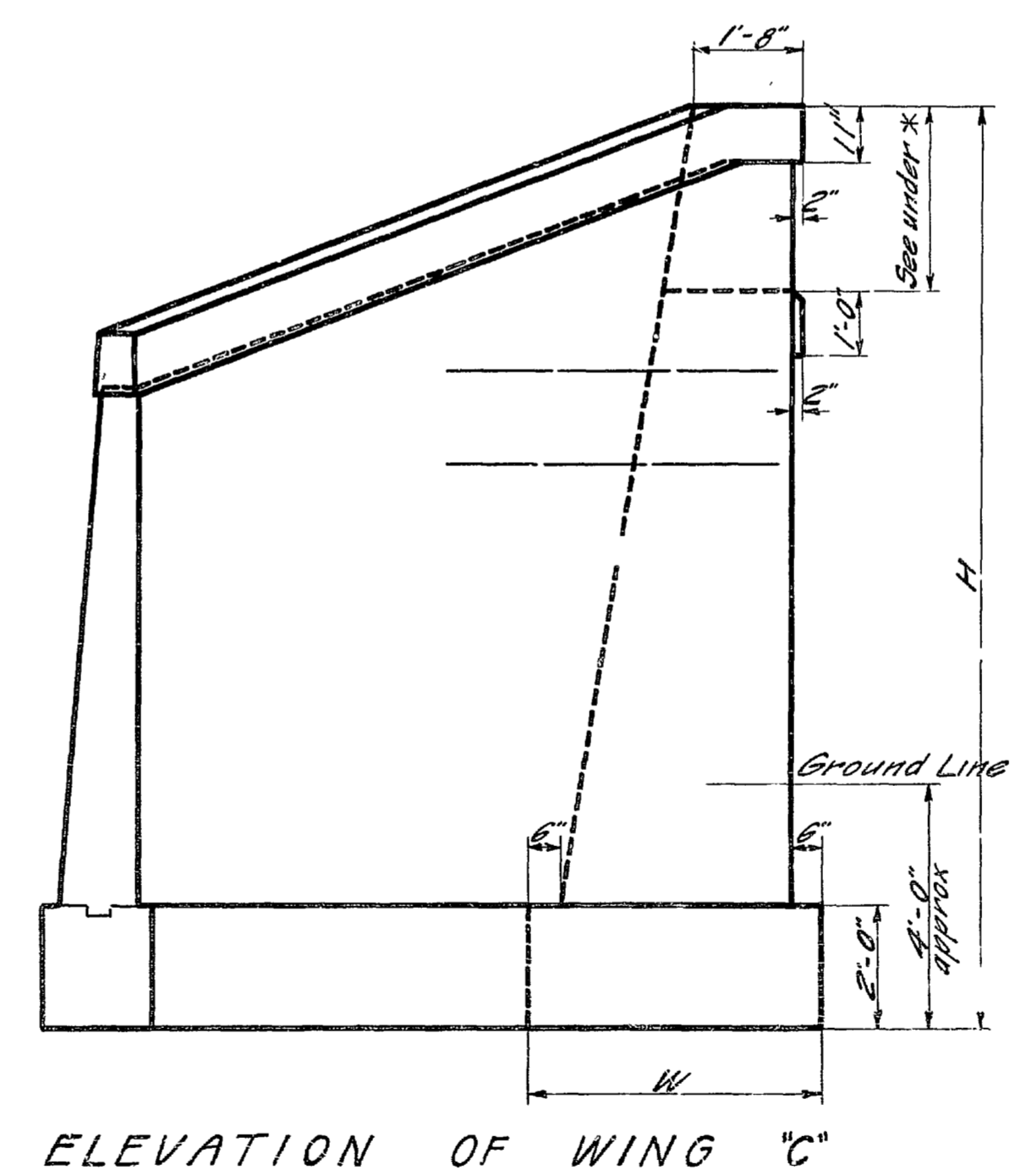
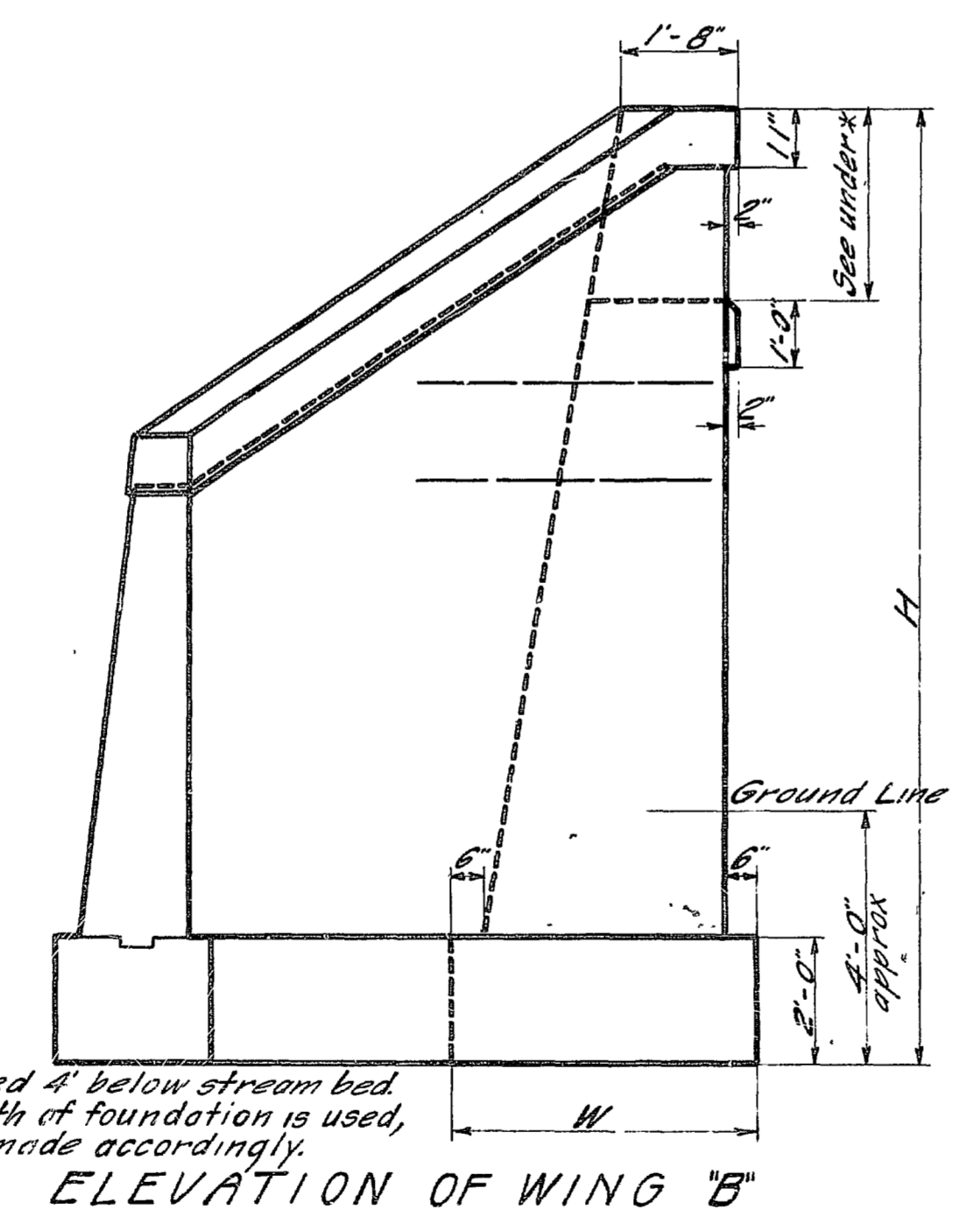
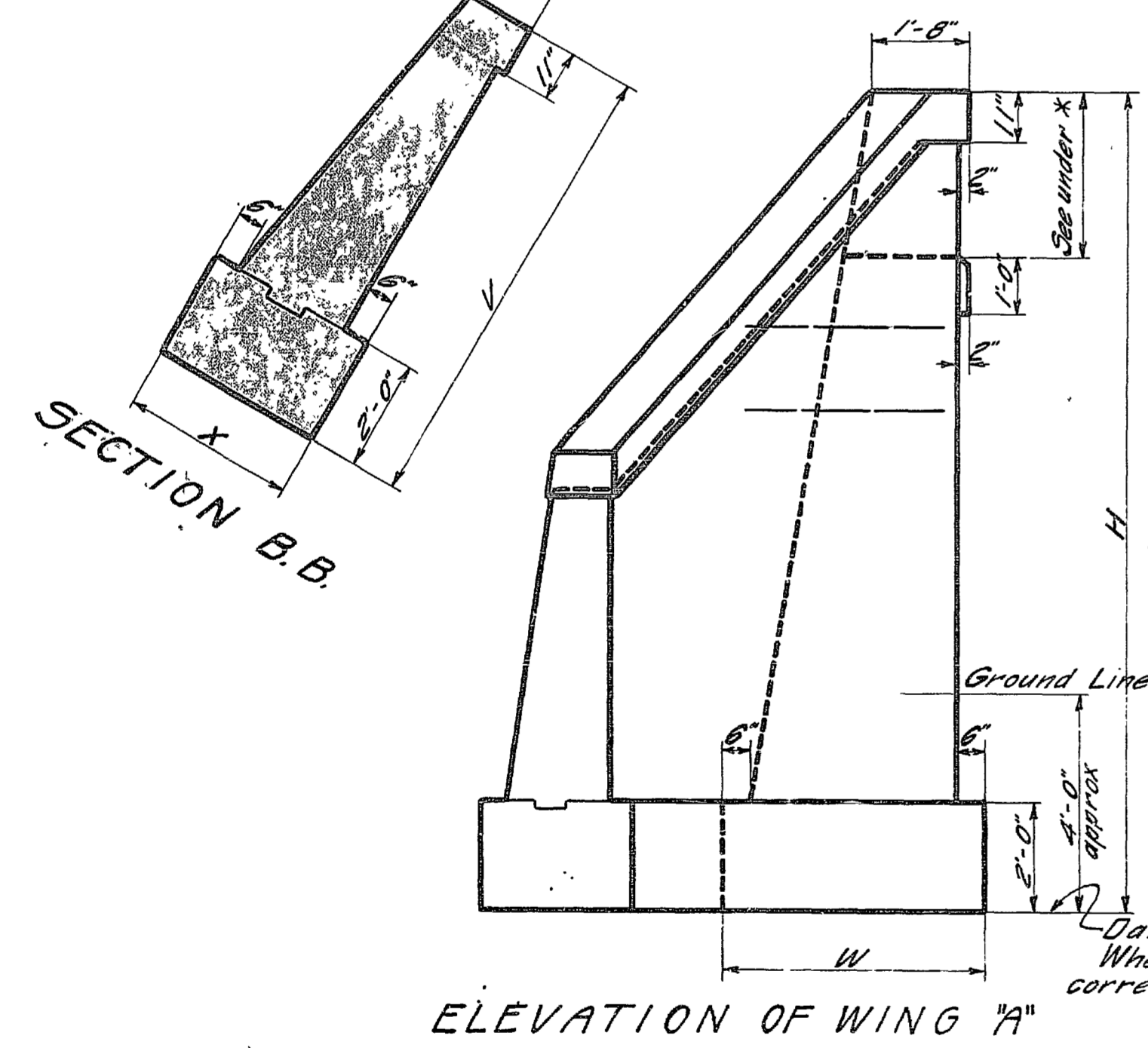
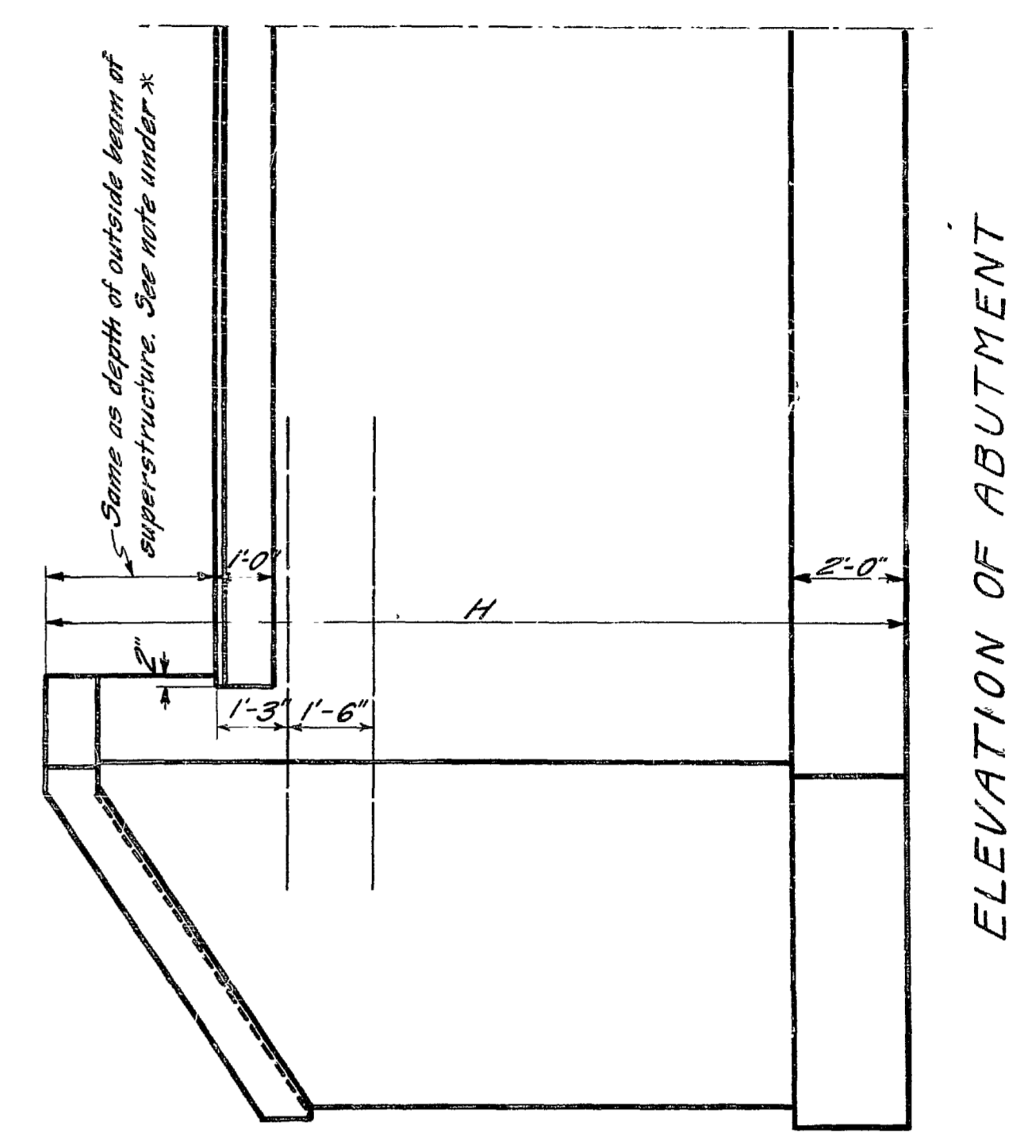
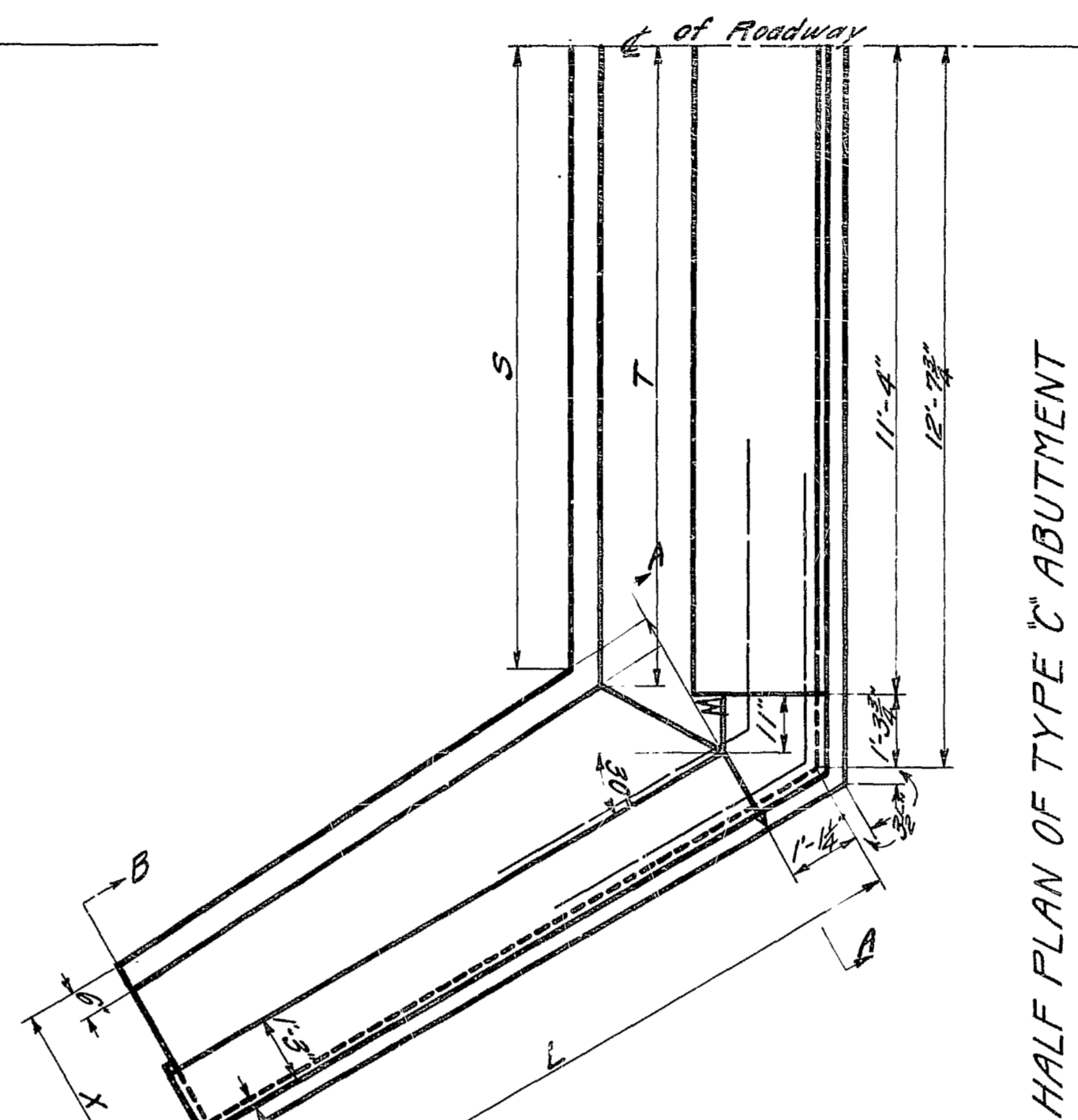
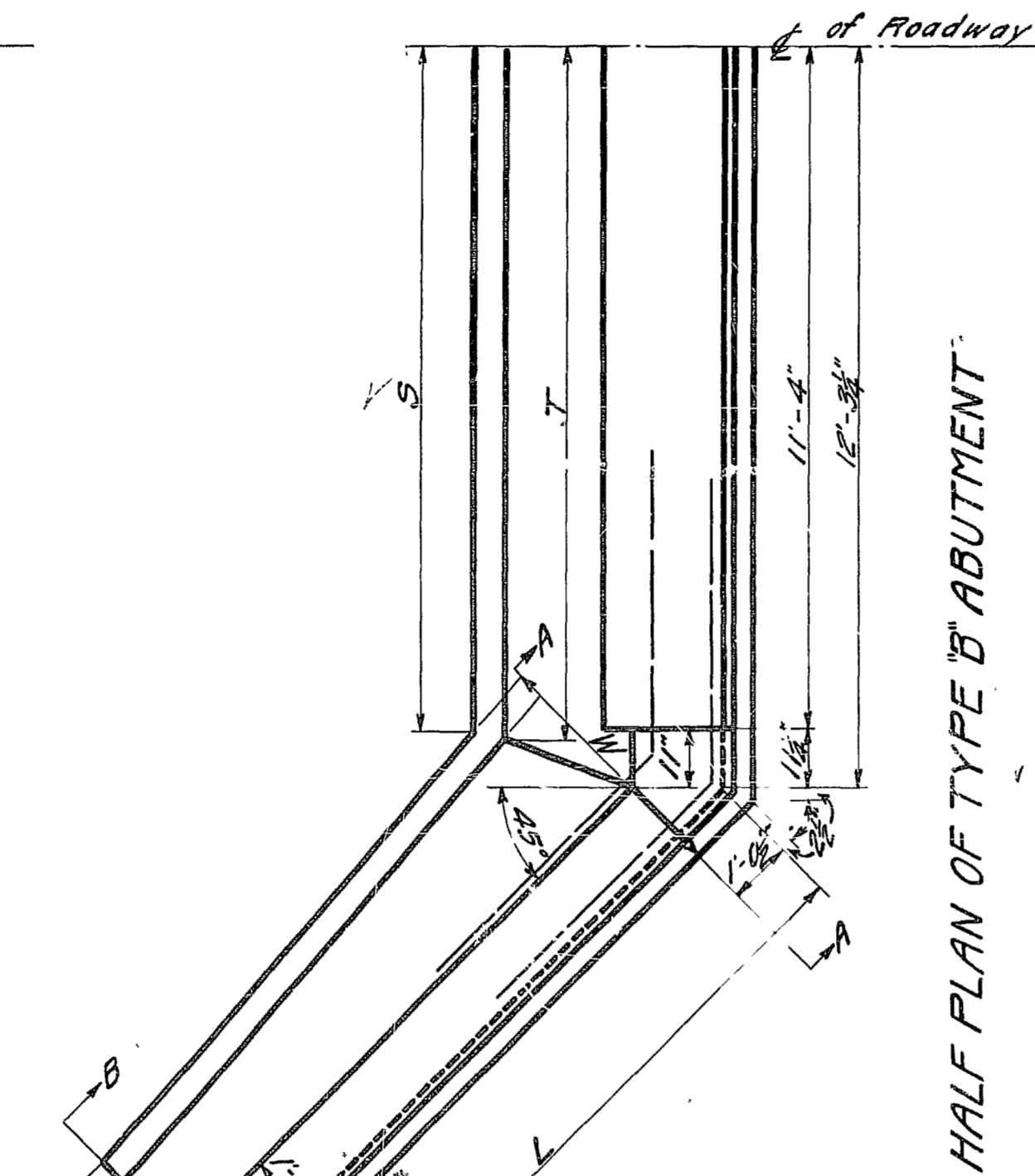
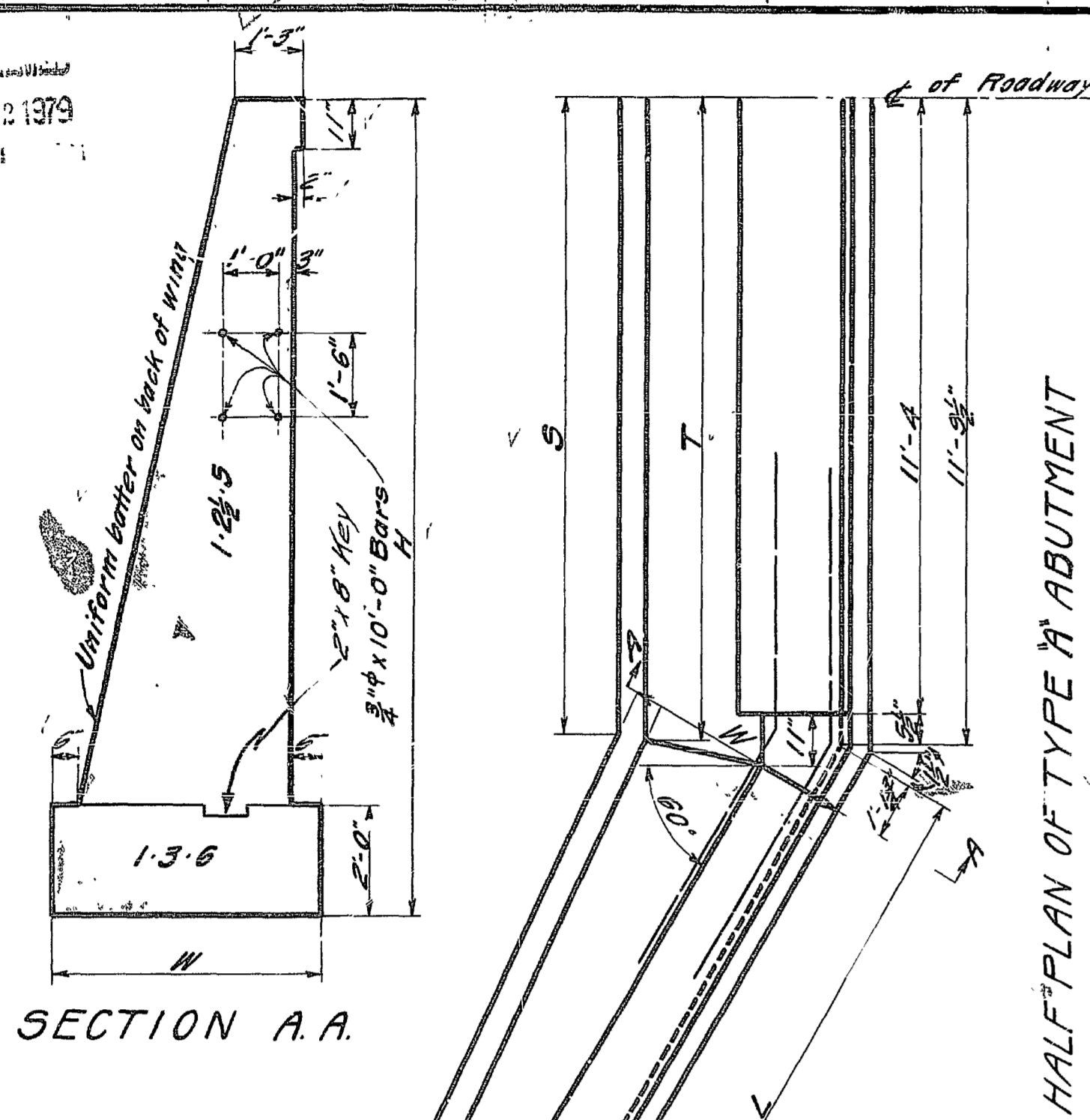


Without comment  
FEB 22 1922  
R. K. Ketchum



When a bridge is skewed, the length and quantities in the abutments are to be corrected respectively for the additional length required.  
See note under \* for variation in quantity of 1-2-5 concrete. Specifications of State of Ohio - Division of Highways - shall govern materials and workmanship.

8-3/4" x 10'-0" Bars to be placed in each abutment as shown.  
Weight of Steel for each abutment - 120 Lb.

TABULATION FOR TYPE 'A' ABUTMENT

H	DIMENSIONS OF WINGS					DIMEN. OF ABUT. WING & ABUT.		Cu. Yd. Concrete	T
	V	X	W	L	S	T			
10	6'-7 1/2"	2'-3/4"	3'-4"	7'-0"	10'-11"	11'-1"	7.3	4.2	
11	7'-0"	3'-1 1/2"	3'-8"	8'-1"	10'-10 1/2"	11'-0"	9.7	5.0	
12	7'-4 1/2"	3'-1 1/2"	4'-0"	9'-2"	10'-9 1/2"	10'-11"	12.6	5.7	
13	7'-9"	3'-3"	4'-2"	10'-3"	10'-9 1/2"	10'-10 1/2"	15.7	6.4	
14	8'-1 1/2"	3'-3/4"	4'-8"	11'-4"	10'-8"	10'-9 1/2"	19.3	7.2	
15	8'-6"	3'-3/4"	5'-0"	12'-5"	10'-7 1/2"	10'-8 1/2"	23.3	8.0	
16	8'-10 1/2"	3'-8"	5'-4"	13'-6"	10'-6 1/2"	10'-8"	27.7	8.8	
17	9'-3"	3'-10"	5'-8"	14'-7"	10'-5 1/2"	10'-7 1/2"	32.7	9.7	
18	9'-7 1/2"	3'-10 1/2"	6'-0"	15'-8"	10'-5 1/2"	10'-7 1/2"	38.1	10.5	
19	10'-0"	4'-1"	6'-4"	16'-9"	10'-4 1/2"	10'-6 1/2"	42.9	11.4	
20	10'-4 1/2"	4'-2 1/2"	6'-8"	17'-10"	10'-4 1/2"	10'-5 1/2"	50.3	12.5	

TABULATION FOR TYPE 'B' ABUTMENT

H	DIMENSIONS OF WINGS					DIMEN. OF ABUT. WING & ABUT.		Cu. Yd. Concrete	T
	V	X	W	L	S	T			
10	6'-7 1/2"	2'-3/4"	3'-4"	7'-0"	10'-11"	11'-1"	7.2	4.2	
11	7'-0"	3'-1 1/2"	3'-8"	8'-1"	10'-10 1/2"	11'-0"	9.5	4.9	
12	7'-4 1/2"	3'-1 1/2"	4'-0"	9'-2"	10'-9 1/2"	11'-1"	12.5	5.5	
13	7'-9"	3'-3"	4'-2"	10'-3"	10'-9 1/2"	10'-11 1/2"	15.7	6.2	
14	8'-1 1/2"	3'-3/4"	4'-8"	11'-4"	10'-7 1/2"	10'-10 1/2"	19.3	7.0	
15	8'-6"	3'-3/4"	5'-0"	12'-5"	10'-7 1/2"	10'-9 1/2"	23.3	7.7	
16	8'-10 1/2"	3'-8"	5'-4"	13'-6"	10'-6 1/2"	10'-8"	27.3	8.5	
17	9'-3"	3'-10"	5'-8"	14'-7"	10'-5 1/2"	10'-6 1/2"	32.6	9.3	
18	9'-7 1/2"	3'-10 1/2"	6'-0"	15'-8"	10'-5 1/2"	10'-5 1/2"	37.5	10.2	
19	10'-0"	4'-1"	6'-4"	16'-9"	10'-4 1/2"	10'-4 1/2"	43.9	11.1	
20	10'-4 1/2"	4'-2 1/2"	6'-8"	17'-10"	10'-1"	10'-3"	50.3	12.1	

TABULATION FOR TYPE 'C' ABUTMENT

H	DIMENSIONS OF WINGS					DIMEN. OF ABUT. WING & ABUT.		Cu. Yd. Concrete	T
	V	X	W	L	S	T			
10	6'-7 1/2"	2'-3/4"	3'-4"	7'-0"	10'-11"	11'-1"	7.5	4.4	
11	7'-0"	3'-1 1/2"	3'-8"	8'-1"	10'-10 1/2"	11'-2"	10.1	5.0	
12	7'-4 1/2"	3'-2 1/2"	4'-0"	9'-0"	10'-9 1/2"	11'-0"	13.1	5.7	
13	7'-9"	3'-5"	4'-2"	10'-1 1/2"	10'-7 1/2"	10'-10"	16.4	6.4	
14	8'-1 1/2"	3'-7 1/2"	4'-8"	11'-3"	10'-5 1/2"	10'-8"	20.2	7.2	
15	8'-6"	3'-10"	5'-0"	12'-4 1/2"	10'-5 1/2"	10'-6"	24.5	8.0	
16	8'-10 1/2"	4'-1"	5'-4"	13'-6"	10'-4 1/2"	10'-4 1/2"	29.2	8.8	
17	9'-3"	4'-3 1/2"	5'-8"	14'-7 1/2"	10'-4 1/2"	10'-2 1/2"	34.5	9.7	
18	9'-7 1/2"	4'-6 1/2"	6'-0"	15'-8 1/2"	10'-3 1/2"	10'-0"	40.4	10.6	
19	10'-0"	4'-9 1/2"	6'-4"	16'-9 1/2"	10'-3 1/2"	9'-10"	46.4	11.5	
20	10'-4 1/2"	4'-11 1/2"	6'-8"	17'-10 1/2"	10'-0"	9'-8"	53.4	12.5	

\*This dimension is assumed as 3'-0" in calculating tabular quantities. For each inch of increase in this dimension, the tabulated quantity of 1-2-5 concrete must be decreased .07 Cu. Yd. for one abutment.

STANDARD  
GRAVITY ABUTMENTS  
FOR  
STANDARD CONCRETE BEAM BRIDGES  
HAVING A 20 FT ROADWAY  
STATE OF OHIO  
DEPT. OF HIGHWAYS AND PUBLIC WORKS  
DIVISION OF HIGHWAYS  
FEBRUARY 1922 BUREAU OF BRIDGES