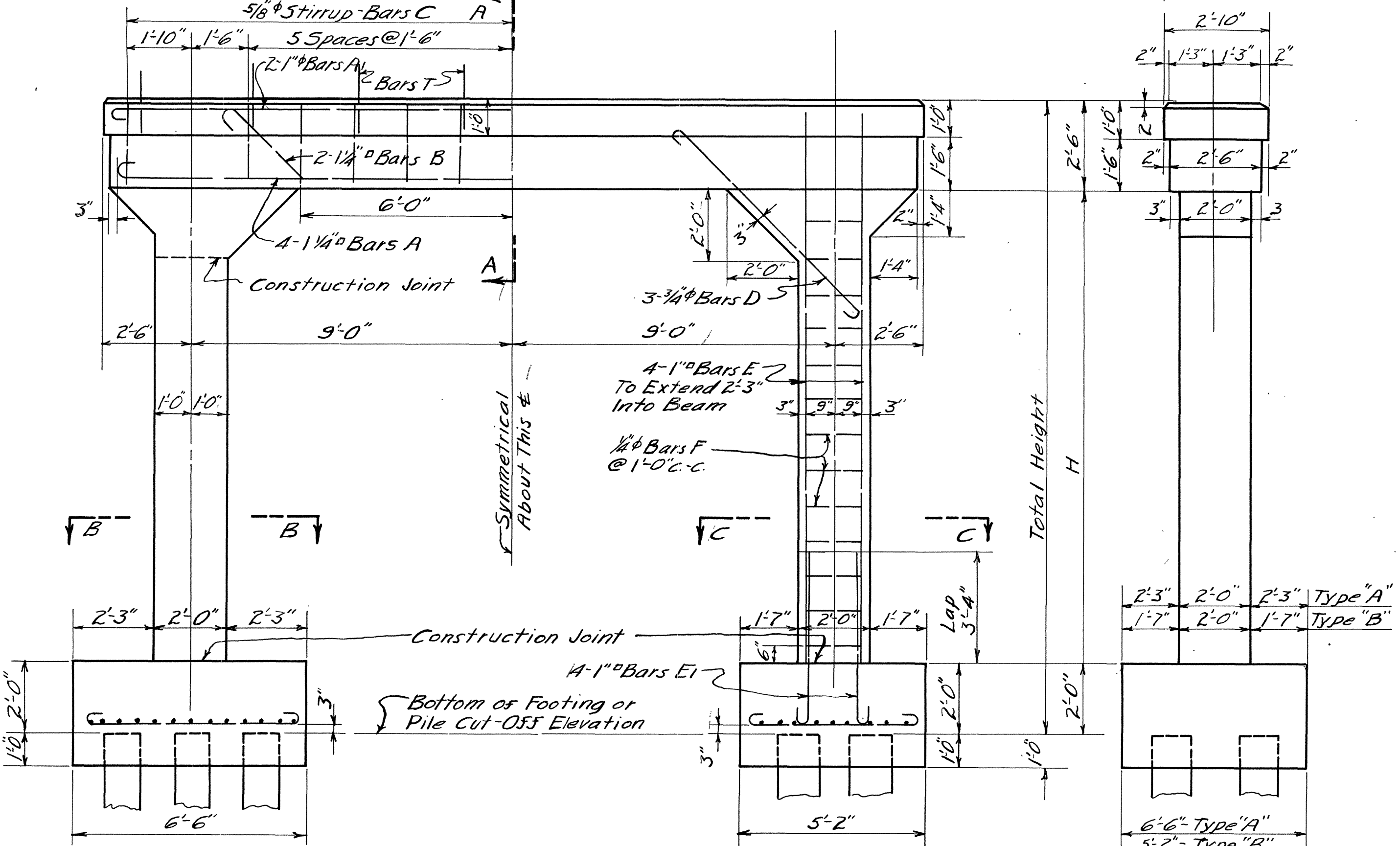
NOTE: Weight of Bars Listed Above is Included in Table of Dimensions and Estimated Quantities

GENERAL NOTES:
Specifications: Standard Road & Bridge Specifications of the Tennessee Department of Highways & Public Works.
Concrete: To Be Class "A."
Reinforcing Steel: See Specifications.
Forms & Finish: See Specifications.
Rock Foundation: See Specifications.

DIMENSIONS AND ESTIMATED QUANTITIES

Total Height	H	Reinforcement		Type "A" Footing		Type "B" Footing	
		Bars E Bars F	Conc. Reinsor. Class "A" Steel	Conc. Reinsor. Class "A" Steel	Conc. Reinsor. Class "A" Steel	Conc. Reinsor. Class "A" Steel	Conc. Reinsor. Class "A" Steel
		Length No.	Cu Yds. Lb.	Cu Yds. Lb.	Cu Yds. Lb.	Cu Yds. Lb.	Cu Yds. Lb.
12'-0"	7'-6"	9'-9"	14	14.4	1730	12.1	1653
13'-0"	8'-6"	10'-9"	16	14.7	1779	12.4	1683
14'-0"	9'-6"	11'-9"	18	15.0	1809	12.7	1712
15'-0"	10'-6"	12'-9"	20	15.3	1838	13.0	1742
16'-0"	11'-6"	13'-9"	22	15.6	1868	13.3	1771
17'-0"	12'-6"	14'-9"	24	15.9	1897	13.6	1801
18'-0"	13'-6"	15'-9"	26	16.2	1927	13.9	1831
19'-0"	14'-6"	16'-9"	28	16.5	1957	14.2	1860
20'-0"	15'-6"	17'-9"	30	16.8	1986	14.5	1890
21'-0"	16'-6"	18'-9"	32	17.1	2016	14.8	1919
22'-0"	17'-6"	19'-9"	34	17.4	2045	15.1	1949
23'-0"	18'-6"	20'-9"	36	17.7	2075	15.4	1978
24'-0"	19'-6"	21'-9"	38	18.0	2105	15.7	2008
25'-0"	20'-6"	22'-9"	40	18.3	2134	16.0	2038
26'-0"	21'-6"	23'-9"	42	18.6	2164	16.3	2067
27'-0"	22'-6"	24'-9"	44	18.9	2193	16.6	2097
28'-0"	23'-6"	25'-9"	46	19.2	2223	16.9	2126
29'-0"	24'-6"	26'-9"	48	19.5	2252	17.2	2156
30'-0"	25'-6"	27'-9"	50	19.8	2282	17.5	2186
31'-0"	26'-6"	28'-9"	52	20.1	2312	17.8	2215
32'-0"	27'-6"	29'-9"	54	20.4	2341	18.1	2245
33'-0"	28'-6"	30'-9"	56	20.7	2371	18.4	2274
34'-0"	29'-6"	31'-9"	58	21.0	2400	18.7	2304
35'-0"	30'-6"	32'-9"	60	21.3	2430	19.0	2333
36'-0"	31'-6"	33'-9"	62	21.6	2459	19.3	2363
37'-0"	32'-6"	34'-9"	64	21.8	2489	19.5	2393
38'-0"	33'-6"	35'-9"	66	22.1	2519	19.8	2422
39'-0"	34'-6"	36'-9"	68	22.4	2548	20.1	2452
40'-0"	35'-6"	37'-9"	70	22.7	2578	20.4	2481
41'-0"	36'-6"	38'-9"	72	23.0	2607	20.7	2511
42'-0"	37'-6"	39'-9"	74	23.3	2637	21.0	2540
43'-0"	38'-6"	40'-9"	76	23.6	2667	21.3	2570
44'-0"	39'-6"	41'-9"	78	23.9	2696	21.6	2600
45'-0"	40'-6"	42'-9"	80	24.2	2726	21.9	2629

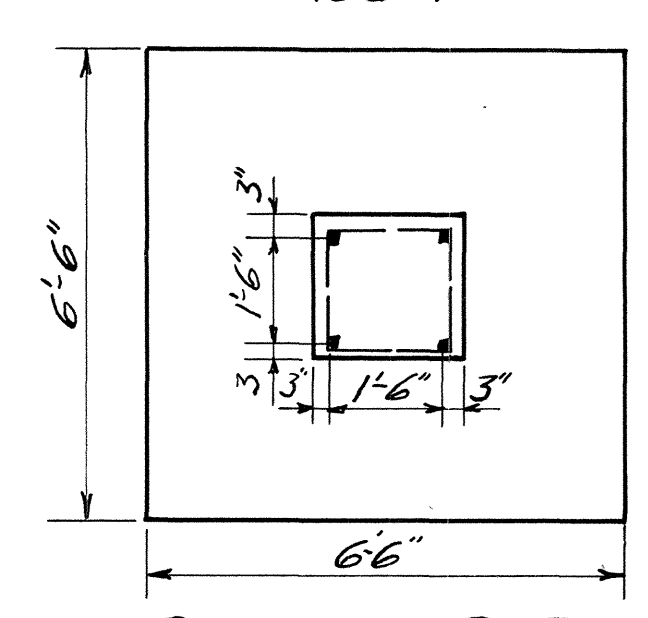
NOTE: For Each Fixed End Add 8-3/4" Bars T x 2'-0" Long & 24 Lb. of Reinforcing Steel.
When Timber Piles Are Used: Add 2.8 Cu Yds. of Class "A" Concrete to Quantities Shown for Type "A" Footing.
When Concrete Piles Are Used: Add 1.6 Cu Yds. of Class "A" Concrete to Quantities Shown for Type "B" Footing.



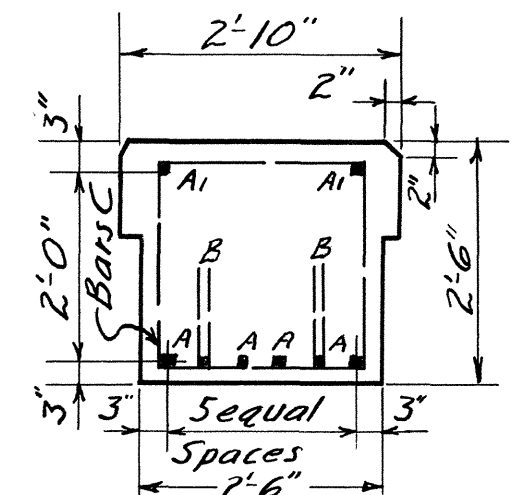
FOOTING TYPE "A" FRONT ELEVATION
MAX. FOUNDATION PRESSURE 4100 #/sq'

FOOTING TYPE "B" FRONT ELEVATION
MAX. FOUNDATION PRESSURE 6400 #/sq'

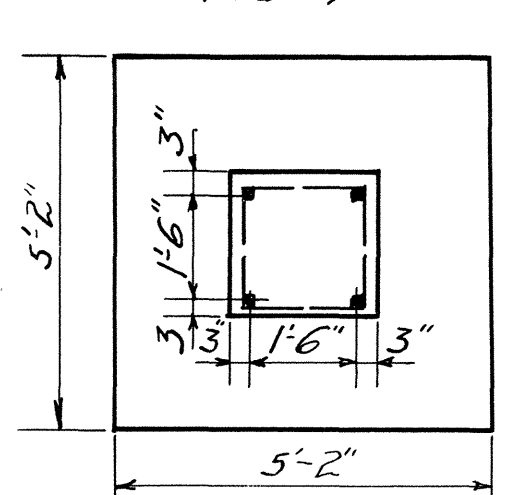
END ELEVATION



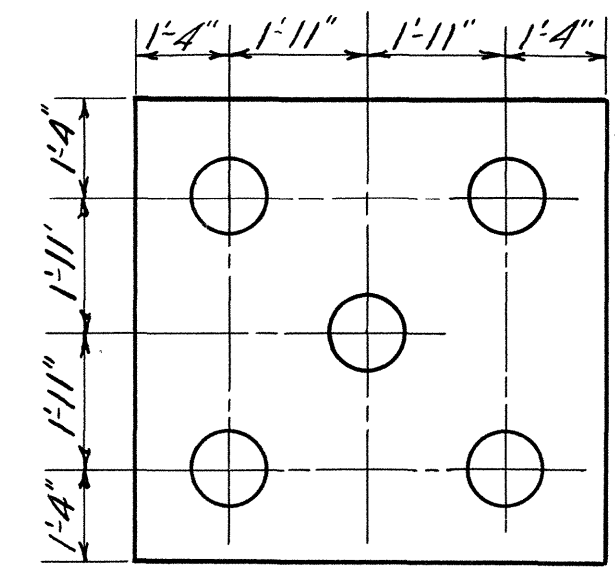
SECTION B-B



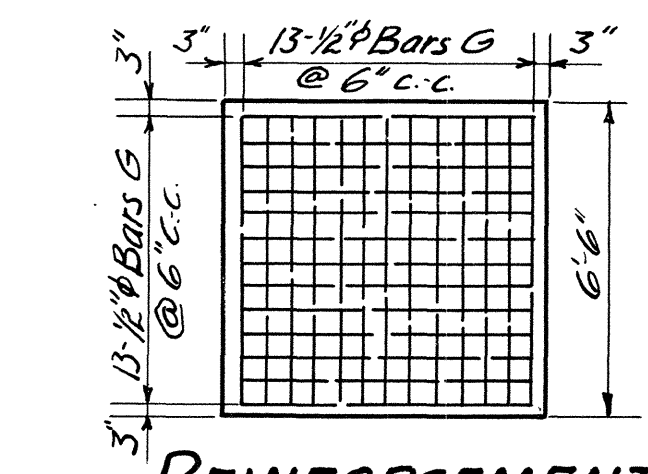
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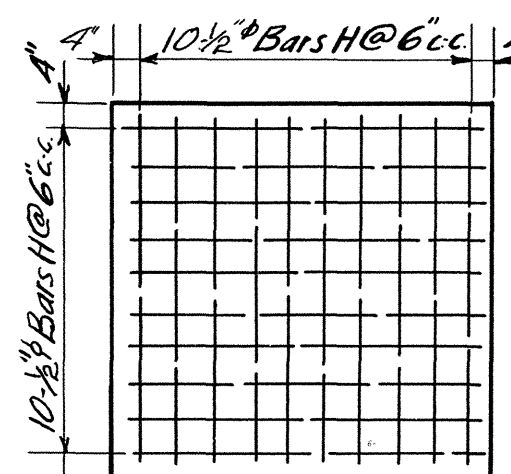
SECTION C-C



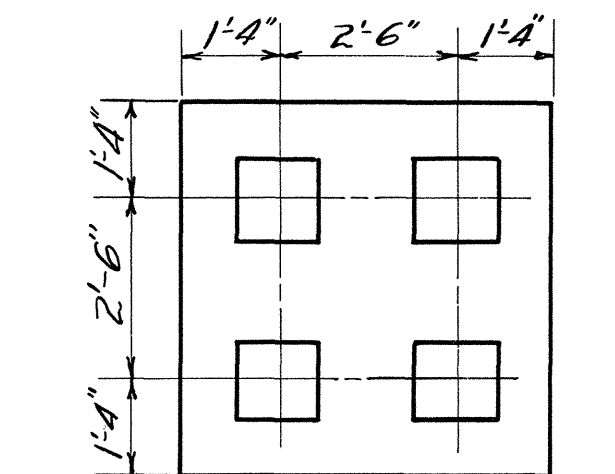
PILE PLAN-TYPE "A" FOOTING
TIMBER PILES



REINFORCEMENT IN FOOTING



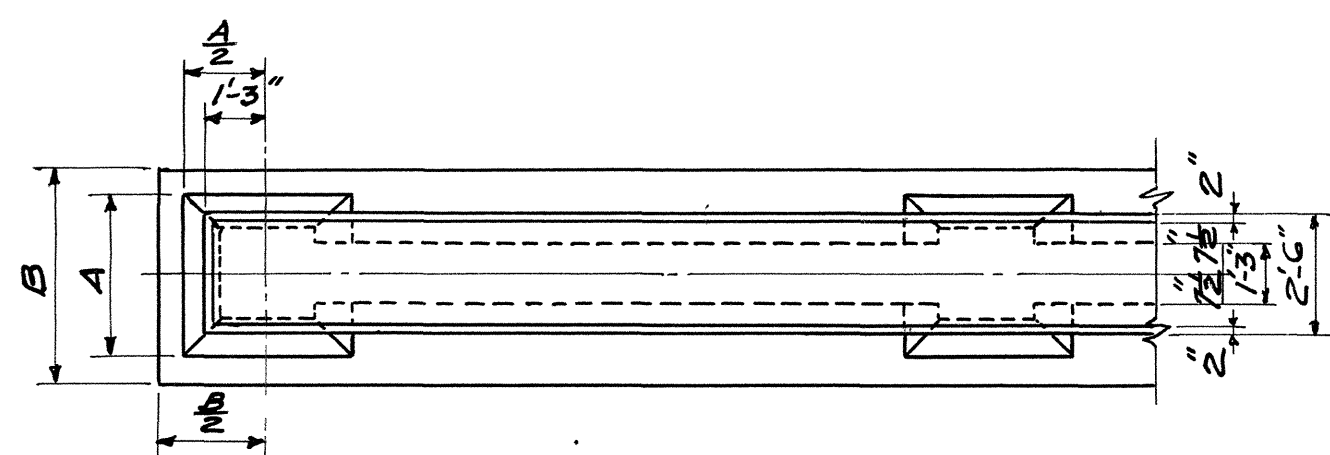
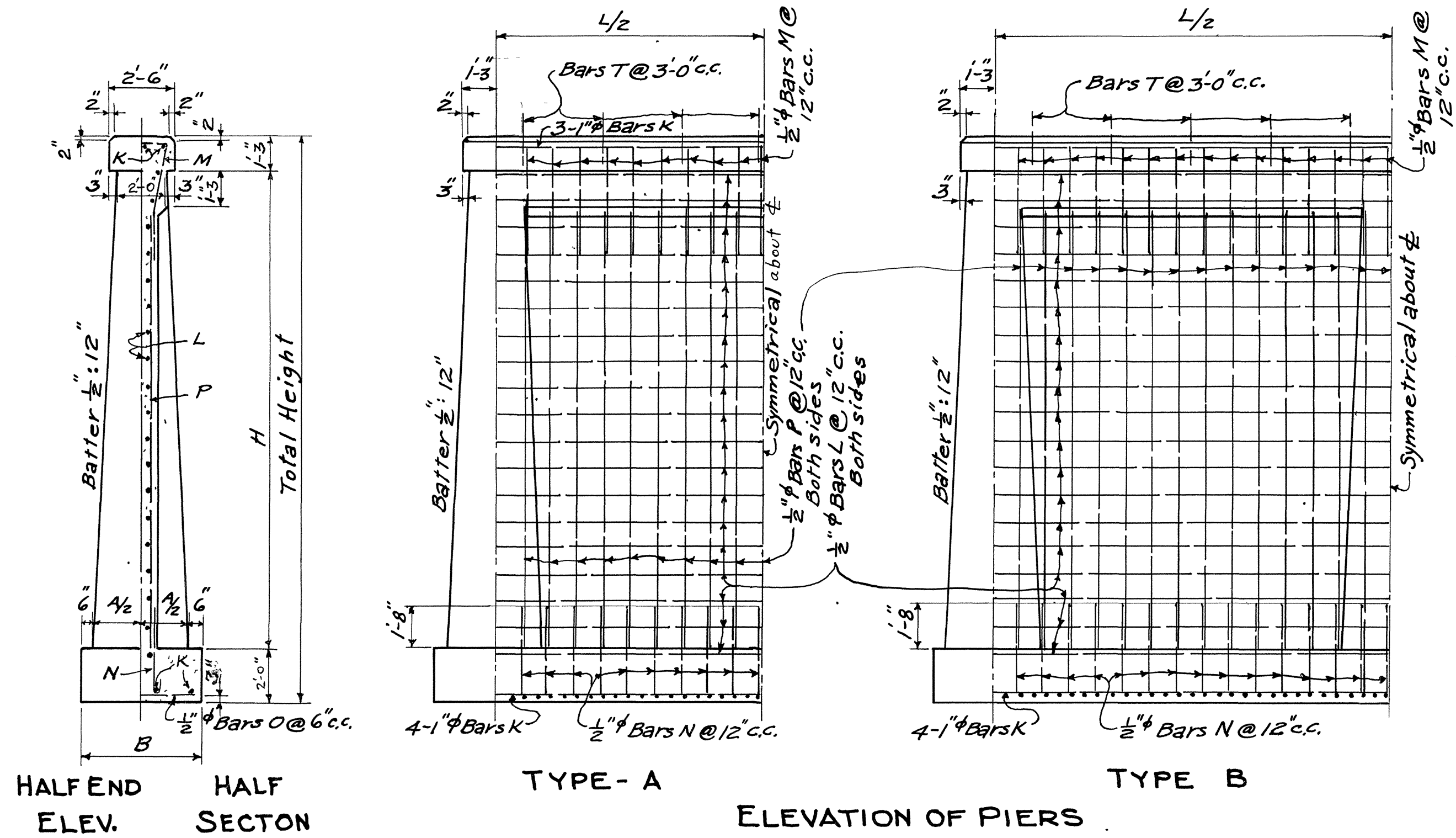
REINFORCEMENT IN FOOTING



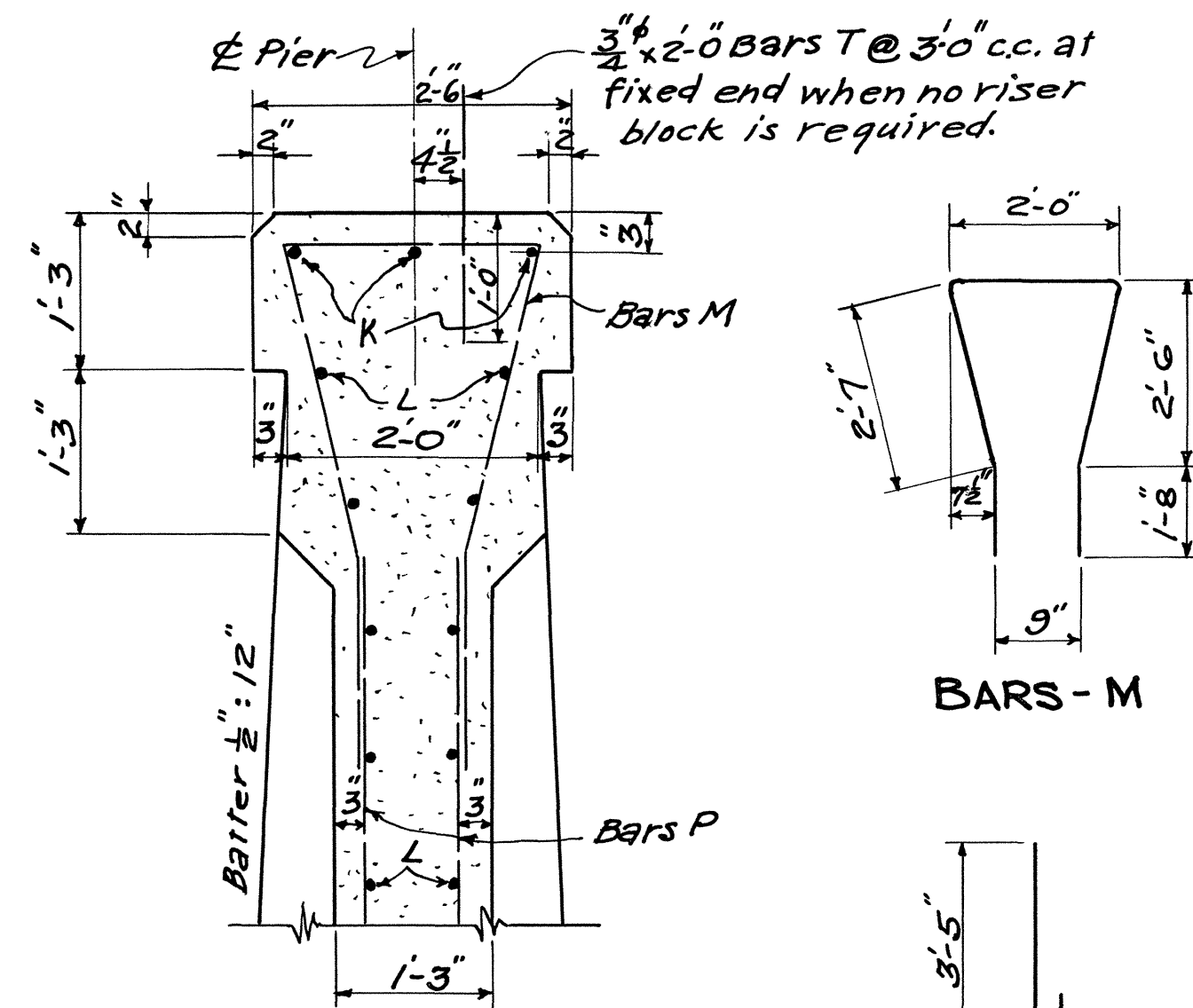
PILE PLAN-TYPE "B" FOOTING
CONCRETE PILES

DESIGNED BY: DATE: DRAWN BY: DATE: 4-23-38 CHECKED BY: DATE:

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE
STANDARD
CONCRETE BENTS
TOTAL HEIGHT 24'-0" ROADWAY
12' TO 45'
FOR 26'-0" CLEAR SPANS
1948
CORRECT: J. G. G. BRIDGE ENGINEER
APPROVED: H. M. S. STATE HIGHWAY ENGINEER
E-2-10



PART PLAN



PART SECT.

BARS-M

BARS-N

TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES														Quantities		Total Height						
Total Height	Dimensions			TYPE-A BASED ON L=20'-0"						TYPE-B BASED ON L=30'-0"							Per Ft. Length Same for All Types					
				Steel Reinforcement			Total Quantities			Steel Reinforcement			Total Quantities									
	H	A	B	Bars K-M-N	Bars L	Bars M	Bars P	Reinf. Lbs.	Conc. Cu.Yds.	Bars K-M-N	Bars L	Bars M	Bars P	Reinf. Lbs.	Conc. Cu.Yds.		Reinf. Lbs.	Conc. Cu.Yds.				
9'-3"	6'	2'-6"	3'-6"	14	20'-0"	37	3'-0"	38	4'-6"	982	16.6	14	30'-0"	57	3'-0"	58	4'-6"	1485	24.0	50.3	0.696	9'-3"
10'-3"	7'	2'-7"	3'-7"	16	20'-0"	37	3'-0"	38	4'-6"	1034	18.2	16	30'-0"	57	3'-0"	58	4'-6"	1564	26.1	53.0	0.748	10'-3"
11'-3"	8'	2'-8"	3'-8"	18	20'-0"	37	3'-3"	38	6'-0"	1092	19.6	18	30'-0"	57	3'-3"	58	6'-0"	1652	28.2	56.0	0.801	11'-3"
12'-3"	9'	2'-9"	3'-9"	20	20'-0"	37	3'-3"	38	7'-6"	1145	21.1	20	30'-0"	57	3'-3"	58	7'-6"	1731	30.4	58.7	0.853	12'-3"
13'-3"	10'	2'-10"	3'-10"	22	20'-0"	37	3'-3"	38	8'-6"	1197	22.6	22	30'-0"	57	3'-3"	58	8'-6"	1810	32.7	61.4	0.906	13'-3"
14'-3"	11'	2'-11"	3'-11"	24	20'-0"	37	3'-6"	38	9'-6"	1255	24.2	24	30'-0"	57	3'-6"	58	9'-6"	1899	34.9	64.4	0.958	14'-3"
15'-3"	12'	3'-0"	4'-0"	26	20'-0"	37	3'-6"	38	10'-6"	1308	25.8	26	30'-0"	57	3'-6"	58	10'-6"	1978	37.3	67.1	1.010	15'-3"
16'-3"	13'	3'-1"	4'-1"	28	20'-0"	37	3'-6"	38	11'-6"	1360	27.5	28	30'-0"	57	3'-6"	58	11'-6"	2057	39.6	69.7	1.063	16'-3"
17'-3"	14'	3'-2"	4'-2"	30	20'-0"	37	3'-9"	38	12'-6"	1418	29.2	30	30'-0"	57	3'-9"	58	12'-6"	2146	42.1	72.8	1.115	17'-3"
18'-3"	15'	3'-3"	4'-3"	32	20'-0"	37	3'-9"	38	13'-6"	1471	30.9	32	30'-0"	57	3'-9"	58	13'-6"	2225	44.6	75.4	1.168	18'-3"
19'-3"	16'	3'-4"	4'-4"	34	20'-0"	37	3'-9"	38	14'-6"	1523	32.7	34	30'-0"	57	3'-9"	58	14'-6"	2304	47.0	78.1	1.220	19'-3"
20'-3"	17'	3'-5"	4'-5"	36	20'-0"	37	4'-0"	38	15'-6"	1581	34.4	36	30'-0"	57	4'-0"	58	15'-6"	2392	49.7	81.1	1.273	20'-3"
21'-3"	18'	3'-6"	4'-6"	38	20'-0"	37	4'-0"	38	16'-6"	1634	36.2	38	30'-0"	57	4'-0"	58	16'-6"	2471	52.3	83.8	1.325	21'-3"
22'-3"	19'	3'-7"	4'-7"	40	20'-0"	37	4'-0"	38	17'-6"	1686	38.1	40	30'-0"	57	4'-0"	58	17'-6"	2551	54.9	86.5	1.378	22'-3"
23'-3"	20'	3'-8"	4'-8"	42	20'-0"	37	4'-3"	38	18'-6"	1744	40.0	42	30'-0"	57	4'-3"	58	18'-6"	2639	57.7	89.5	1.430	23'-3"
24'-3"	21'	3'-9"	4'-9"	44	20'-0"	37	4'-3"	38	19'-6"	1797	42.0	44	30'-0"	57	4'-3"	58	19'-6"	2718	60.6	92.2	1.483	24'-3"
25'-3"	22'	3'-10"	4'-10"	46	20'-0"	37	4'-3"	38	20'-6"	1849	44.0	46	30'-0"	57	4'-3"	58	20'-6"	2797	63.4	94.9	1.535	25'-3"
26'-3"	23'	3'-11"	4'-11"	48	20'-0"	37	4'-6"	38	21'-6"	1907	46.0	48	30'-0"	57	4'-6"	58	21'-6"	2886	66.3	97.9	1.588	26'-3"
27'-3"	24'	4'-0"	5'-0"	50	20'-0"	37	4'-6"	38	22'-6"	1959	48.1	50	30'-0"	57	4'-6"	58	22'-6"	2965	69.3	100.6	1.640	27'-3"
28'-3"	25'	4'-1"	5'-1"	52	20'-0"	37	4'-6"	38	23'-6"	2012	50.2	52	30'-0"	57	4'-6"	58	23'-6"	3044	72.4	103.3	1.693	28'-3"
29'-3"	26'	4'-2"	5'-2"	54	20'-0"	37	4'-9"	38	24'-6"	2070	52.4	54	30'-0"	57	4'-9"	58	24'-6"	3133	75.6	106.3	1.745	29'-3"
30'-3"	27'	4'-3"	5'-3"	56	20'-0"	37	4'-9"	38	25'-6"	2122	54.6	56	30'-0"	57	4'-9"	58	25'-6"	3212	78.7	109.0	1.797	30'-3"
31'-3"	28'	4'-4"	5'-4"	58	20'-0"	37	4'-9"	38	26'-6"	2175	56.9	58	30'-0"	57	4'-9"	58	26'-6"	3291	82.0	111.6	1.850	31'-3"
32'-3"	29'	4'-5"	5'-5"	60	20'-0"	37	5'-0"	38	27'-6"	2233	59.2	60	30'-0"	57	5'-0"	58	27'-6"	3379	85.4	114.7	1.902	32'-3"
33'-3"	30'	4'-6"	5'-6"	62	20'-0"	37	5'-0"	38	28'-6"	2285	61.6	62	30'-0"	57	5'-0"	58	28'-6"	3458	88.8	117.3	1.955	33'-3"
34'-3"	31'	4'-7"	5'-7"	64	20'-0"	37	5'-0"	38	29'-6"	2338	64.0	64	30'-0"	57	5'-0"	58	29'-6"	3537	92.3	120.0	2.007	34'-3"
35'-3"	32'	4'-8"	5'-8"	66	20'-0"	37	5'-3"	38	30'-6"	2396	66.6	66	30'-0"	57	5'-3"	58	30'-6"	3626	96.0	123.0	2.060	35'-3"
36'-3"	33'	4'-9"	5'-9"	68	20'-0"	37	5'-3"	38	31'-6"	2448	69.0	68	30'-0"	57	5'-3"	58	31'-6"	3705	99.7	125.7	2.112	36'-3"
37'-3"	34'	4'-10"	5'-10"	70	20'-0"	37	5'-3"	38	32'-6"	2501	71.6	70	30'-0"	57	5'-3"	58	32'-6"	3784	103.4	128.4	2.165	37'-3"
38'-3"	35'	4'-11"	5'-11"	72	20'-0"	37	5'-6"	38	33'-6"	2559	74.3	72	30'-0"	57	5'-6"	58	33'-6"	3873	107.3	131.4	2.217	38'-3"
39'-3"	36'	5'-0"	6'-0"	74	20'-0"	37	5'-6"	38	34'-6"	2611	77.1	74	30'-0"	57	5'-6"	58	34'-6"	3952	111.2	134.1	2.270	39'-3"
40'-3"	37'	5'-1"	6'-1"	76	20'-0"	37	5'-6"	38	35'-6"	2664	79.8	76	30'-0"	57	5'-6"	58	35'-6"	4031	115.2	136.8	2.322	40'-3"
41'-3"	38'	5'-2"	6'-2"	78	20'-0"	37	5'-9"	38	36'-6"	2722	82.7	78	30'-0"	57	5'-9"	58	36'-6"	4119	119.3	139.8	2.375	41'-3"
42'-3"	39'	5'-3"	6'-3"	80	20'-0"	37	5'-9"	38	37'-6"	2774	85.5	80	30'-0"	57	5'-9"	58	37'-6"	4199	123.4	142.5	2.427	42'-3"
43'-3"	40'	5'-4"	6'-4"	82	20'-0"	37	5'-9"	38	38'-6"	2828	88.5	82	30'-0"	57	5'-9"	58	38'-6"	4278	127.8	145.1	2.480	43'-3"
44'-3"	41'	5'-5"	6'-5"	84	20'-0"	37	6'-0"	38	39'-6"	2885	91.5	84	30'-0"	57	6'-0"	58	39'-6"	4366	132.1	148.2	2.532	44'-3"
45'-3"	42'	5'-6"	6'-6"	86	20'-0"	37	6'-0"	38	40'-6"	2937	94.6	86	30'-0"	57	6'-0"	58	40'-6"	4445	136.6	150.9	2.585	45'-3"

TABLE OF BARS T FOR ONE FIXED END	
Length L	No.
20'-0" to 22'-0"	7
22'-0" to 24'-0"	8
24'-0" to 27'-0"	9
27'-0" to 30'-0"	10
30'-0" to 33'-0"	11
33'-0" to 36'-0"	12

GENERAL NOTES:

Specifications: Standard Road and Bridge Specifications of the Tennessee Department of Highways and Public Works. Concrete shall be Class "A". Reinforcing Steel: See Specifications. Forms & Finish: See Specifications. Rock Foundation: See Specifications.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

STANDARD
CONCRETE PIERS
DUMBELL TYPE
HEIGHTS 9'-3" TO 45'-3"
1956