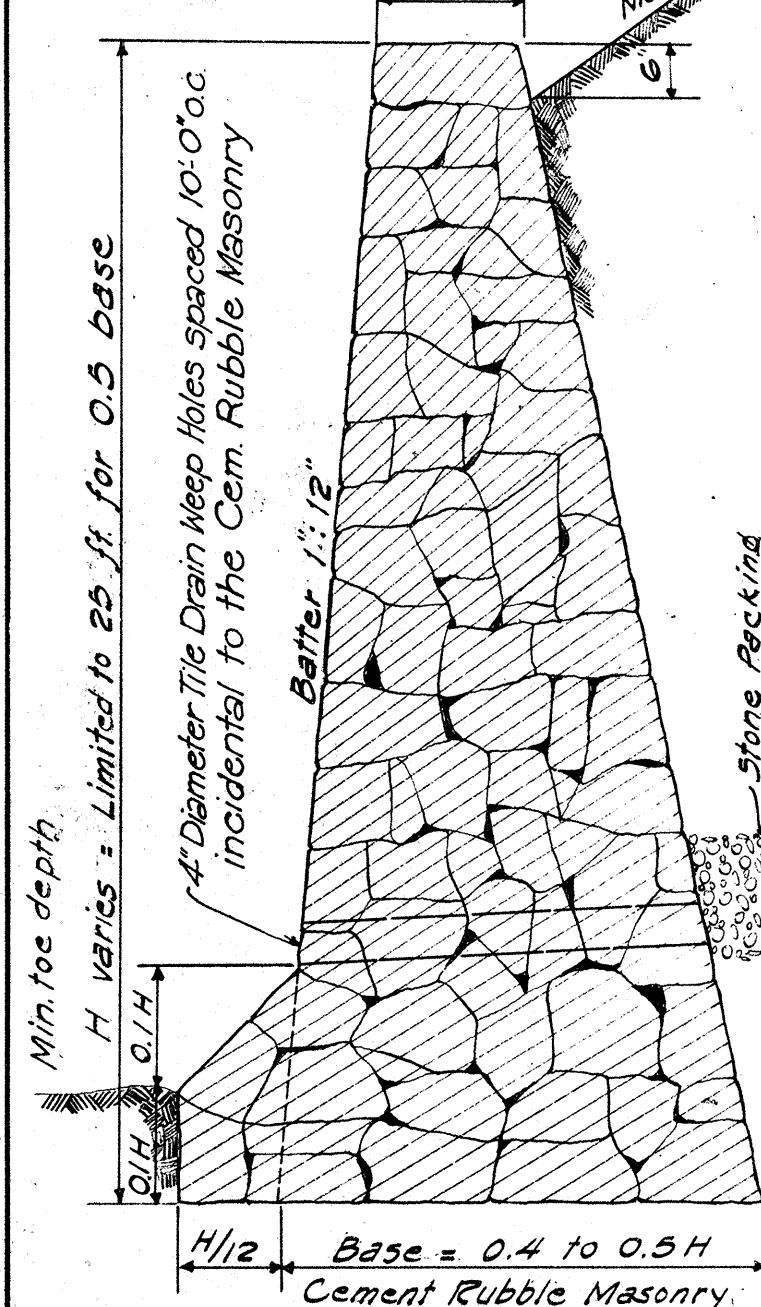


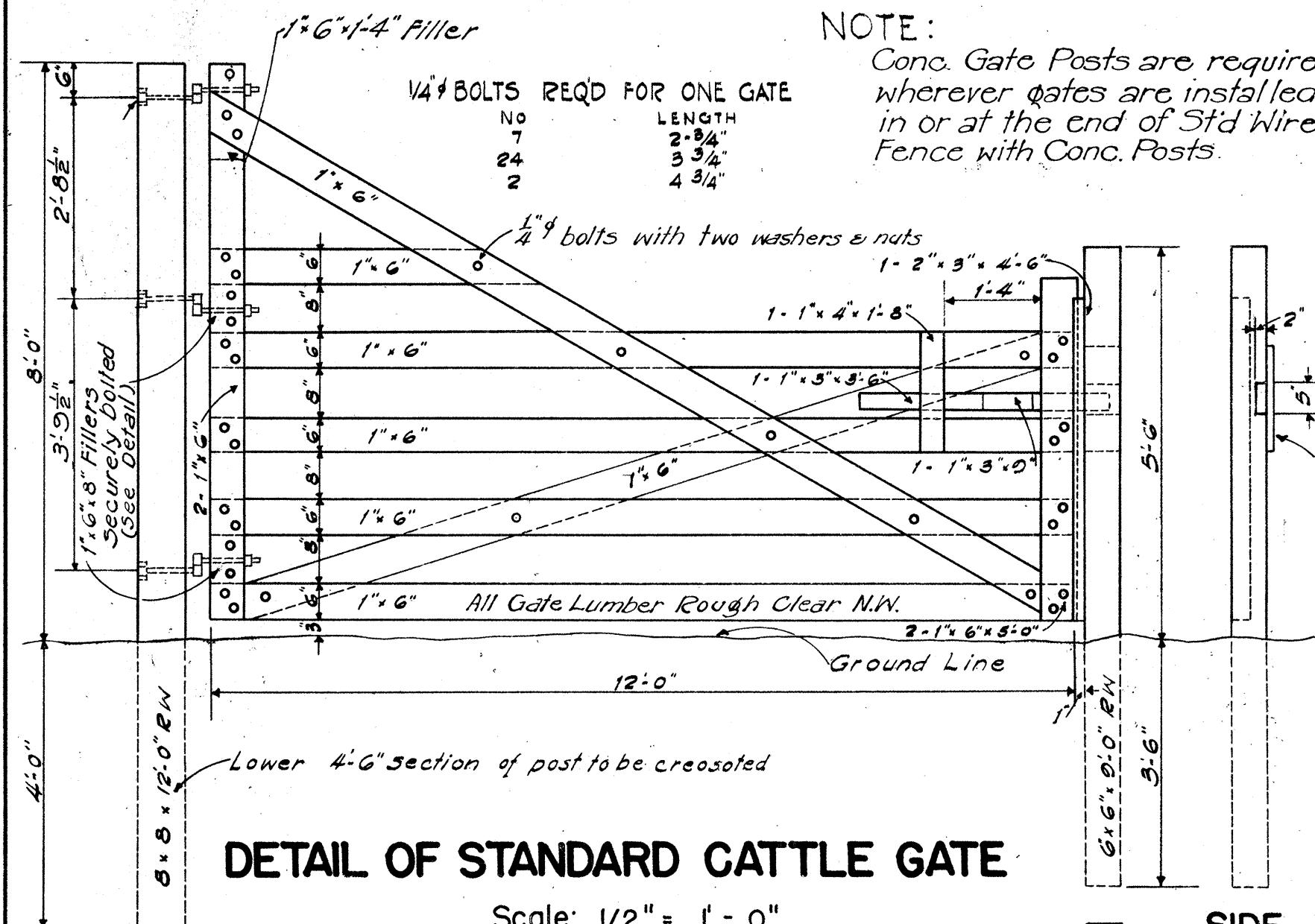
Note: TO RESIDENT ENGINEER
Consider economy of reinf. conc. for high retaining walls which did not originate on plan layout.



STANDARD SECTION OF LOW MASONRY RETAINING WALL OR SEAWALL

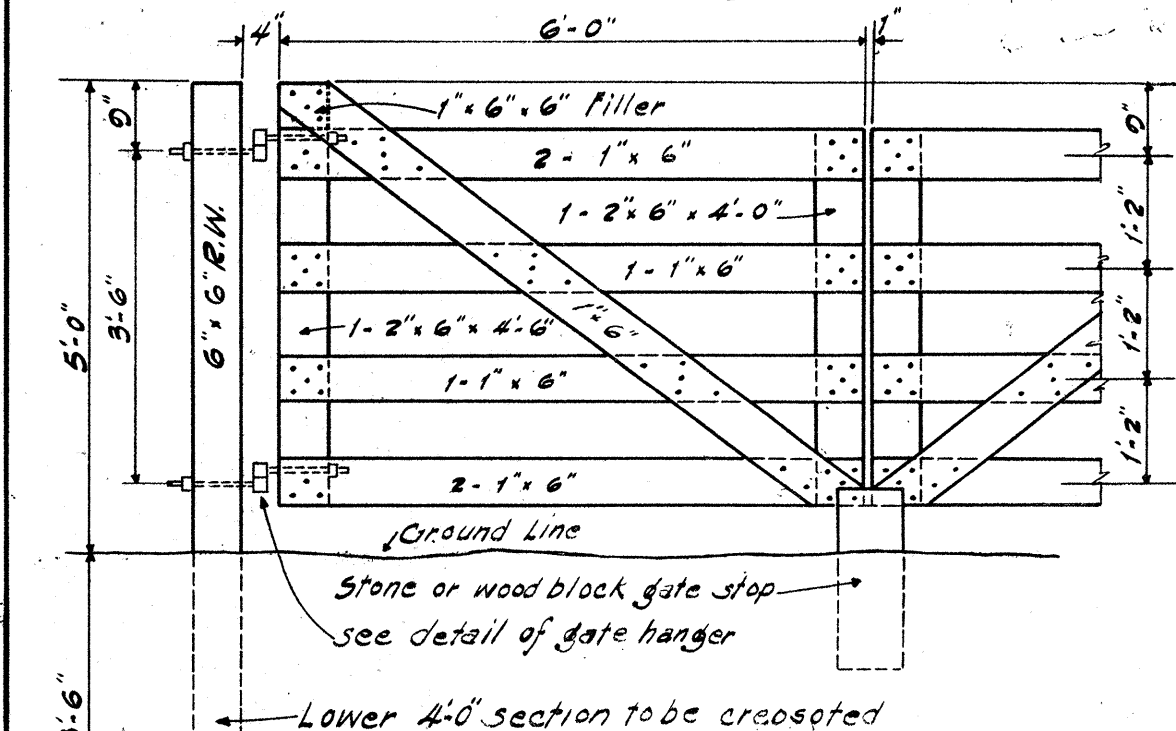
NOTE: Elevation of weep holes to be determined by Resident Engineer. Holes to be placed as close to the existing ground line as local conditions permit.

STANDARD SECTION OF HIGH CEMENT RUBBLE MASONRY RETAINING WALL OR SEAWALL



DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"
See Note regarding use of Concrete Posts.



DOUBLE HUNG GATE

Scale: 1/2" = 1' - 0"
See Note regarding use of Concrete Posts.

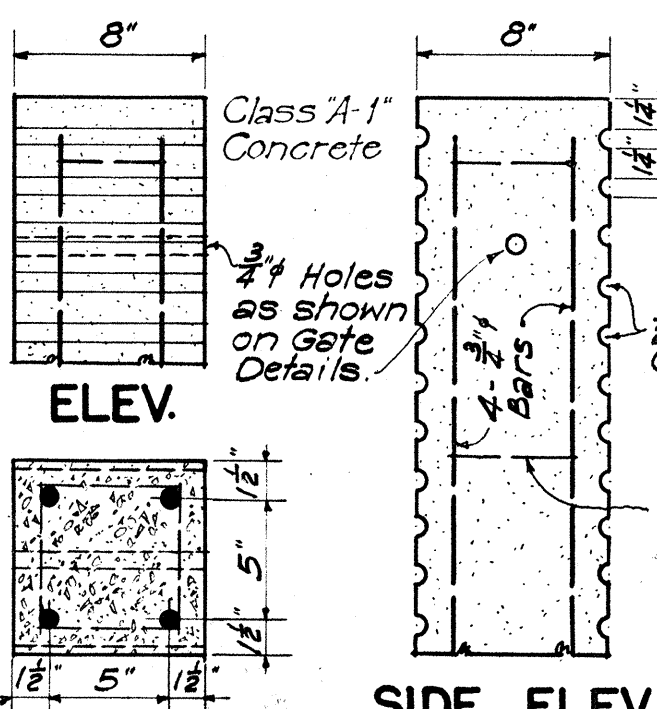
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"
Note: Use 3/4" x 11" bolts for cattle gate.

Data Standard Masonry Drop Intake

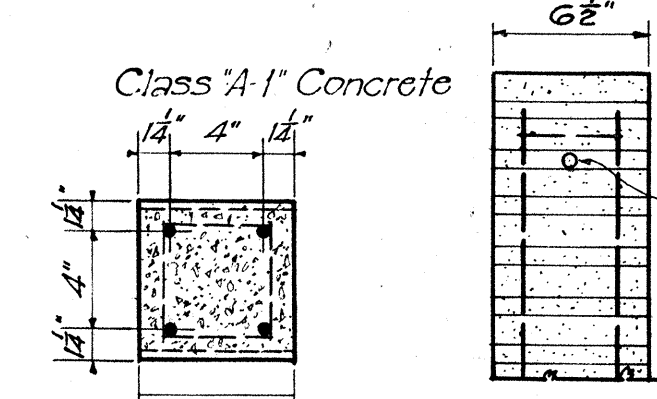
D	D	L = D + 6"	CU. Yds	Where Variable Equals
22"	18"	2'-0"	2.41	4'-6"
29"	24"	2'-6"	2.89	5'-0"
35 1/2"	30"	3'-0"	3.38	5'-6"
42"	36"	3'-6"	3.92	6'-0"

NOTE: Dimension "X" is assumed as 2'-4" in figuring the above quantities.



STANDARD MASONRY DROP INTAKE

Scale: 3/8" = 1' - 0"



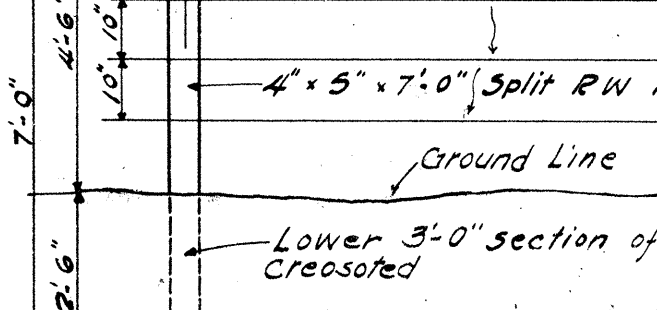
DETAIL OF STANDARD OUTLET DITCH

Scale: 1/2" = 1' - 0"



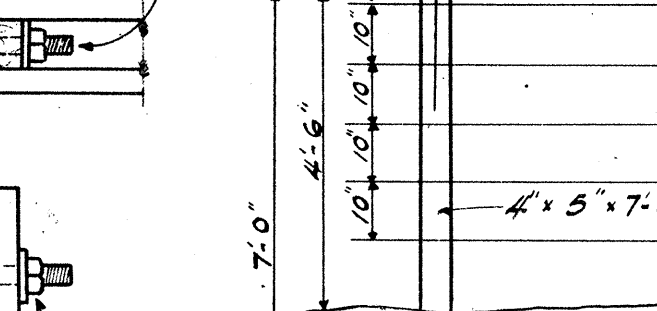
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



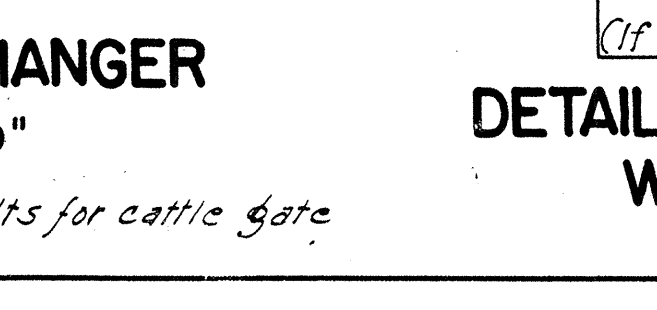
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



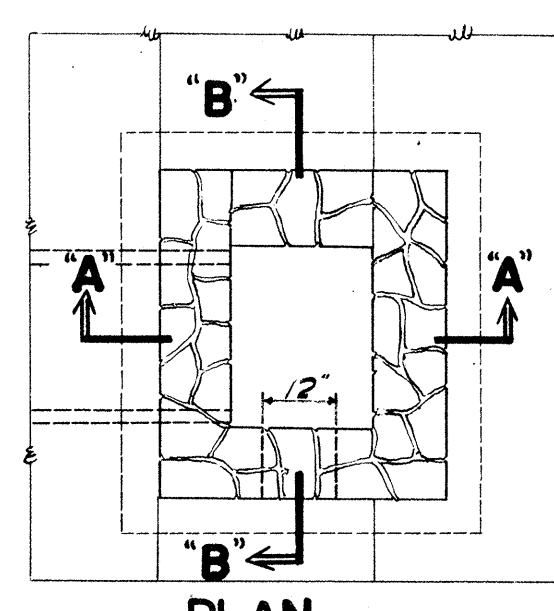
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



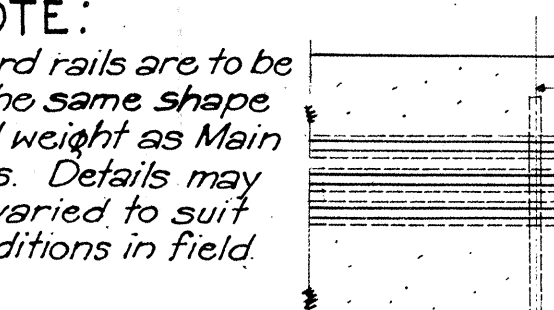
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



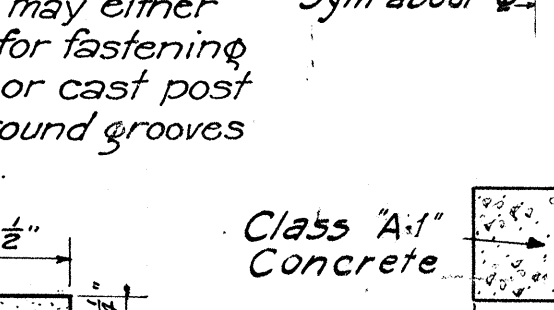
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



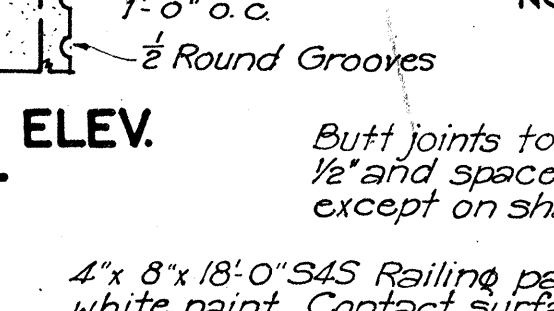
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



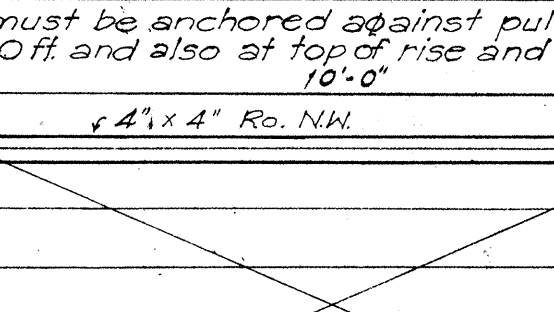
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



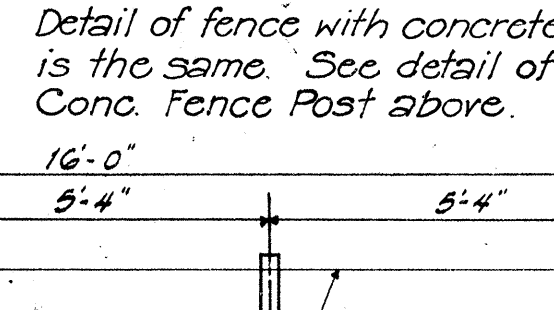
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



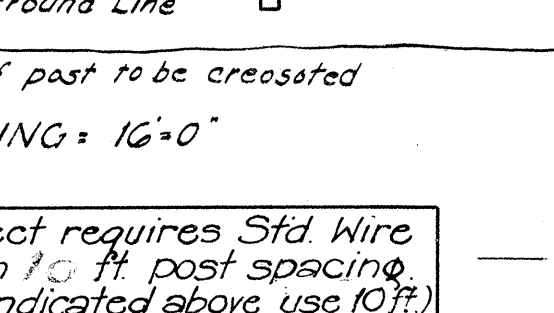
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



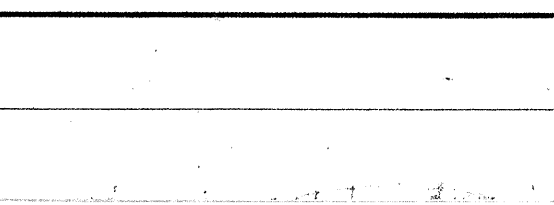
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



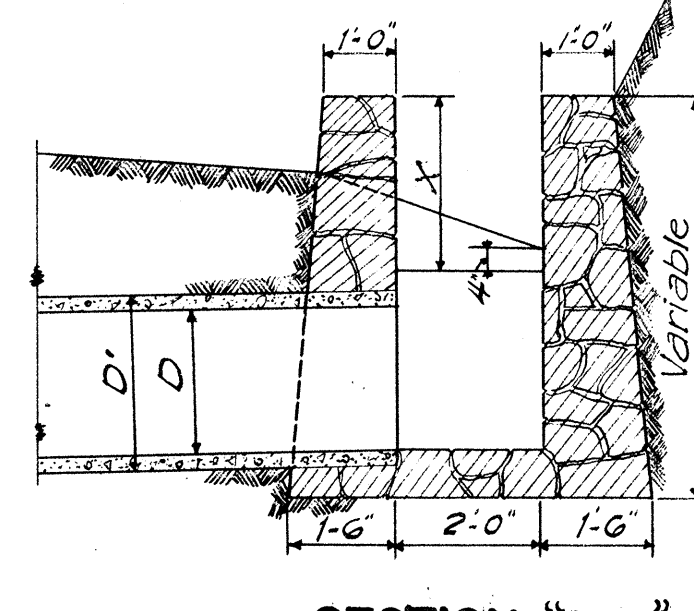
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



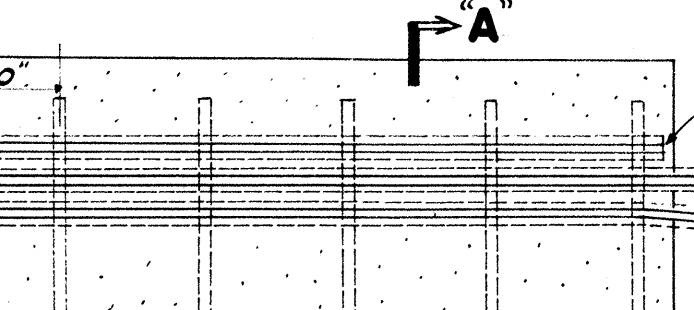
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



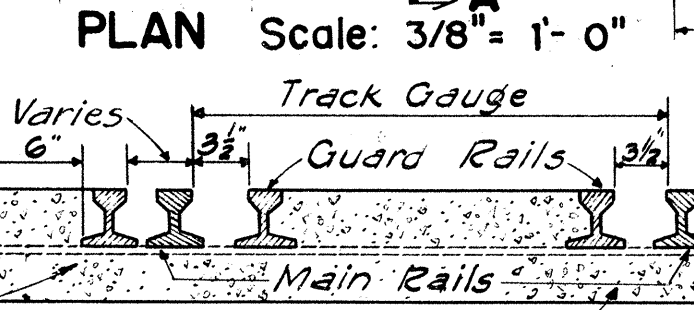
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



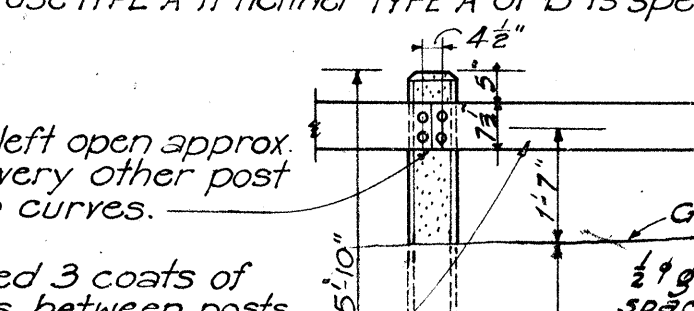
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



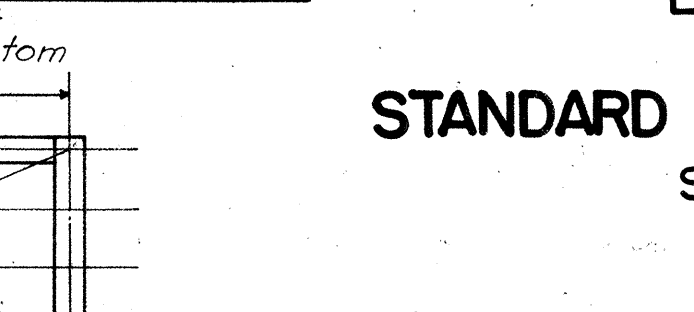
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



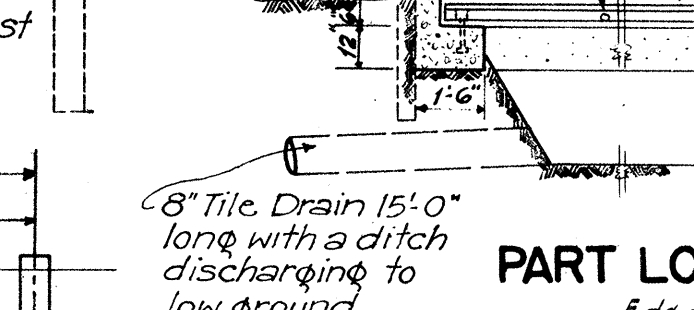
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



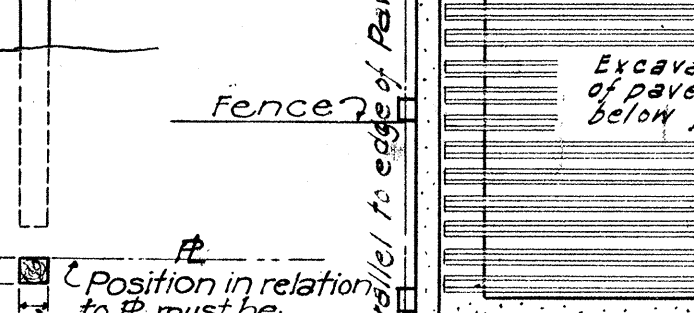
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



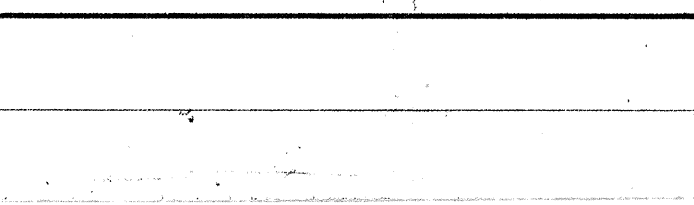
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



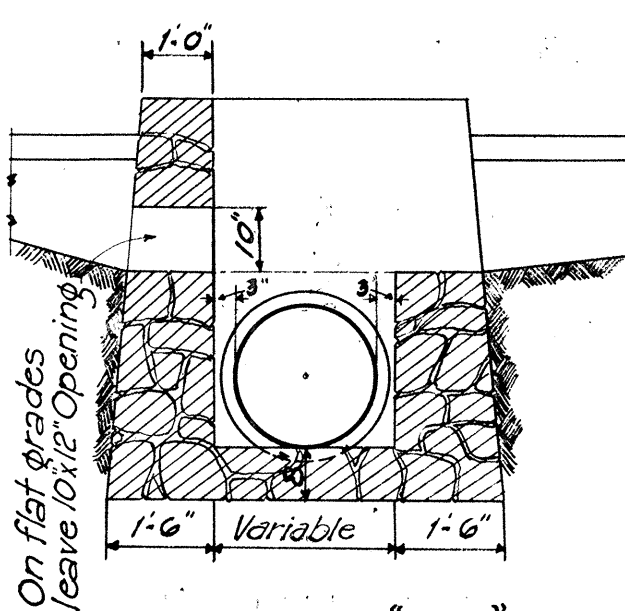
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



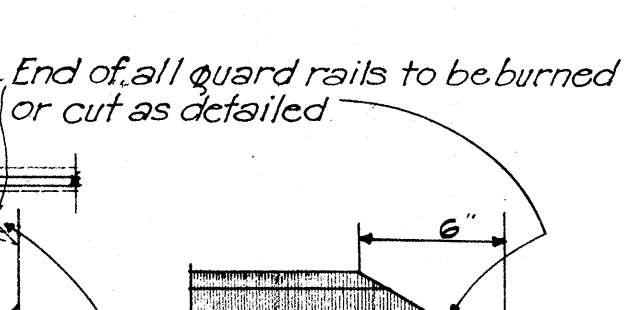
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



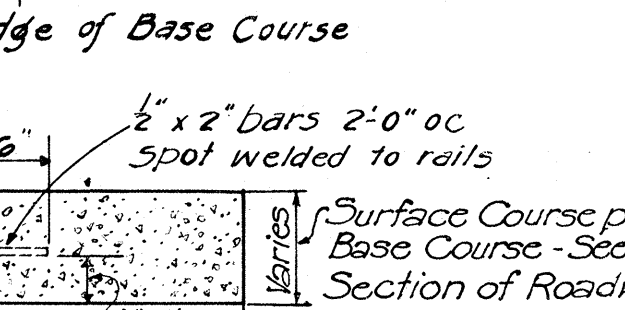
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



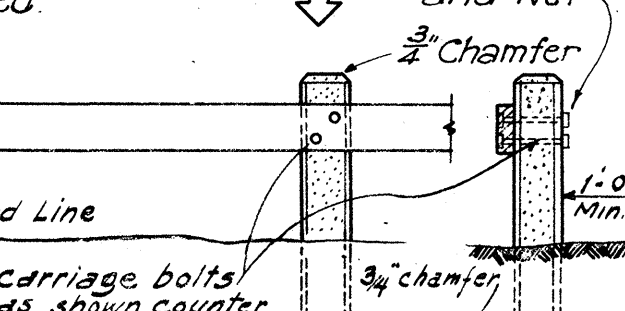
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



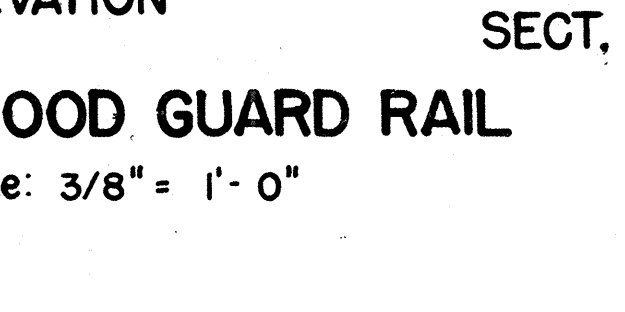
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



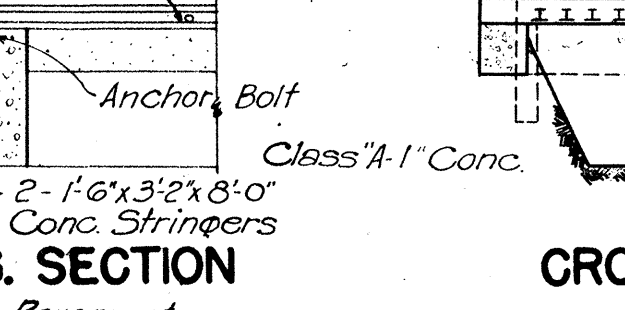
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



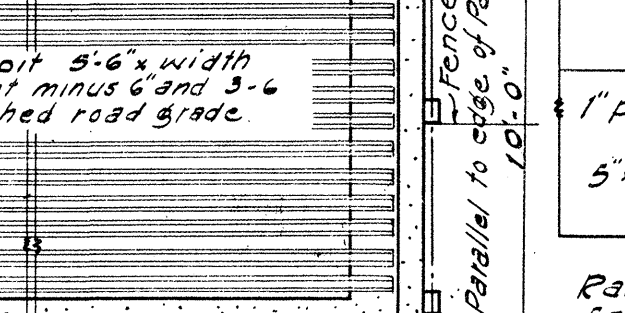
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



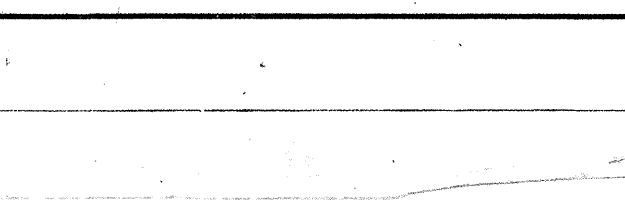
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



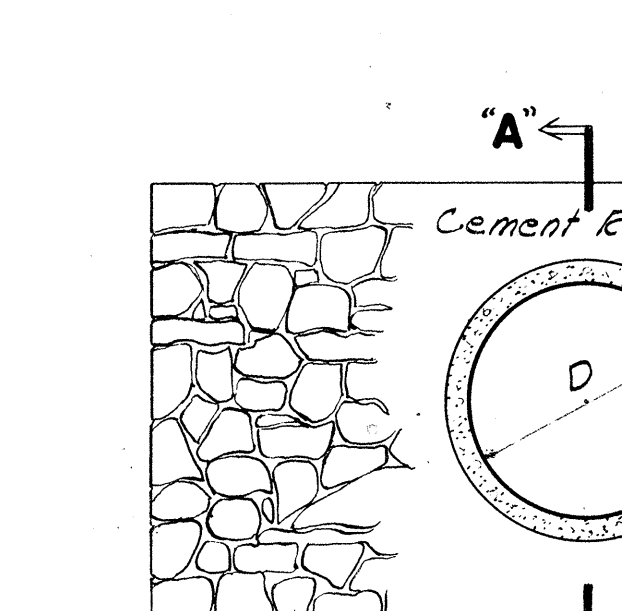
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



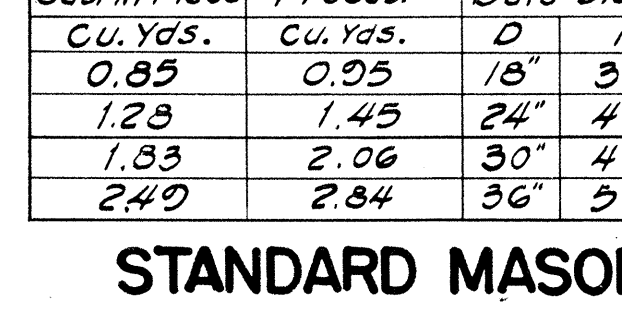
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



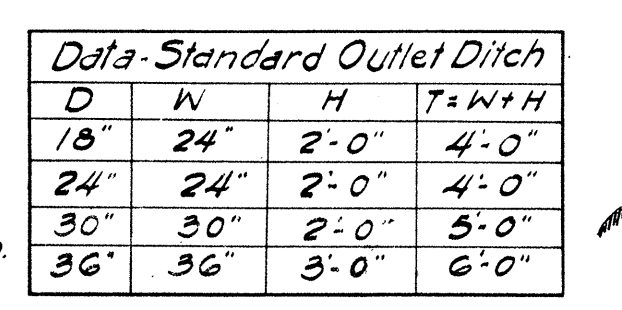
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



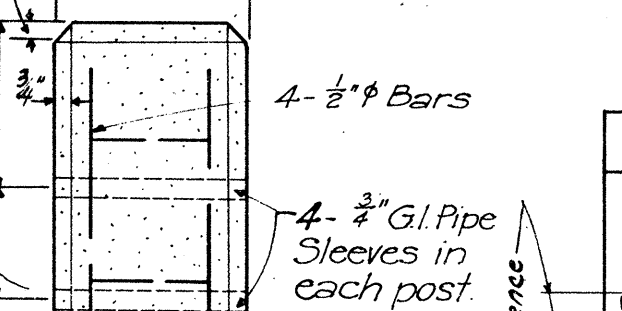
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



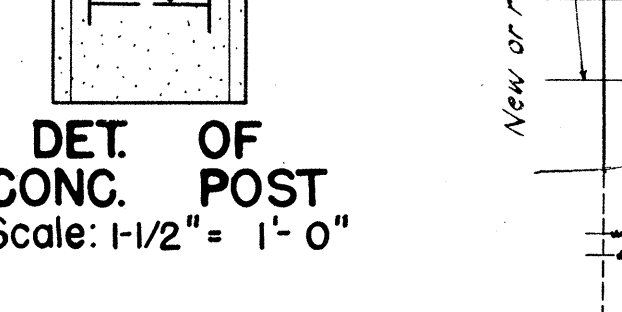
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



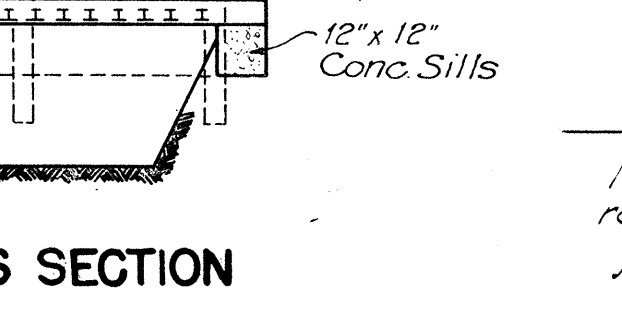
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



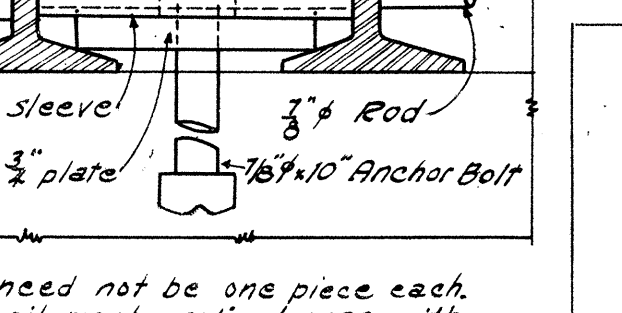
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



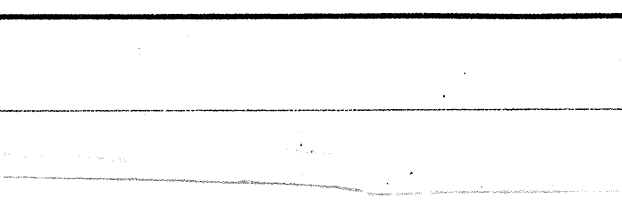
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



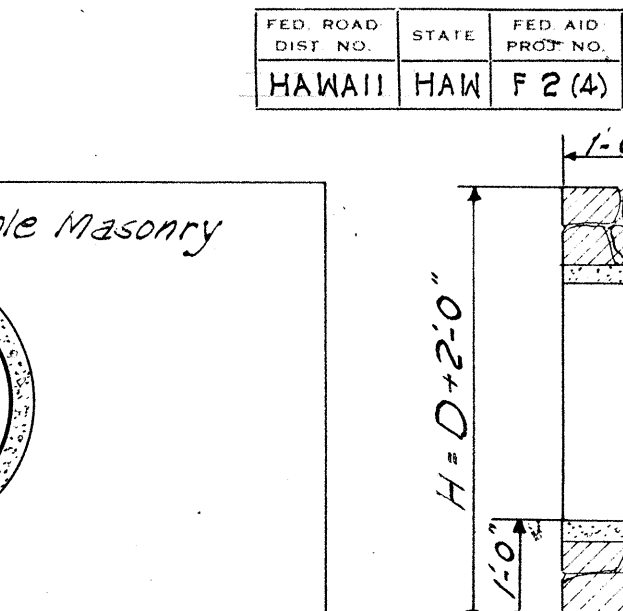
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



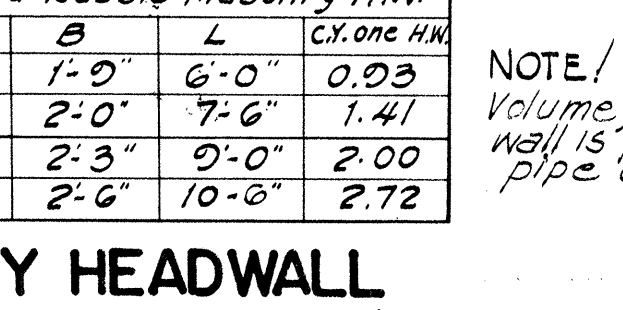
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



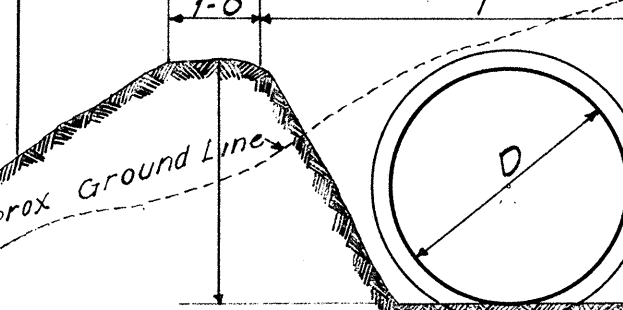
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



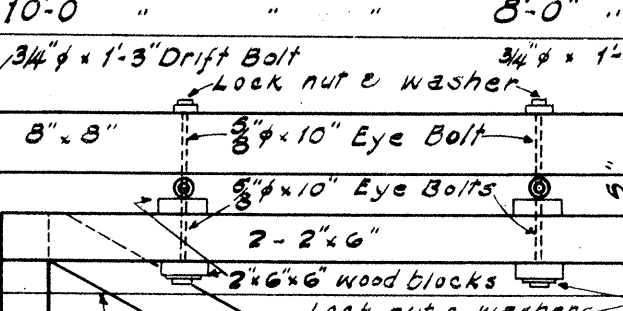
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



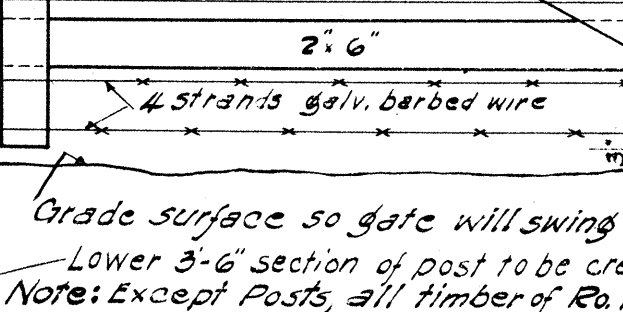
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



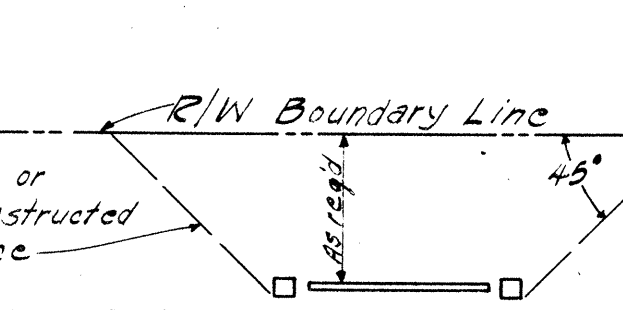
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



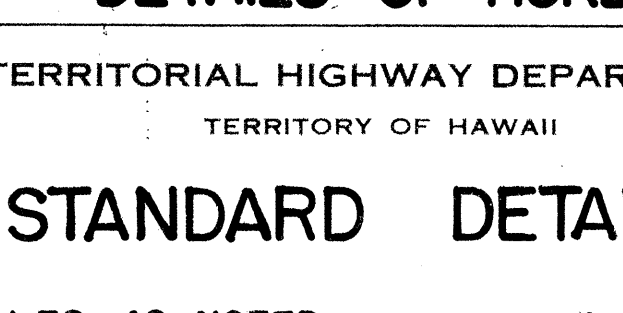
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



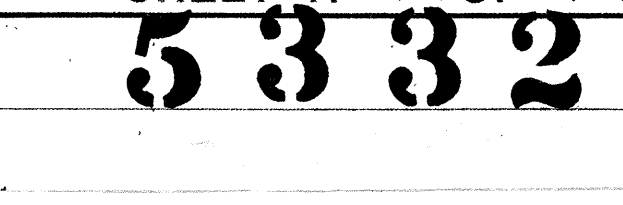
DETAIL OF GATE HANGER

Scale: 1/2" = 1' - 0"



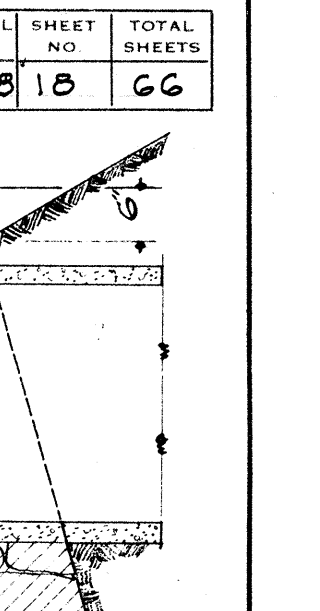
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



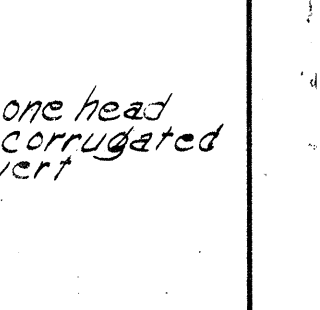
DETAIL OF GATE HANGER

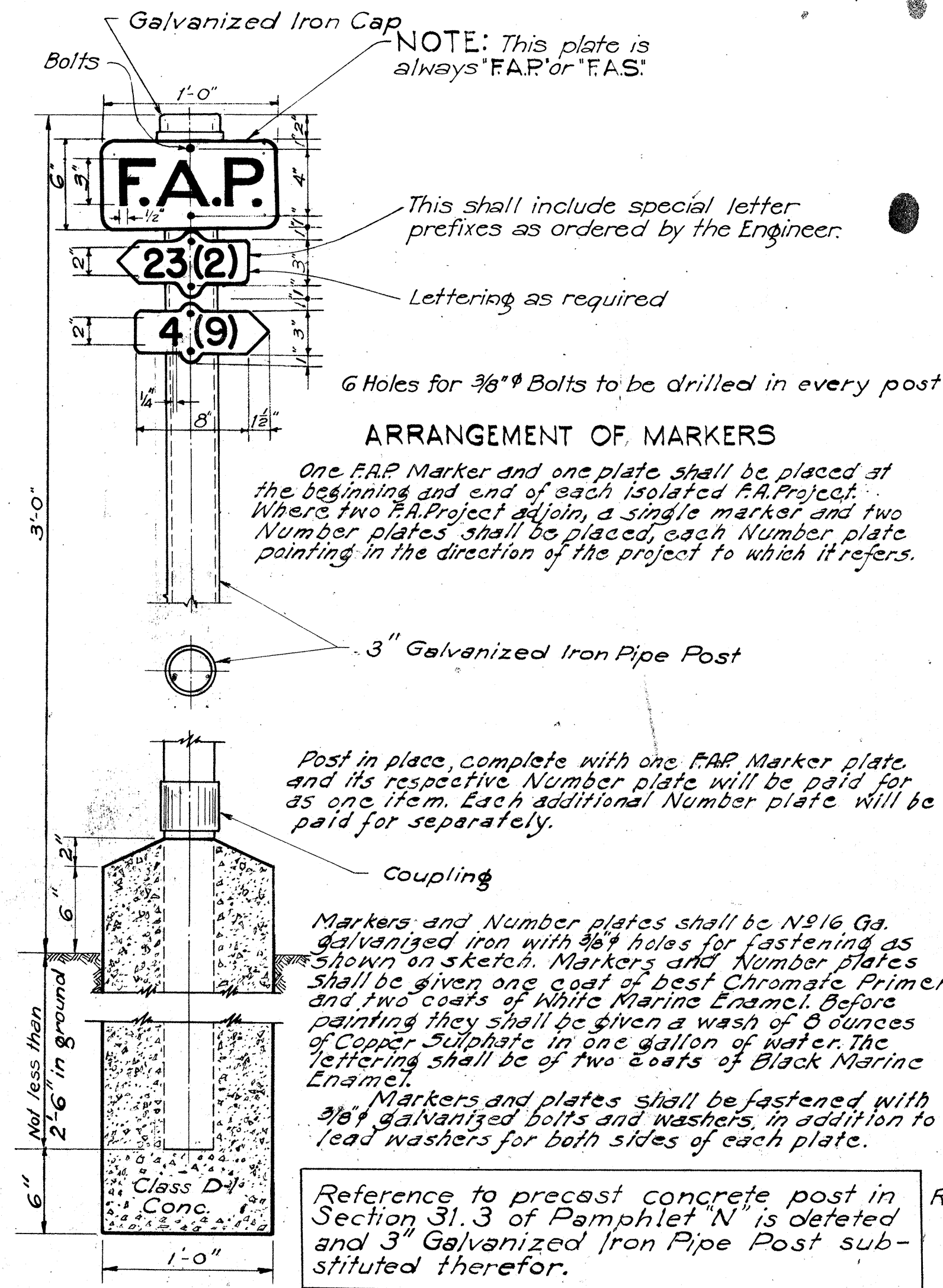
Scale: 1/2" = 1' - 0"



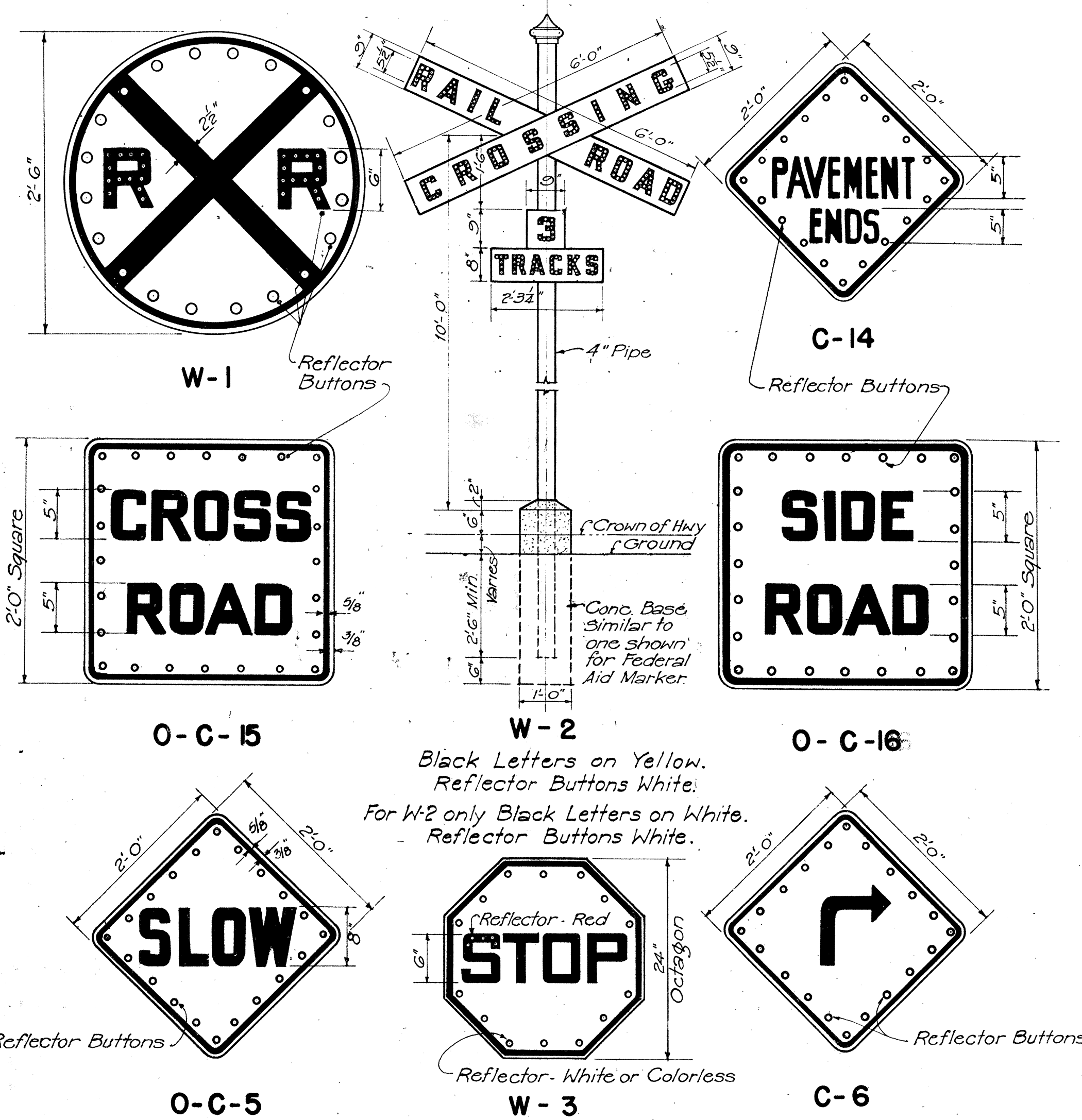
DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1' - 0"



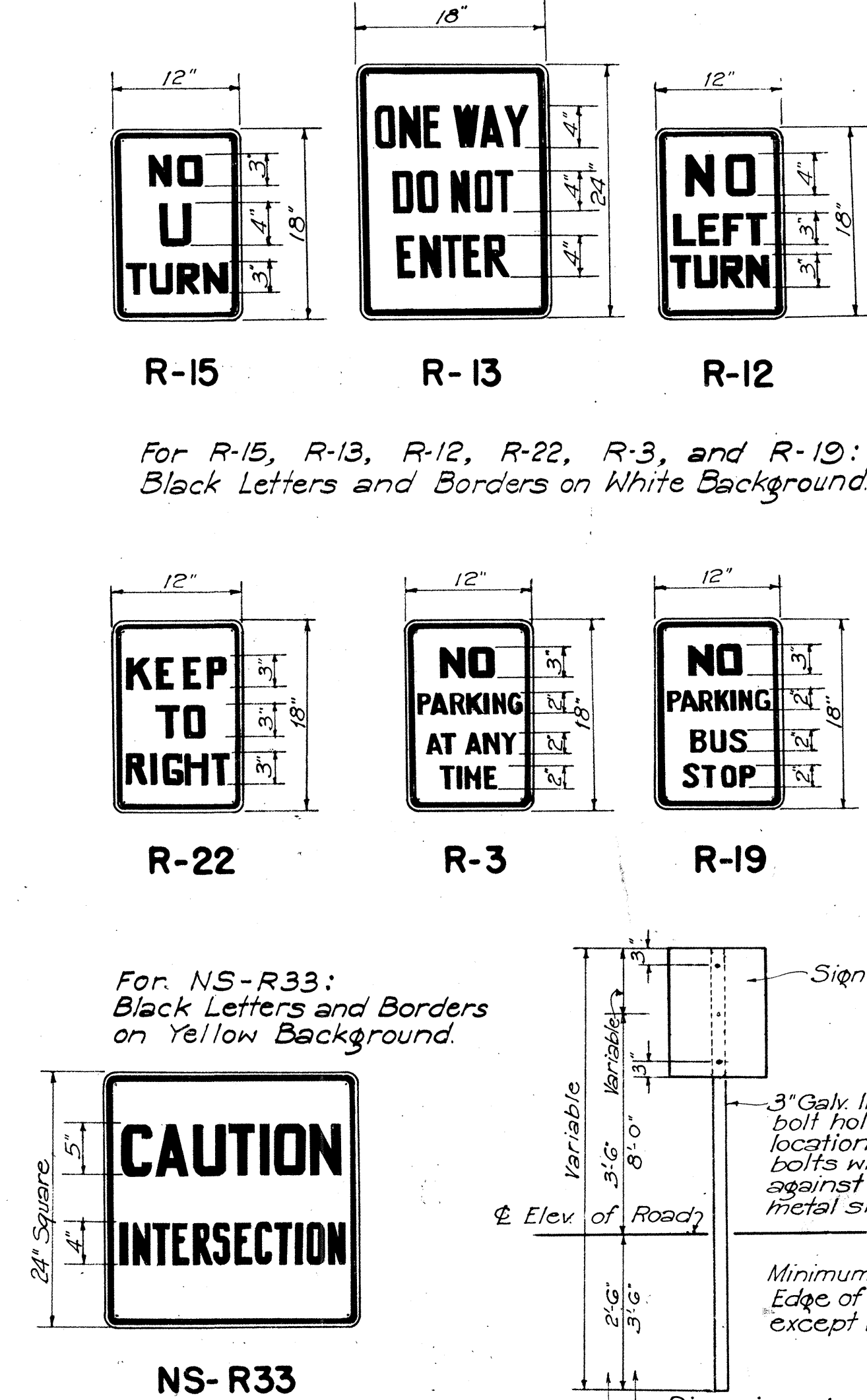


FEDERAL AID MARKER
Scale: 1-1/2" = 1'-0"

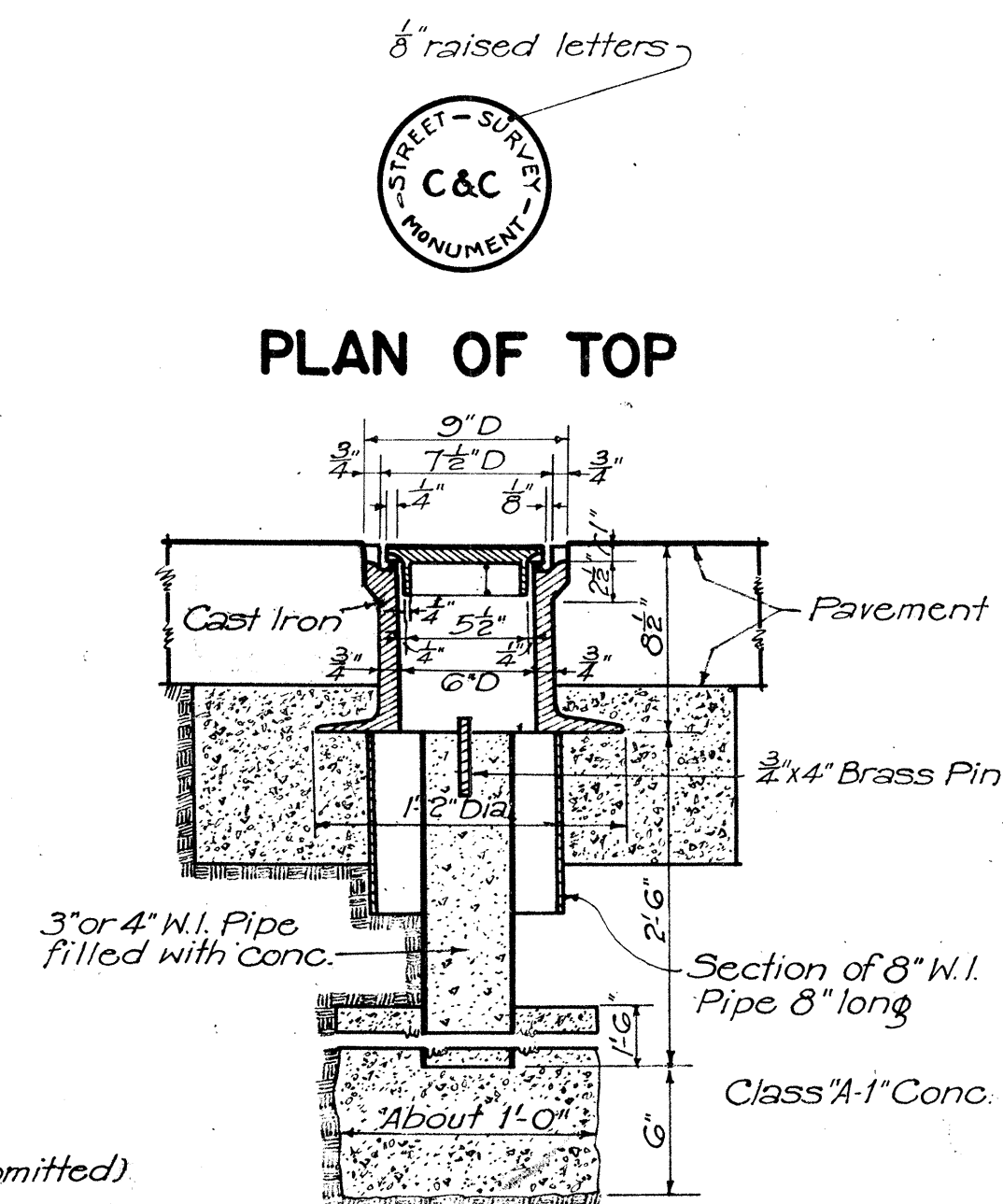


WARNING AND CAUTION SIGNS

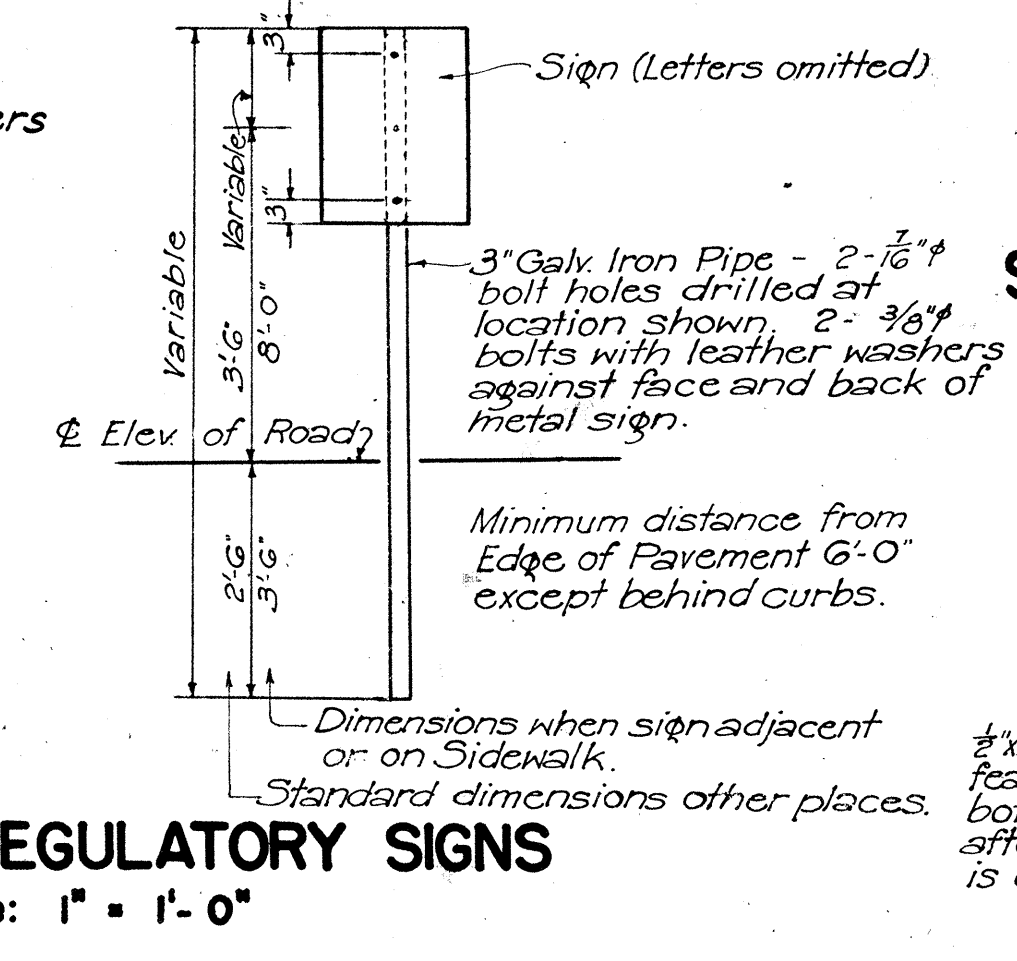
NOTE: Each sign except W-2 is to be mounted on 3" Galv. Pipe in the same manner as detailed for Regulatory Sign.



DETAILS OF REGULATORY SIGNS
Scale: 1" = 1'-0"

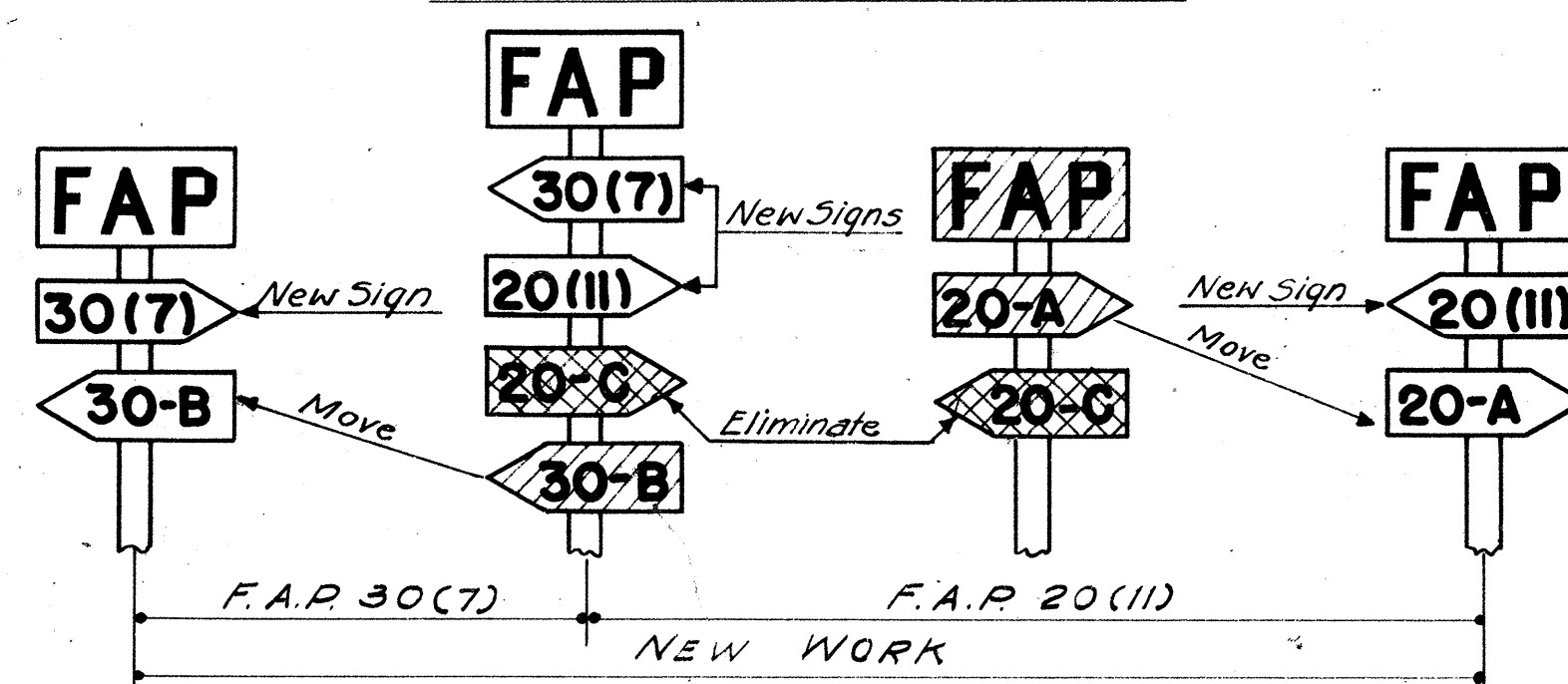


STD. C&C STREET SURVEY MONUMENT



CENTER LINE MONUMENT
Scale: 1/2" = 1'-0"

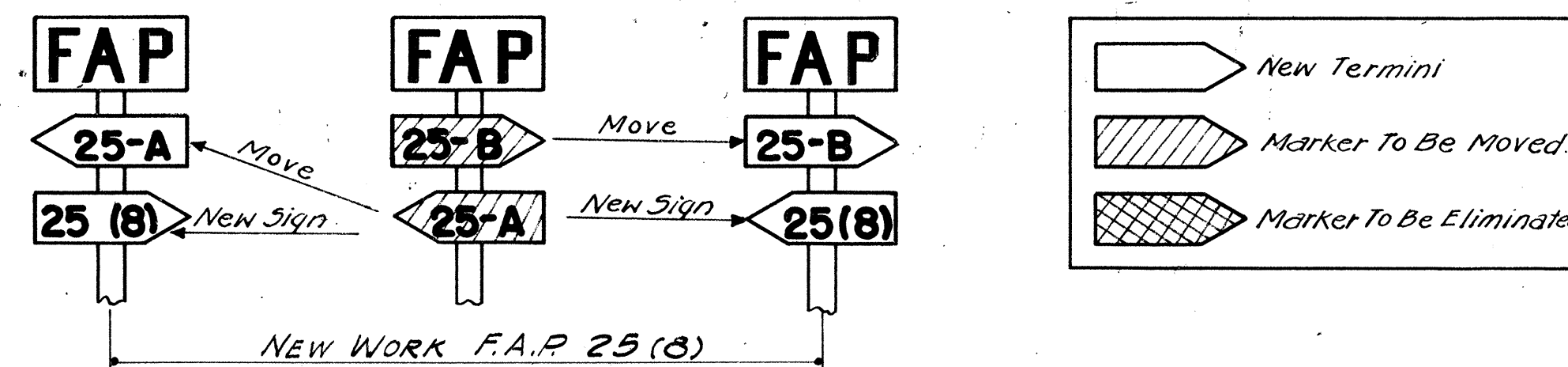
F.A.P. 20 & 30



NOTE: Federal Aid markers should be placed at the termini of suffix designated sections. Intermediate letter designated markers

of adjacent sections located within the limits of new improvements should be moved to the termini of the new work.

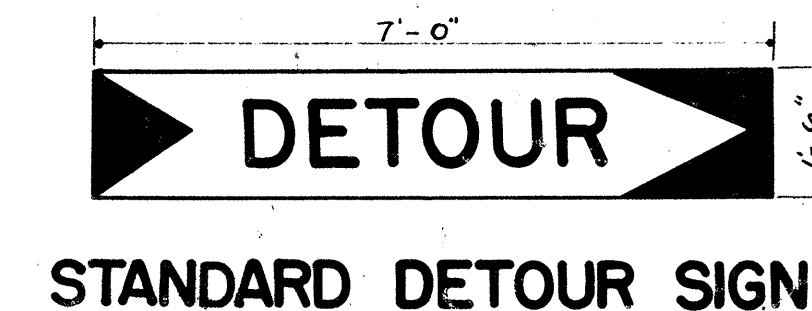
F.A.P. 25



The same procedure would be followed on each successive improvement until all markers for letter designated sections are eventually eliminated.

METHOD OF MARKING F.A. PROJECTS AT OVERLAPS (USING NUMBER SUFFIX ON NEW WORK)

Note: Letters to be 12" high and 1/2" thick. Secondary detour and direction signs necessary to be at least 1/2 the above size. Detour signs shall be placed at the location ordered by the Engineer.



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

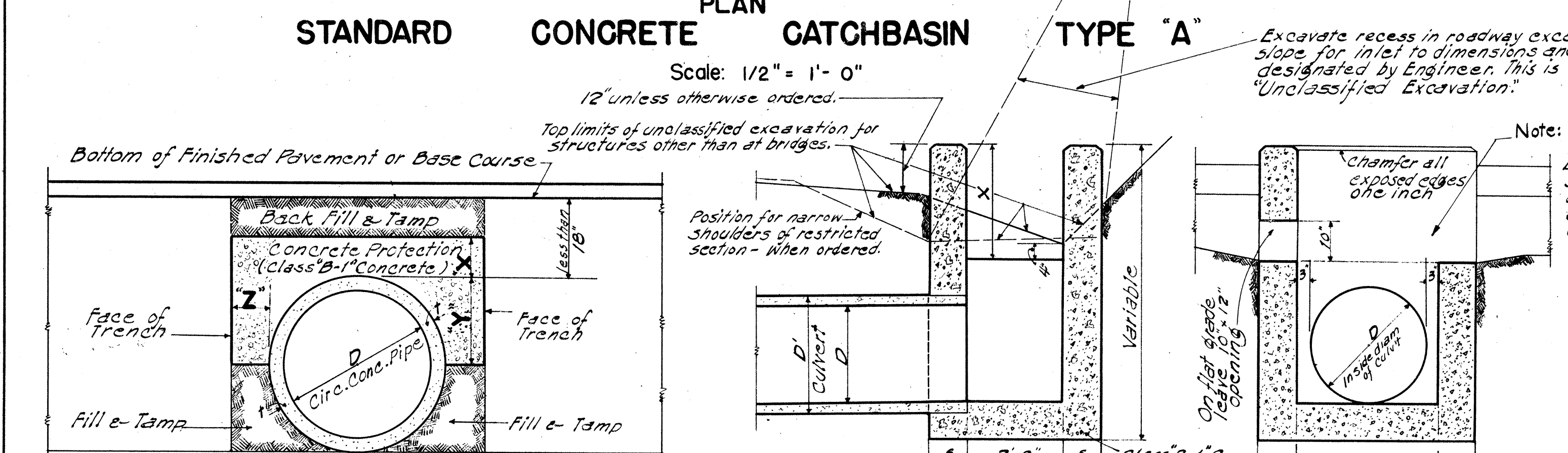
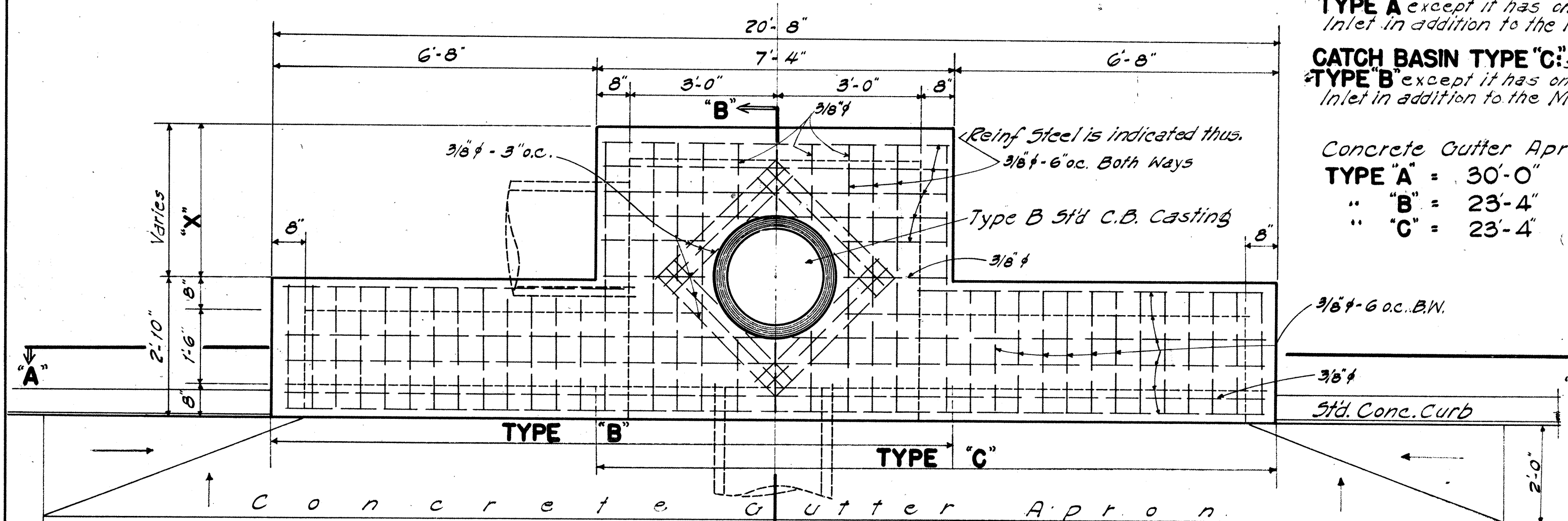
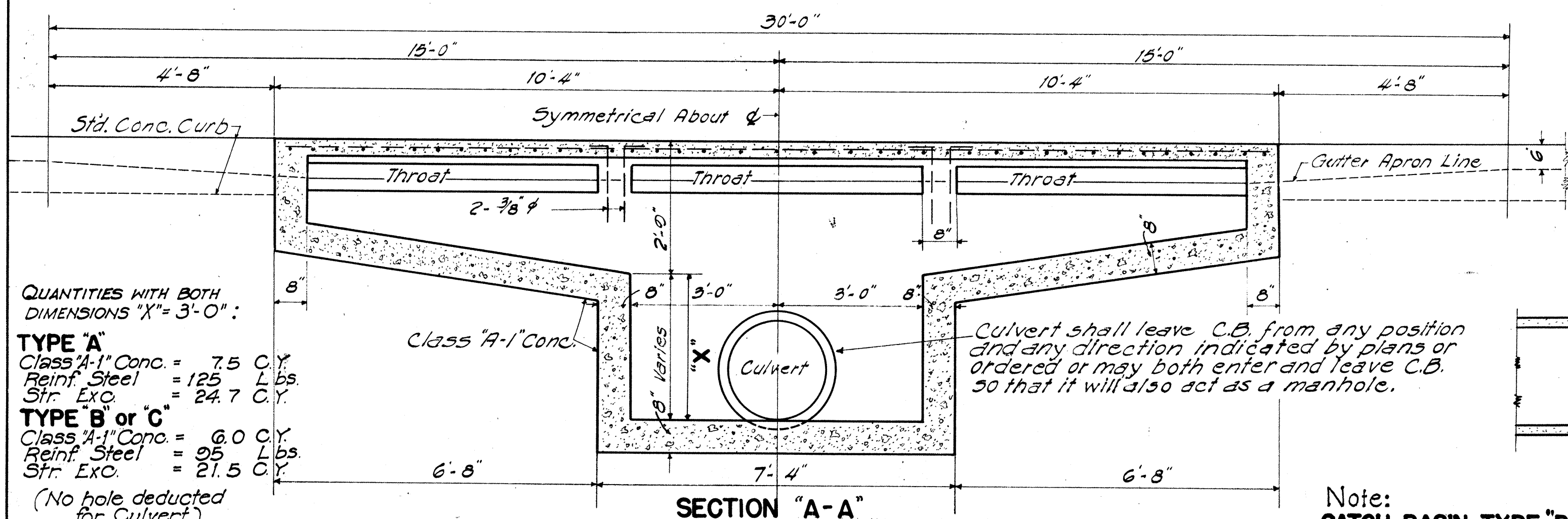
SCALES AS NOTED

APPROVED: *[Signature]*

Territorial Highway Engineer

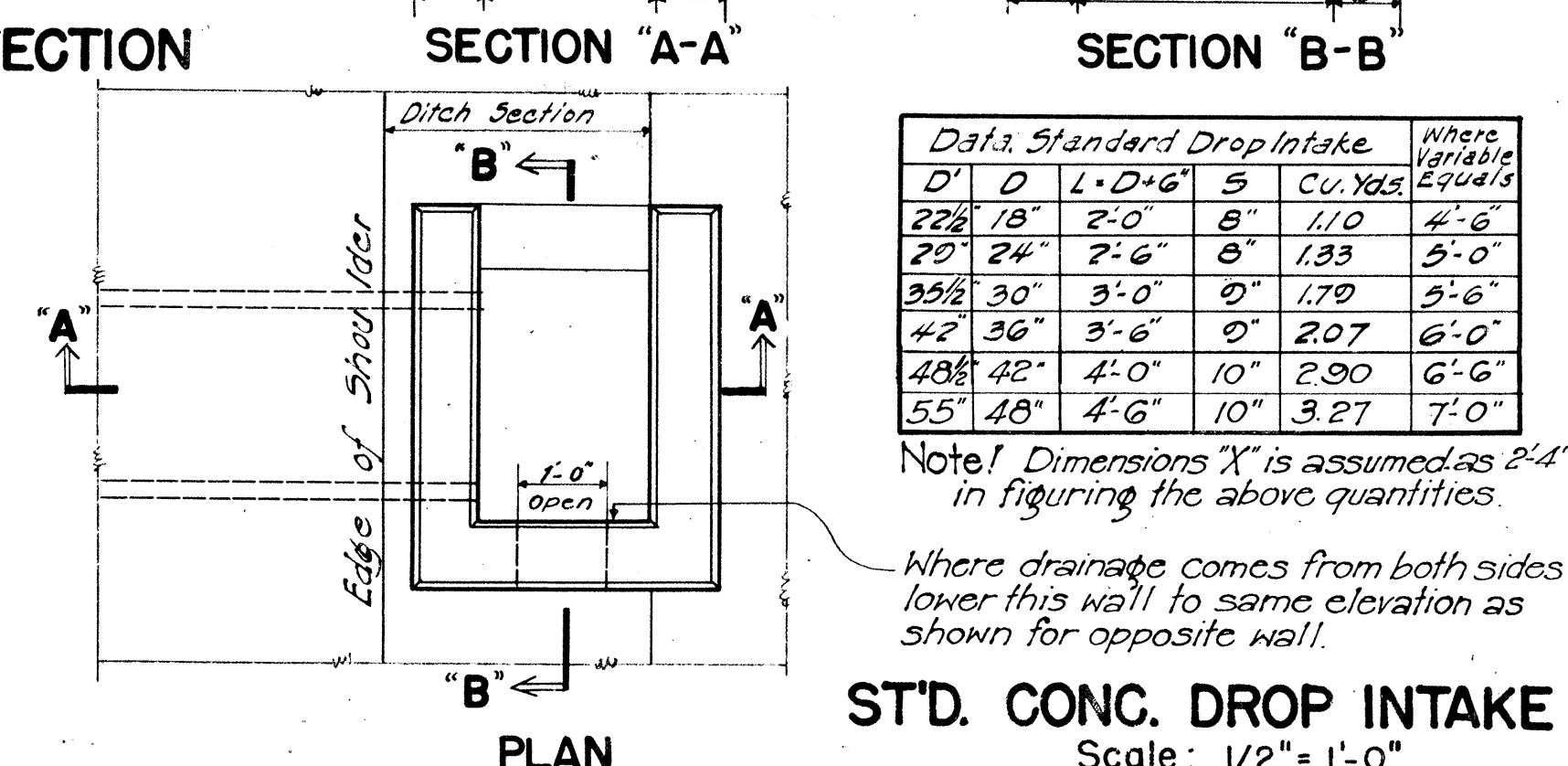
SHEET No 2 OF 4 SHEETS

Apr. 15, 1948

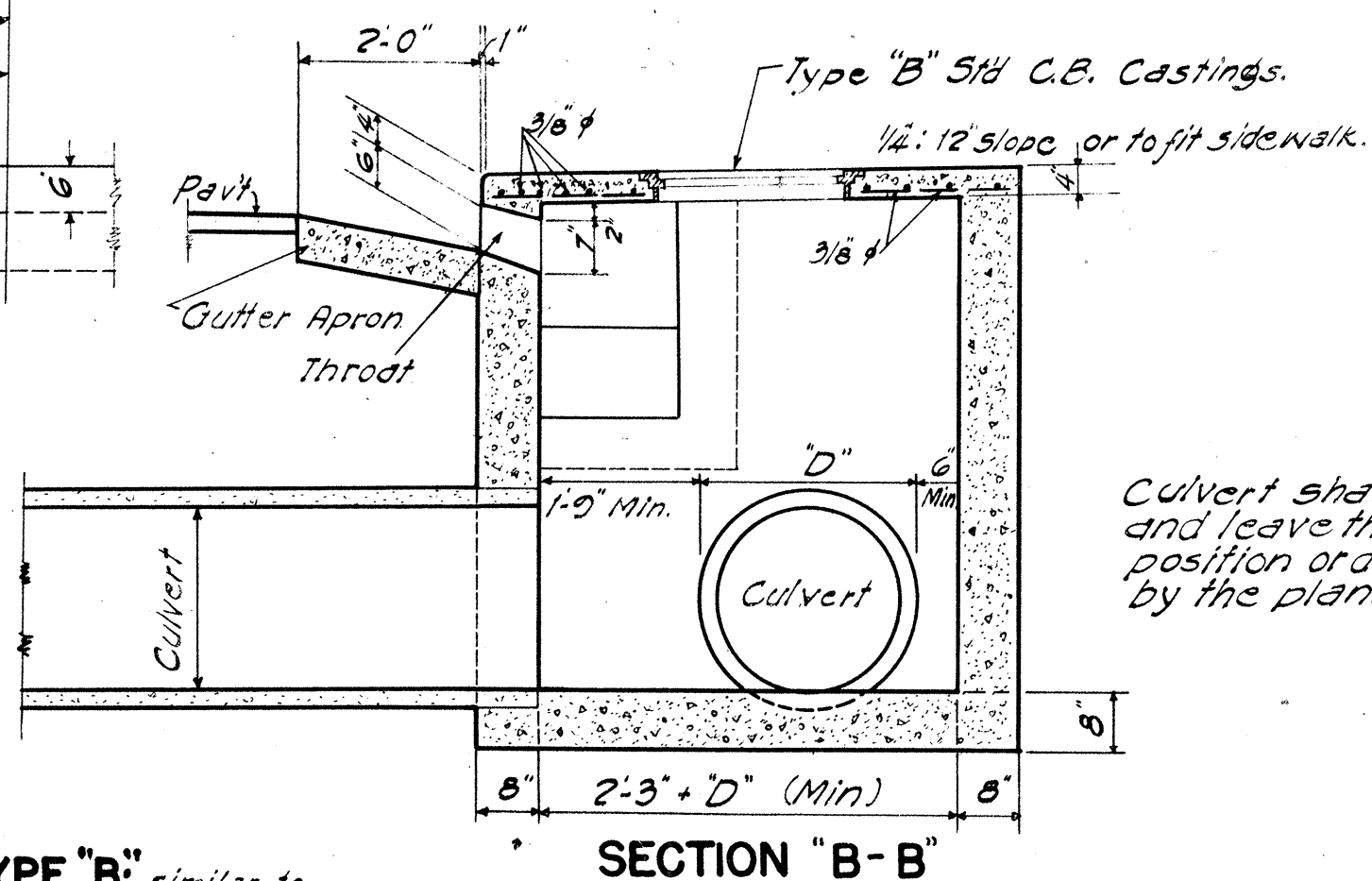


TYP. SECT. OF CULVERT WITH CONC PROTECTION
 (To be used when cover is less than 18")

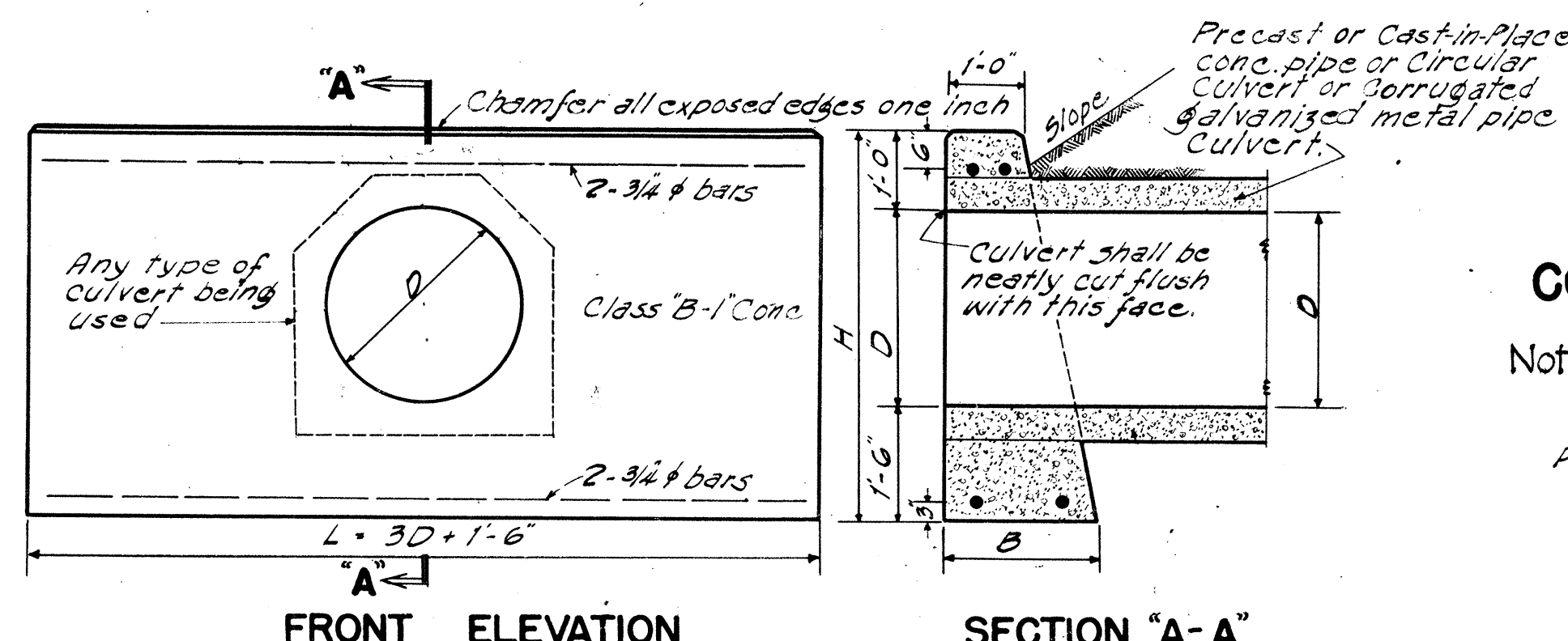
DATA: CONCRETE PROTECTION OVER CULVERTS		
X	Y	Z
6" for 18" D		Z must be from pipe to face of trench. Minimum = X Maximum pay quantity will be Z = 12"
7" " 24" D		
8" " 30" D		
9" " 36" D		
10" " 42" D		
11" " 48" D		
12" " 54" D		



ST'D. CONC. DROP INTAKE
 Scale: 1/2" = 1'-0"



CONC. COLLAR FOR CONC. BOX CULVERT
 Scale: 1/2" = 1'-0"

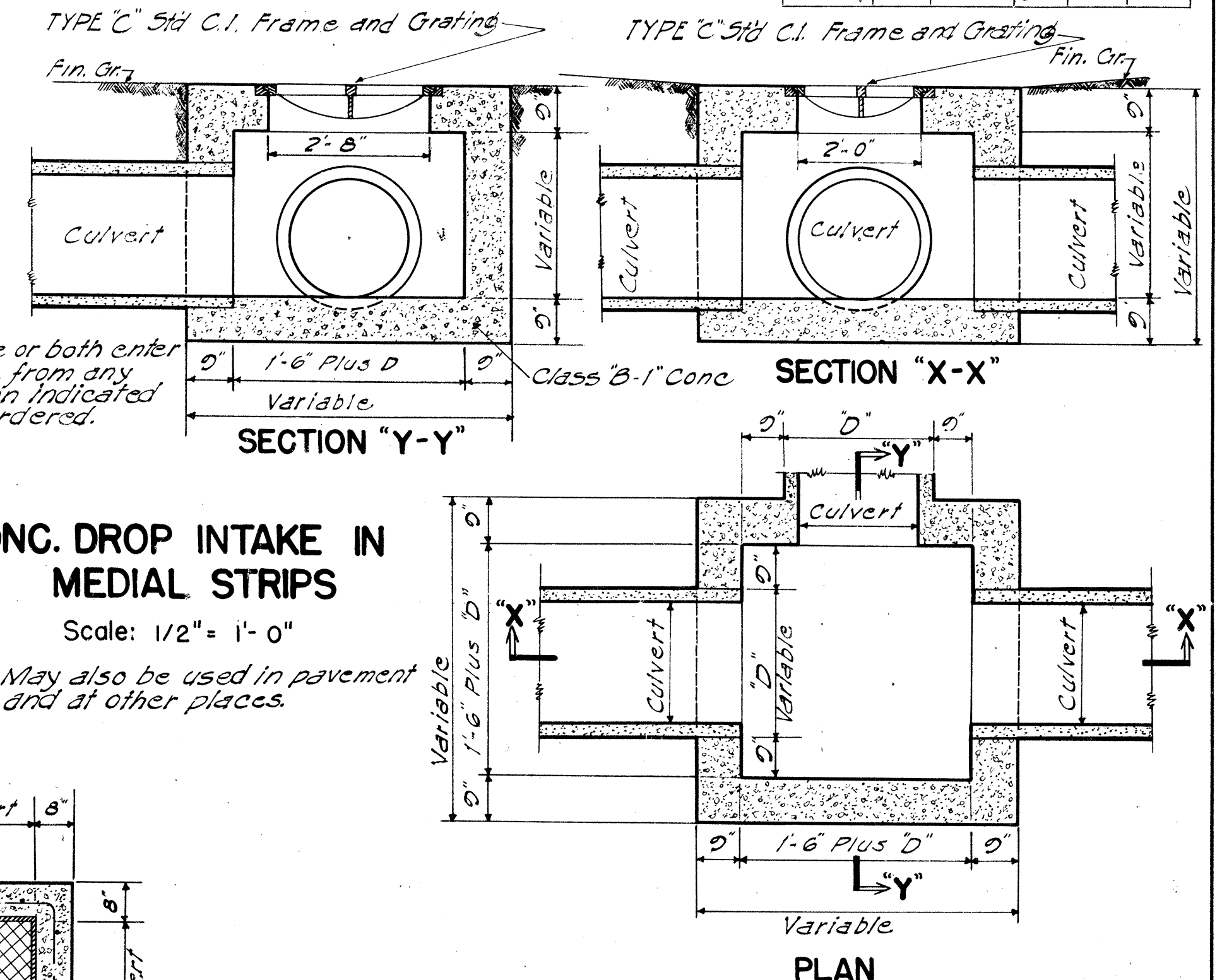


Cast-in-Place	Data: Standard Concrete Headwall				Steel One Headwall			
Cu. Yds.	D	B	L	H	Conc. one H.W.	No. of Bars	Size	Length
0.02 Cu. Yds.	18"	1'-6"	6'-0"	4'-0"	1.00 Cu. Yds.	4	3/4"	5'-6"
1.23 "	24"	1'-6"	7'-6"	4'-6"	1.38 "	4	"	7'-0"
1.93 "	30"	2'-0"	9'-0"	5'-0"	2.17 "	4	"	8'-6"
2.73 "	36"	2'-0"	10'-6"	5'-6"	2.74 "	4	"	10'-0"

STANDARD CONCRETE HEADWALL
 Scale: 1/2" = 1'-0"

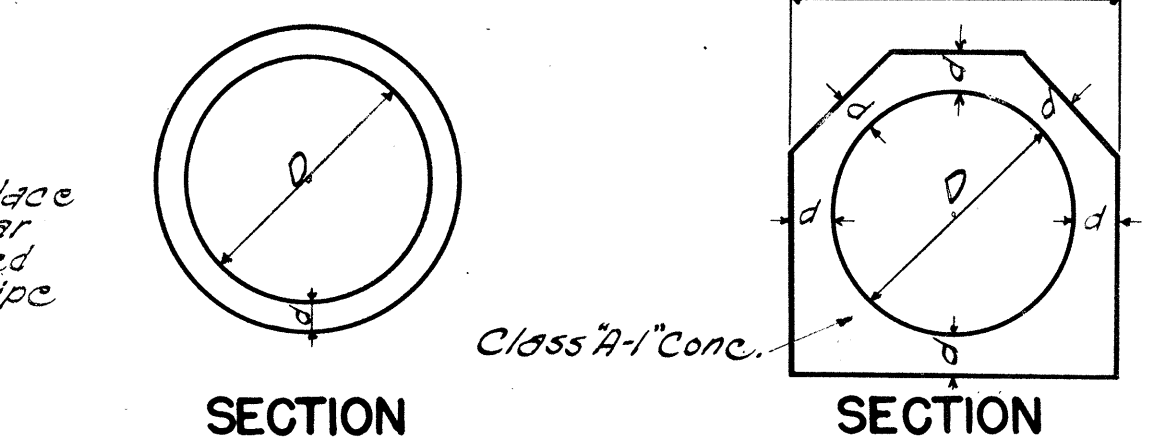
CONC. DROP INTAKE IN MEDIAL STRIPS
 Scale: 1/2" = 1'-0"

Note: May also be used in pavement and at other places.



CONSTR. JOINT DETAILS

- METHOD OF APPLYING CONSTR. JOINT WATERPROOFING**
- (1) Map surface either side of joint as required with asphalt 85-100 penetration applied at 200°F.
 - (2) Apply one layer of 55-lb composition roofing to hot asphalt.
 - (3) Map surface of composition roofing and 3" beyond all around with thick coat of asphalt as specified under (1).



Data: Cast-in-Place Conc. Culvert				
D	d	W	Length	Wt. Lbs.
18"	4"	2'-2"	0.11	
24"	4 1/2"	2'-0"	0.14	
30"	5"	3'-4"	0.10	
36"	5 1/2"	3'-11"	0.26	

CAST-IN-PLACE CONC. CULVERT