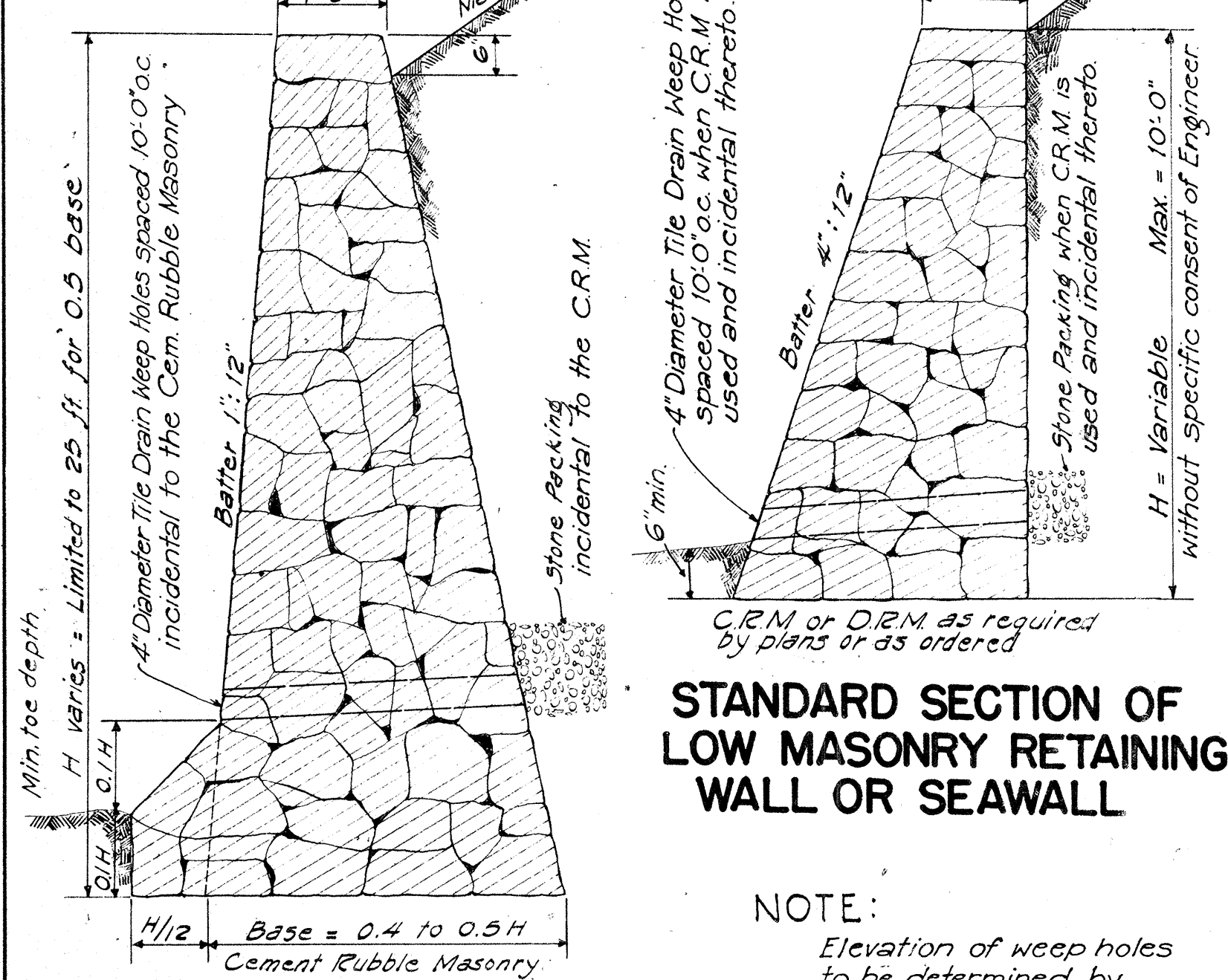


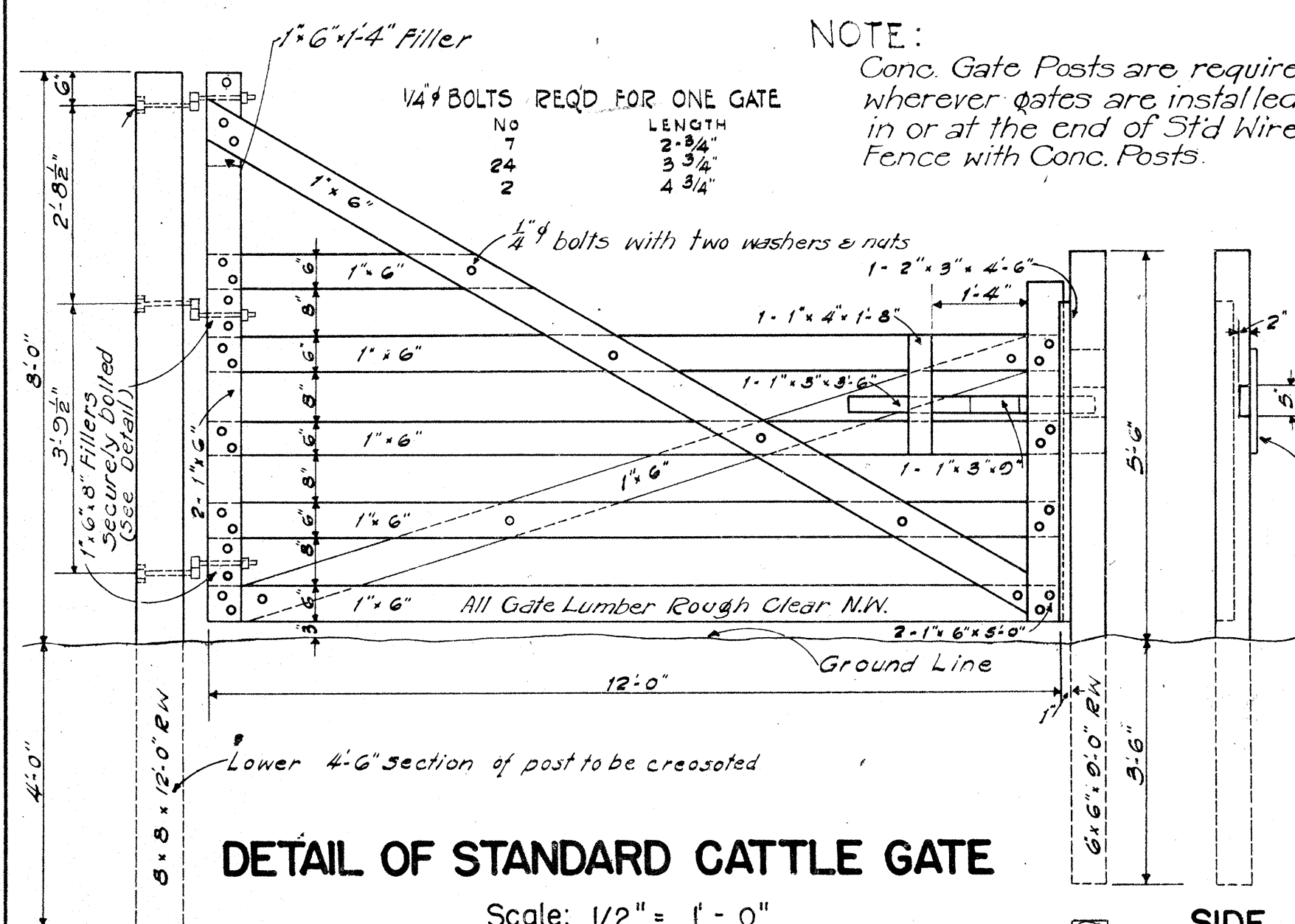
Note: TO RESIDENT ENGINEER
Consider economy of reinf. conc. for
high retaining walls which
do not originate on plan lay-
out.



STANDARD SECTION OF
LOW MASONRY RETAINING
WALL OR SEAWALL

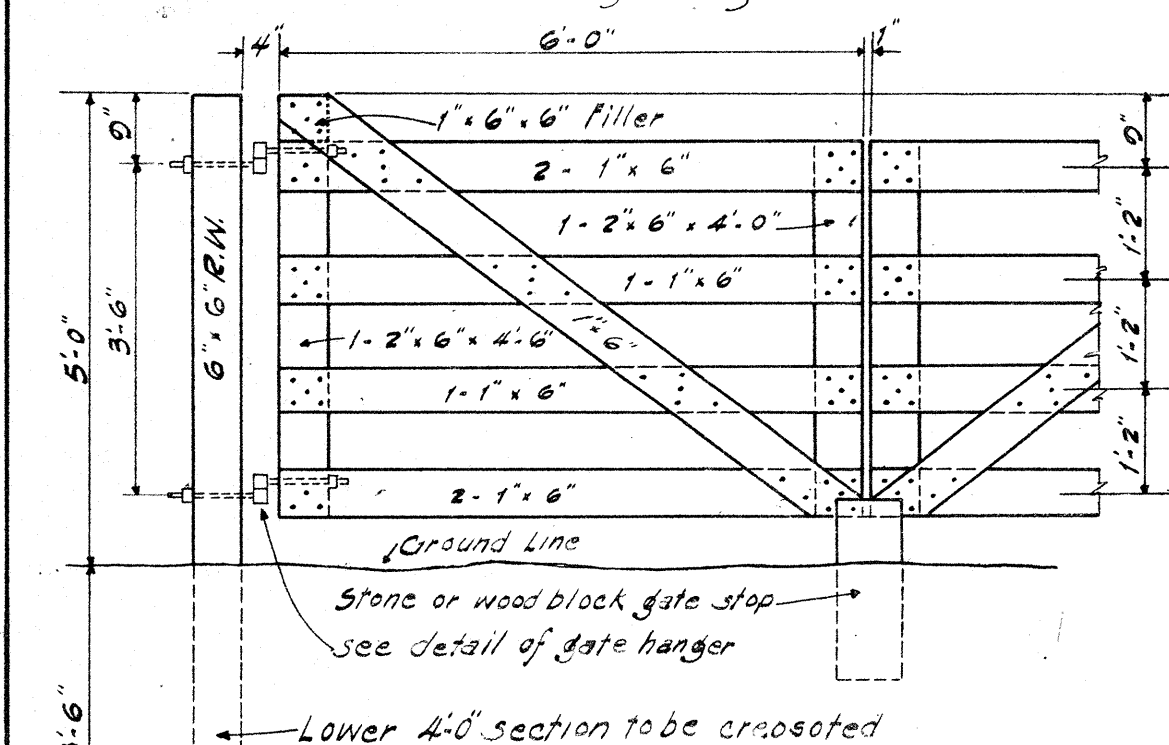
NOTE:
Elevation of weep holes
to be determined by
Resident Engineer. Holes
to be placed as close to the
existing ground line as
local conditions permit.

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.

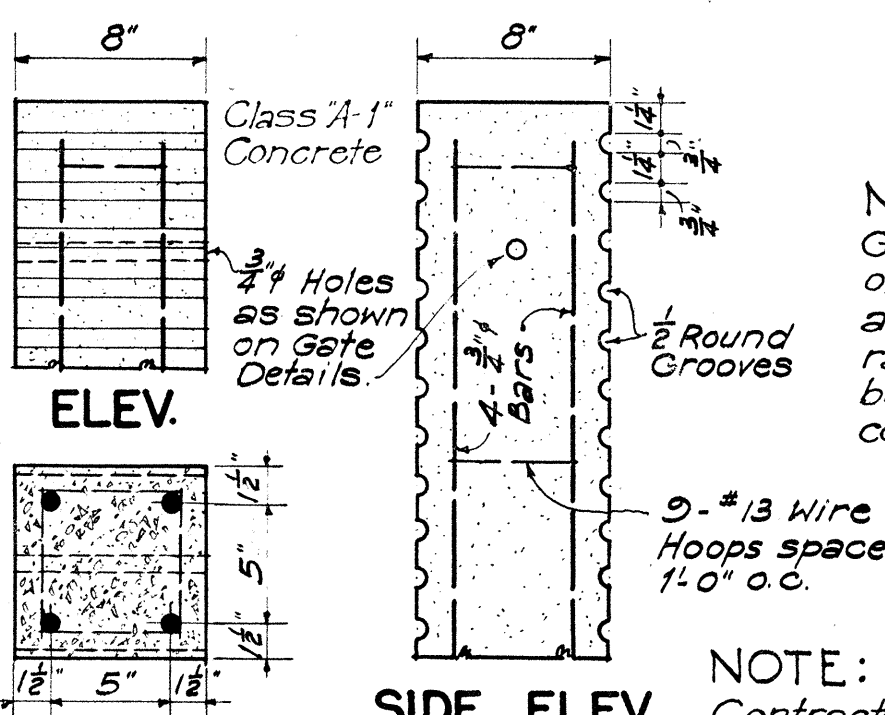
DETAIL OF GATE HANGER

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

Note: Use 3/4" x 11" bolts for cattle gate

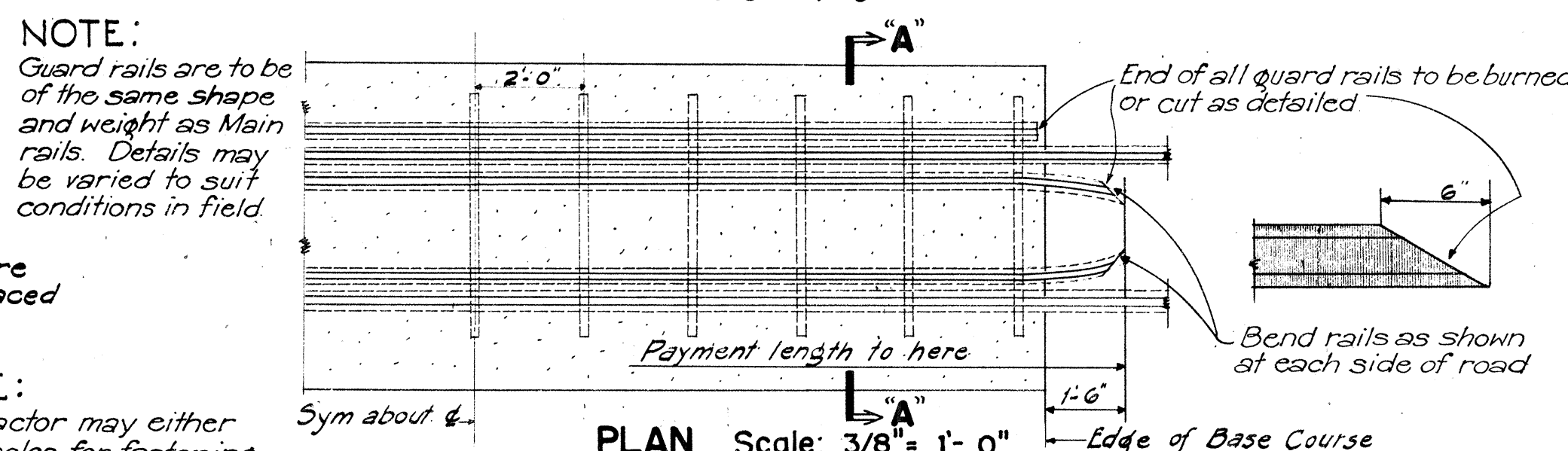
Data	Standard	Masonry	Drop	Intake	Where
0'	0'	L = D + 6'	C.U.Yds	Equal	Equal
22 1/2"	18"	2'-0"	2.41	4'-6"	
29"	24"	2'-6"	2.89	5'-0"	
35 1/2"	30"	3'-0"	3.38	5'-6"	
42"	36"	3'-6"	3.92	6'-0"	

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



STANDARD MASONRY DROP
INTAKE

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



Cast-in-Place	Precast	Data-Standard	Rubble Masonry H.W.	C.U. Yds.
0.85	0.25	18"	3'-6"	0.93
1.23	1.45	24"	4'-0"	1.41
1.83	2.06	30"	4'-6"	2.00
2.40	2.84	36"	5'-0"	2.72

STANDARD MASONRY HEADWALL

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

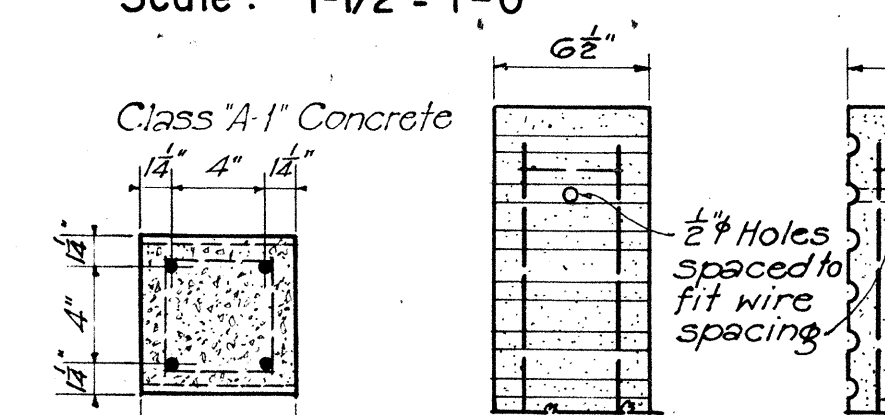
NOTE:
Volume for one head
wall is for corrugated
pipe culvert

NOTE:

Contractor may either
cast holes for fastening
fence wire or cast post
with 3/4" x 2 round grooves
on 2 sides.

CONC. GATE POST

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

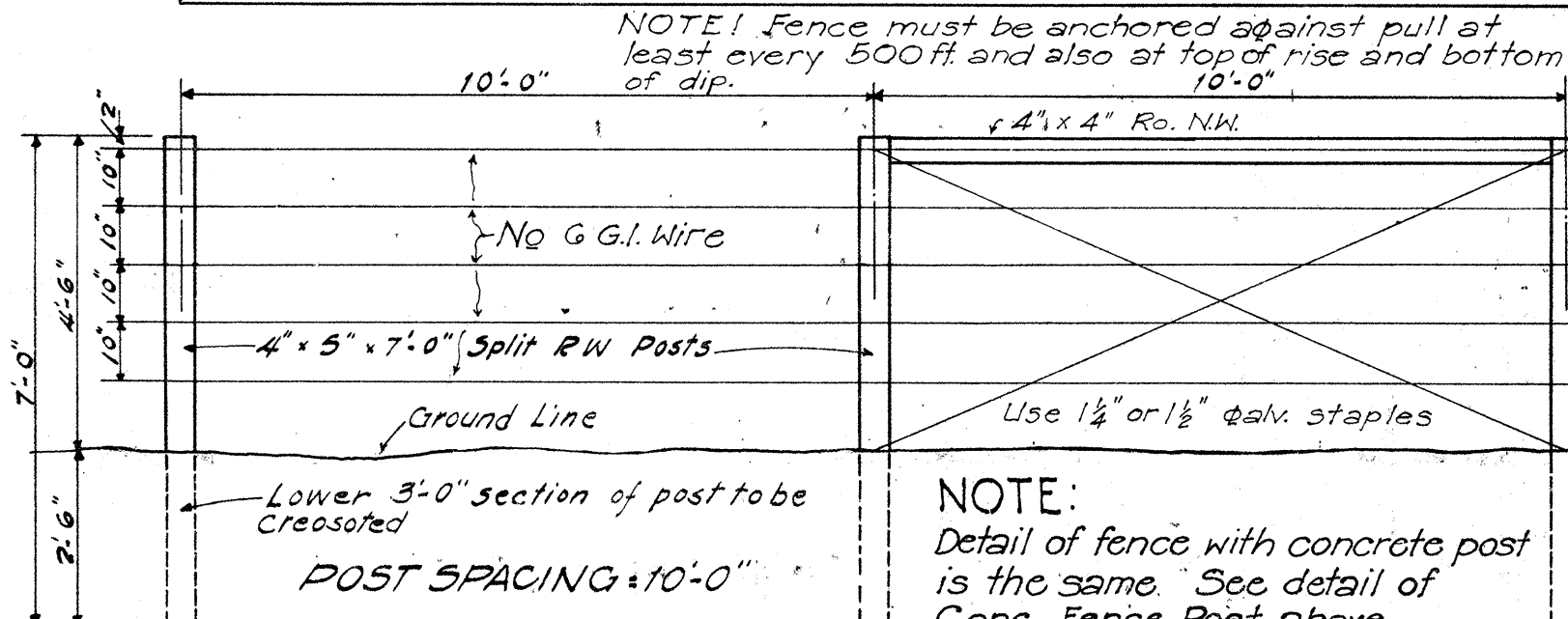


CONC. FENCE POST

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

STANDARD GUIDE POSTS:

5"x8" Reinforced Conc. Posts same
as those used for Std Wood Guard Rail spaced 18' o.c. unless otherwise specified.



DETAILS OF STANDARD WIRE FENCE
WITH WOODEN POSTS

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

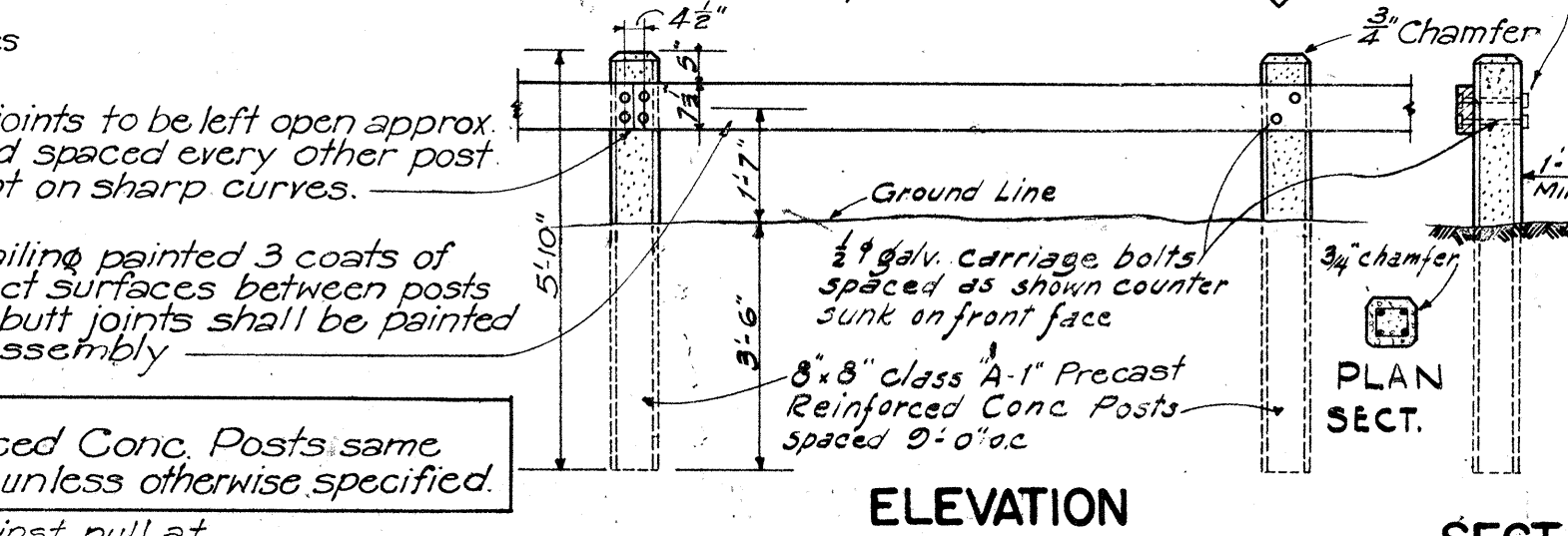
DETAILS OF STANDARD WIRE FENCE
WITH WOODEN POSTS

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

NOTE: This Project requires Std Wire
Fence with 10 ft post spacing
(If spacing is not indicated above, use 10 ft)

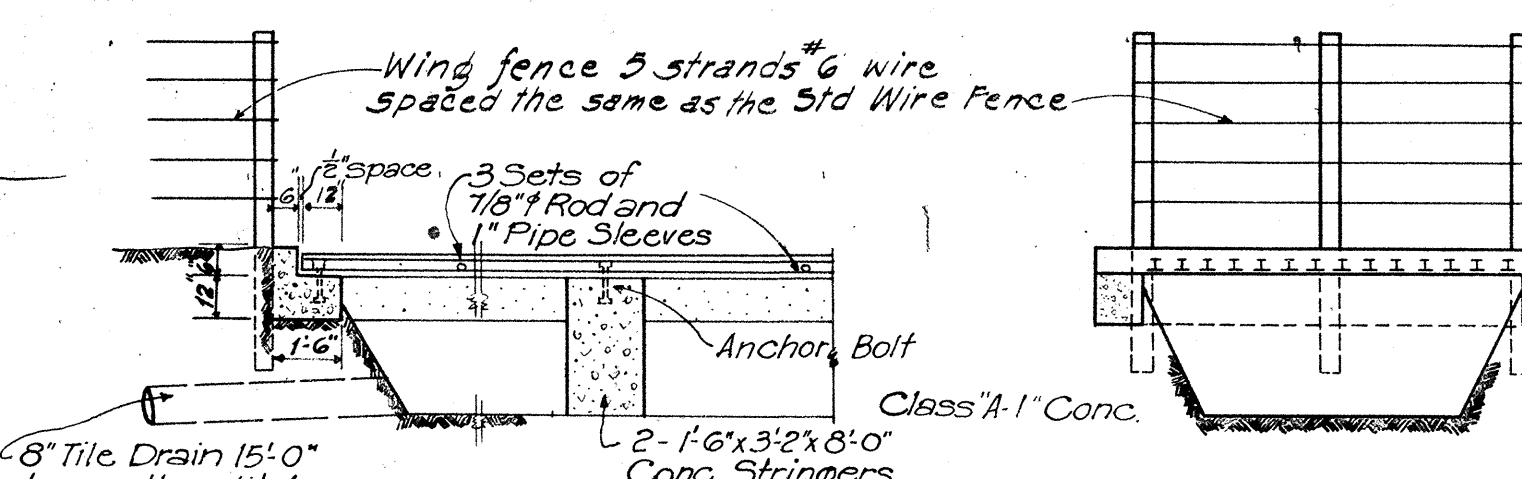
INDUSTRIAL TRACK CROSSING

NOTE: Use Type "A" if neither Type "A" or "B" is specified.



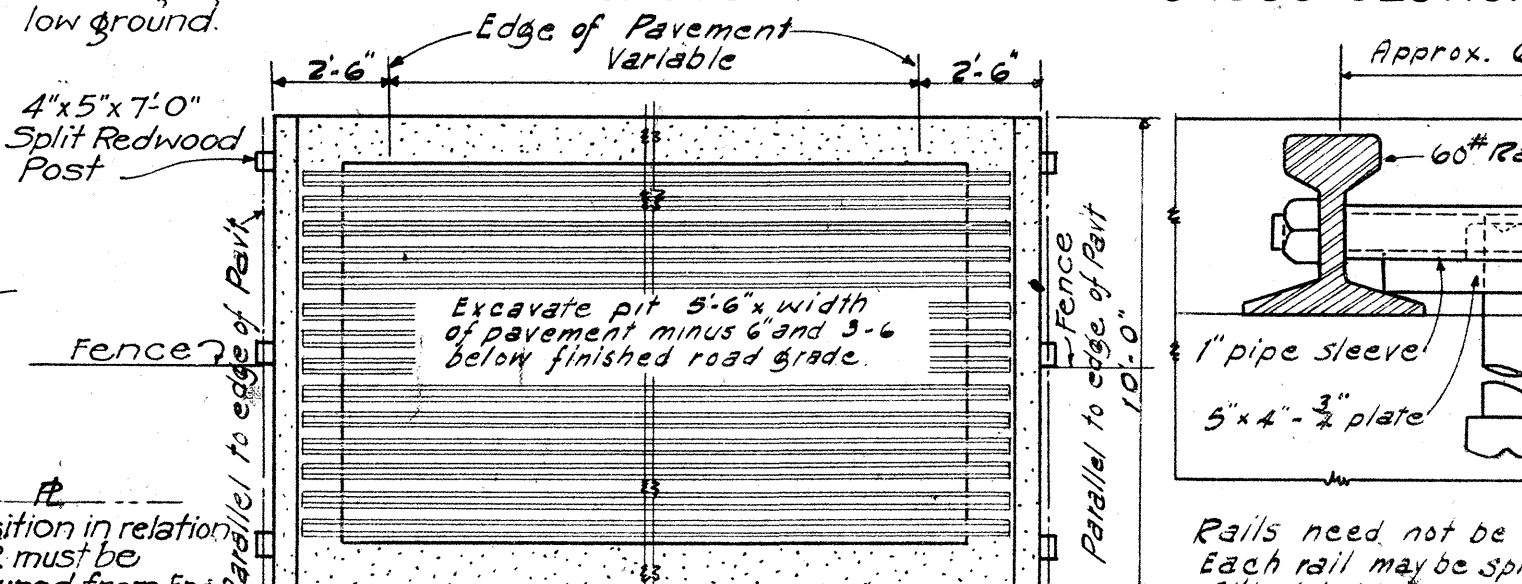
STANDARD WOOD GUARD RAIL

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



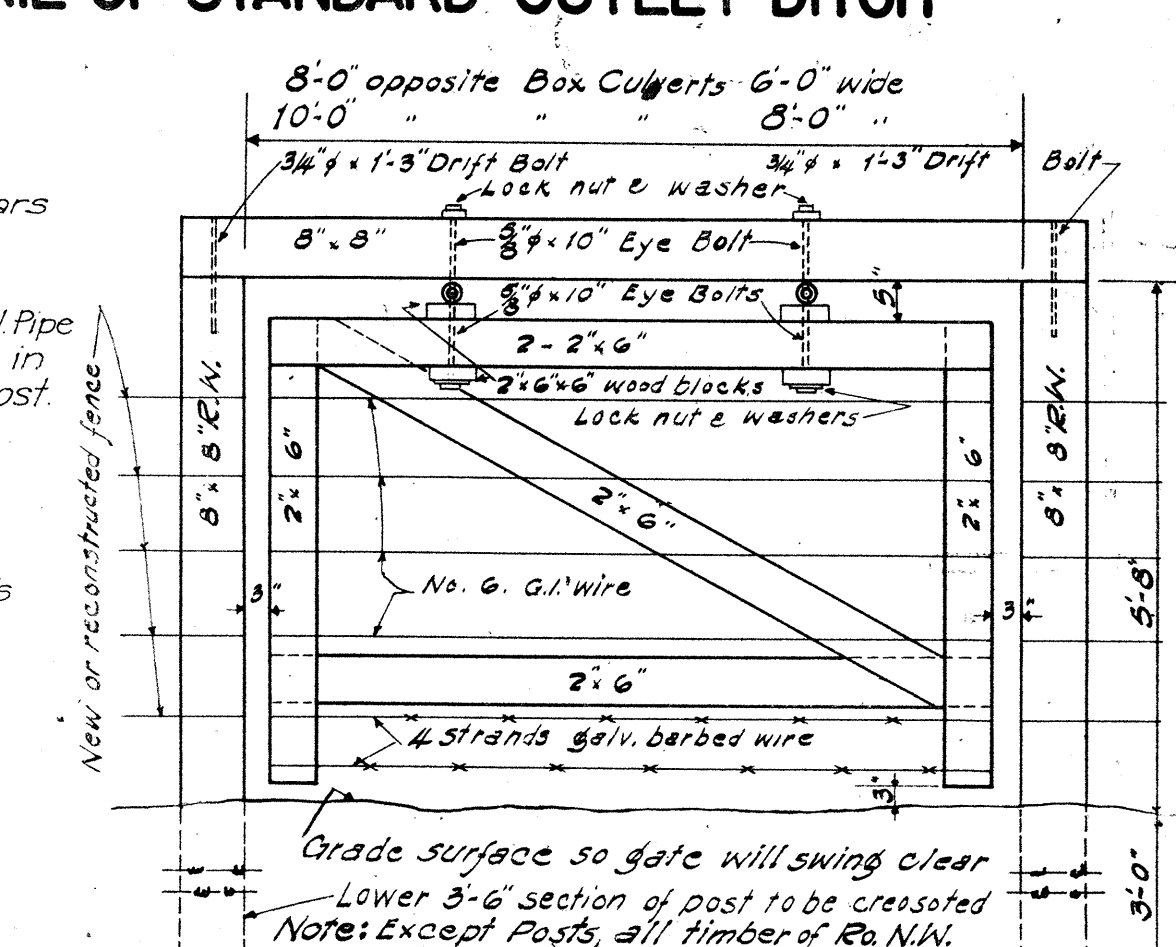
PART LONG. SECTION

CROSS SECTION



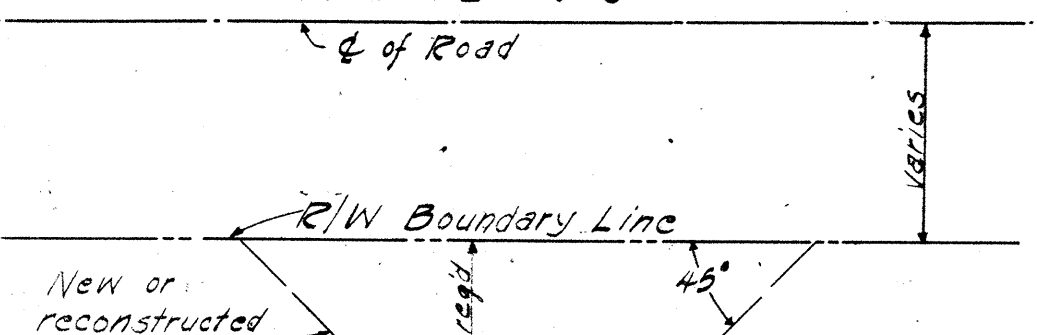
DETAILS OF CATTLE GUARD

DETAIL OF STANDARD OUTLET DITCH



ELEVATION

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



LAYOUT SHOWING HURDLE PLACED
BELOW CULVERT IN A POSITION
WHICH WILL BE CATTLE TIGHT

DETAILS OF HURDLE

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

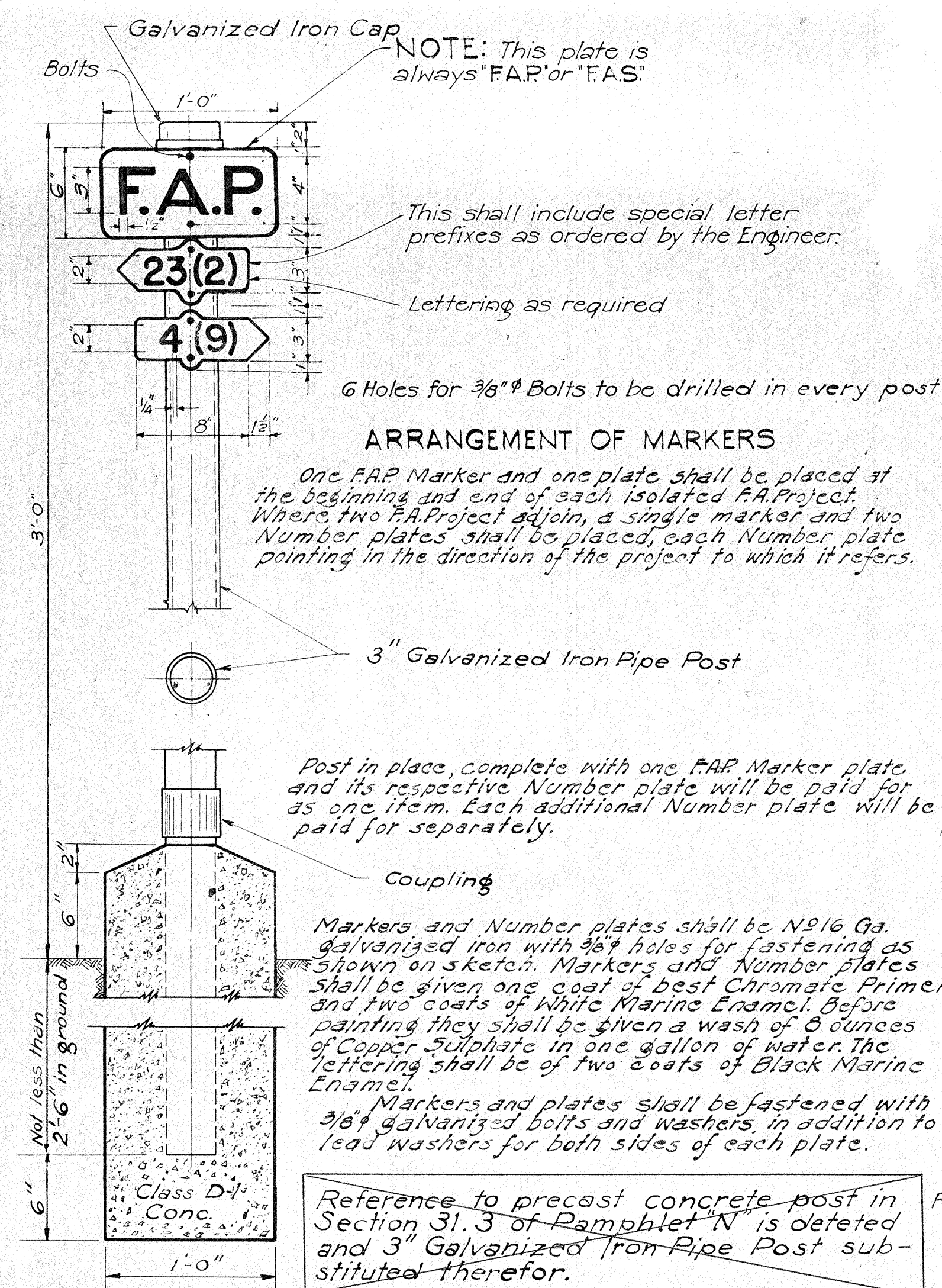
SCALES AS NOTED Apr. 15, 1948

APPROVED: *[Signature]*

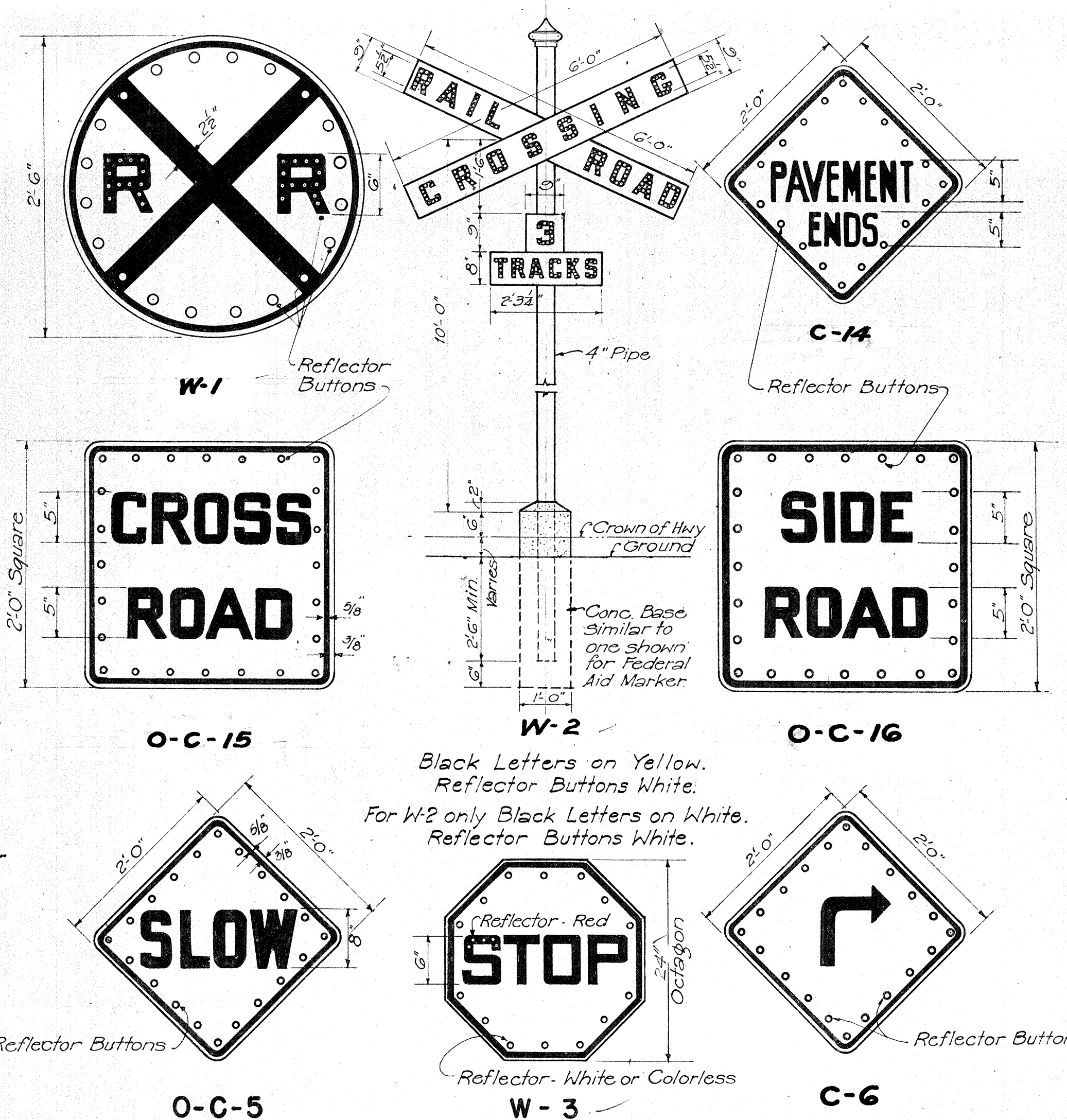
Territorial Highway Engineer

SHEET No 1 OF 4 SHEETS

5333.12

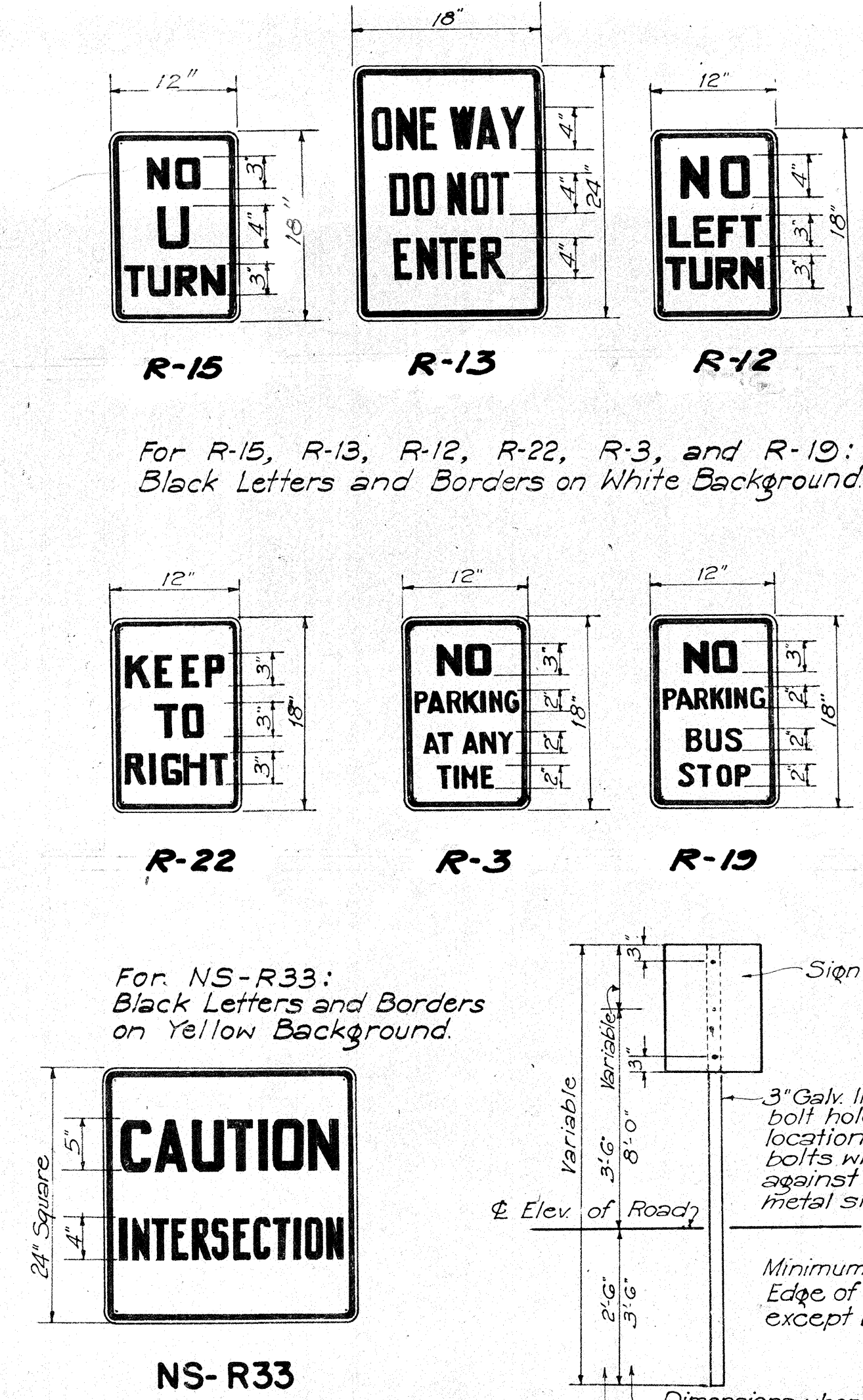


FEDERAL AID MARKER
Scale: 1-1/2" = 1'-0"

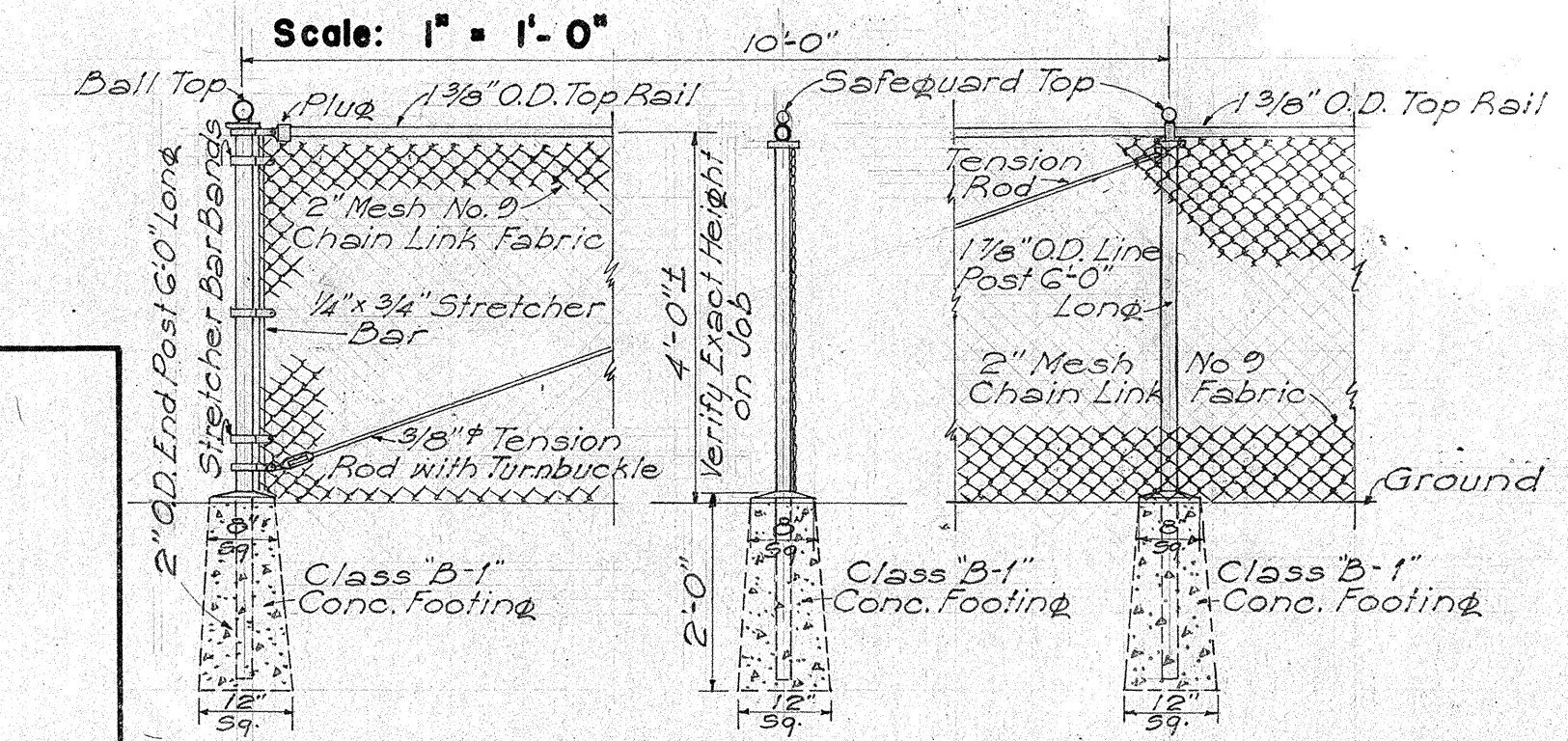


WARNING AND CAUTION SIGNS

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

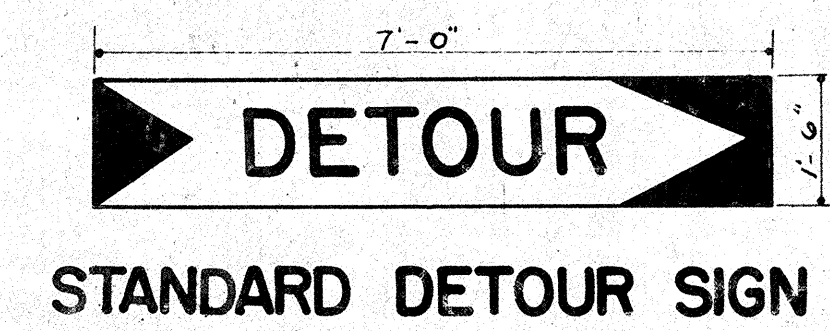


DETAILS OF REGULATORY SIGNS

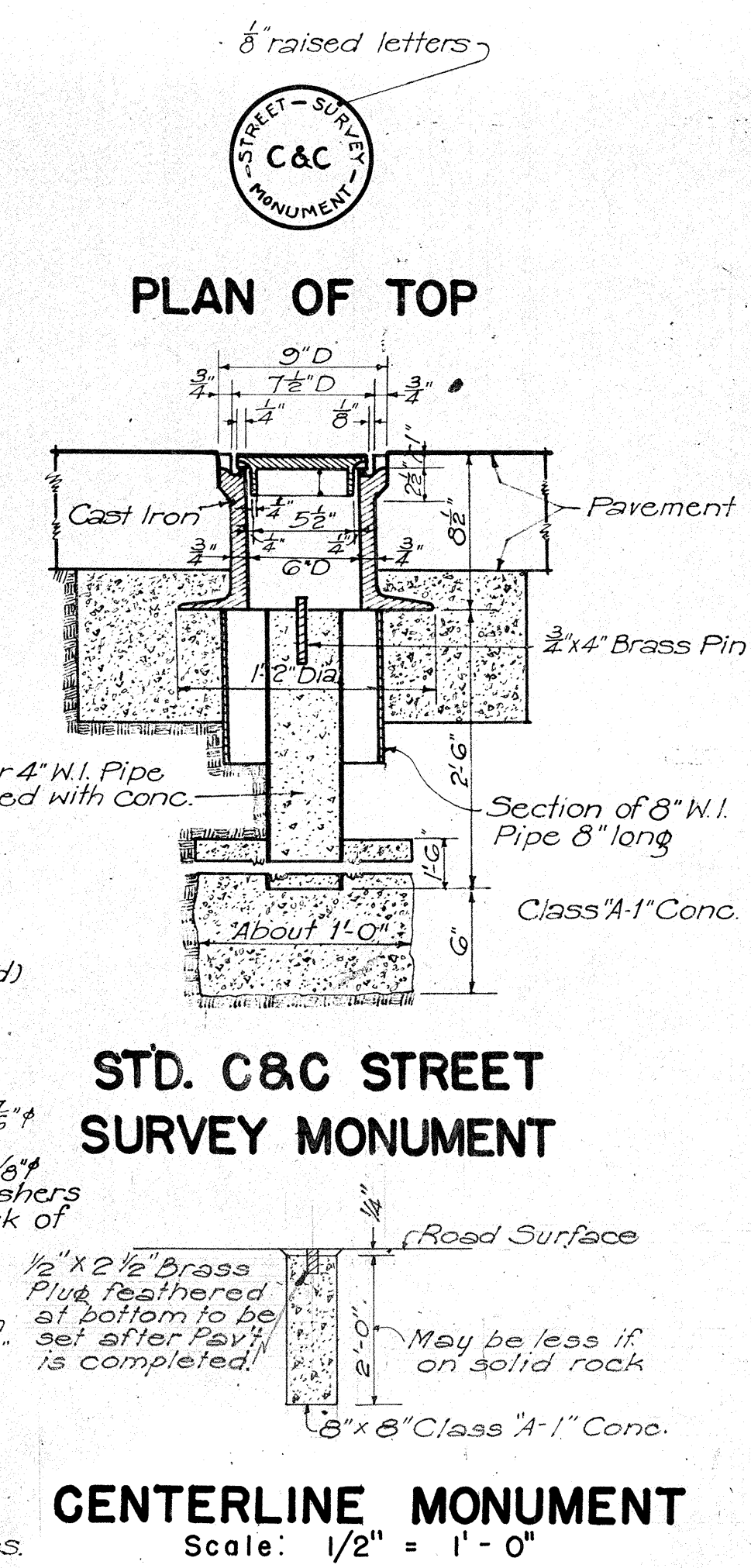


DETAIL OF CHAIN LINK FENCE
Scale: 1/2" = 1'-0"

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.

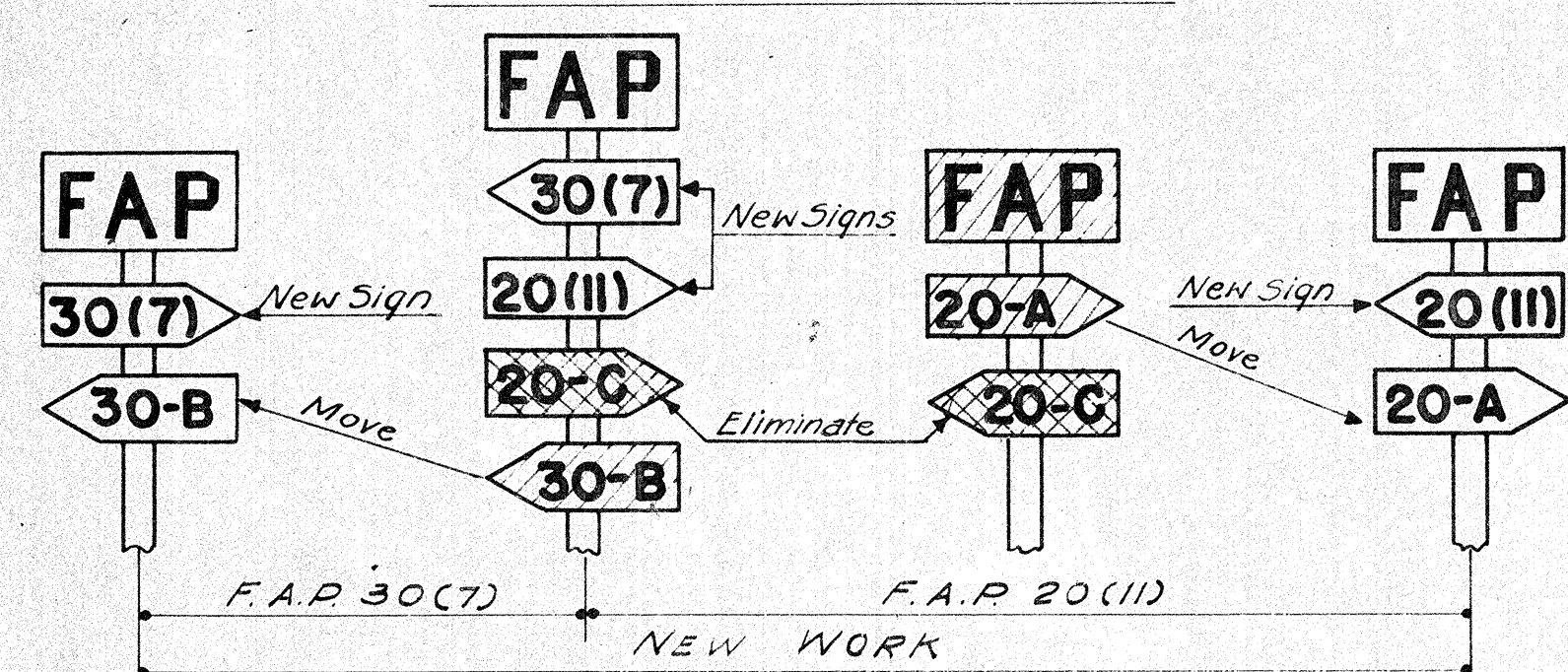


STANDARD DETOUR SIGN

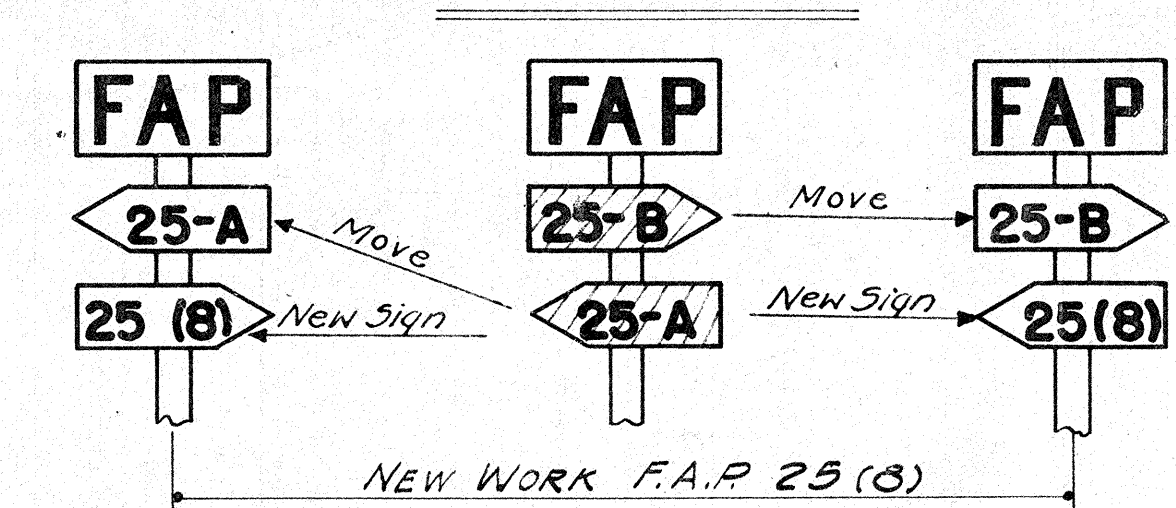


STD. C&C STREET SURVEY MONUMENT
Scale: 1/2" = 1'-0"

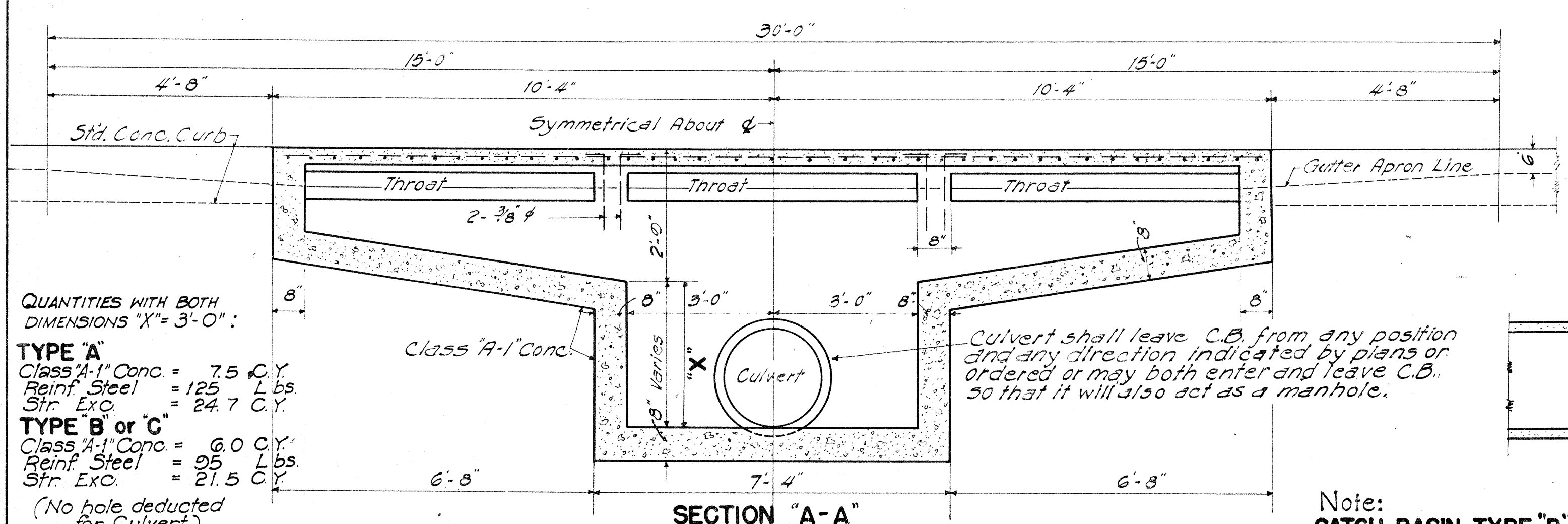
F.A.P. 20 & 30



F.A.P. 25



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

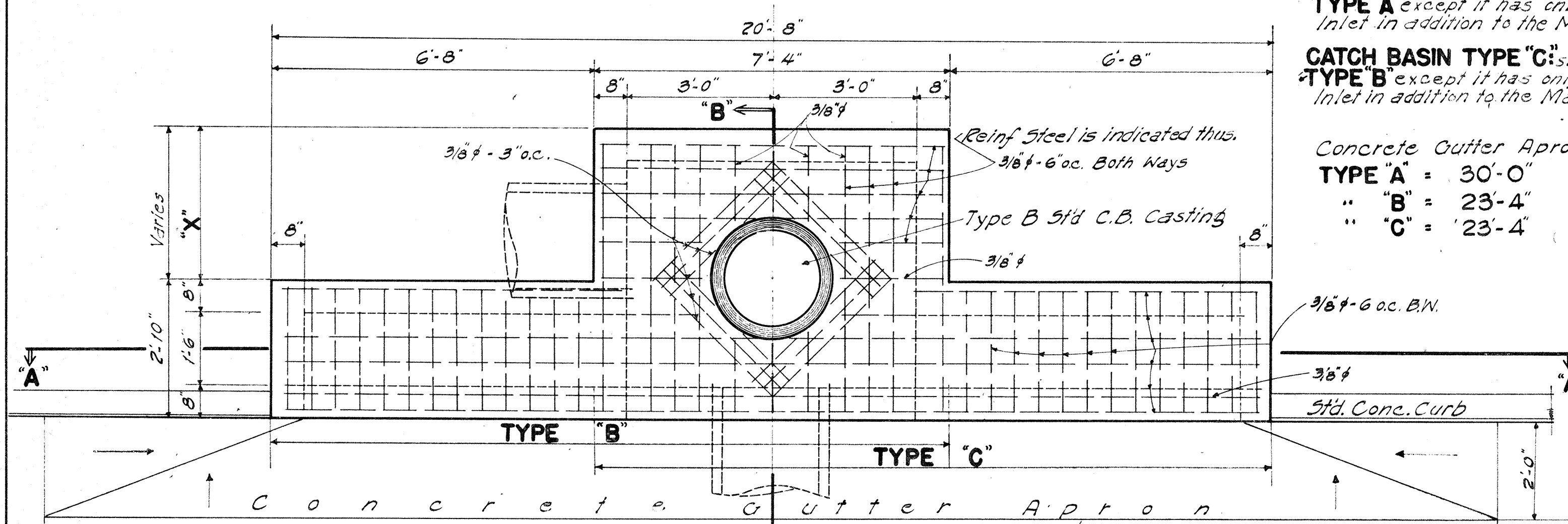


QUANTITIES WITH BOTH DIMENSIONS "X" = 3'-0" :

TYPE "A"
 Class 'A-1' Conc. = 7.5 Cu. Yds.
 Reinf. Steel = 125 Lbs.
 Str. Exc. = 24.7 Cu. Yds.

TYPE "B" or "C"
 Class 'A-1' Conc. = 6.0 Cu. Yds.
 Reinf. Steel = 95 Lbs.
 Str. Exc. = 21.5 Cu. Yds.

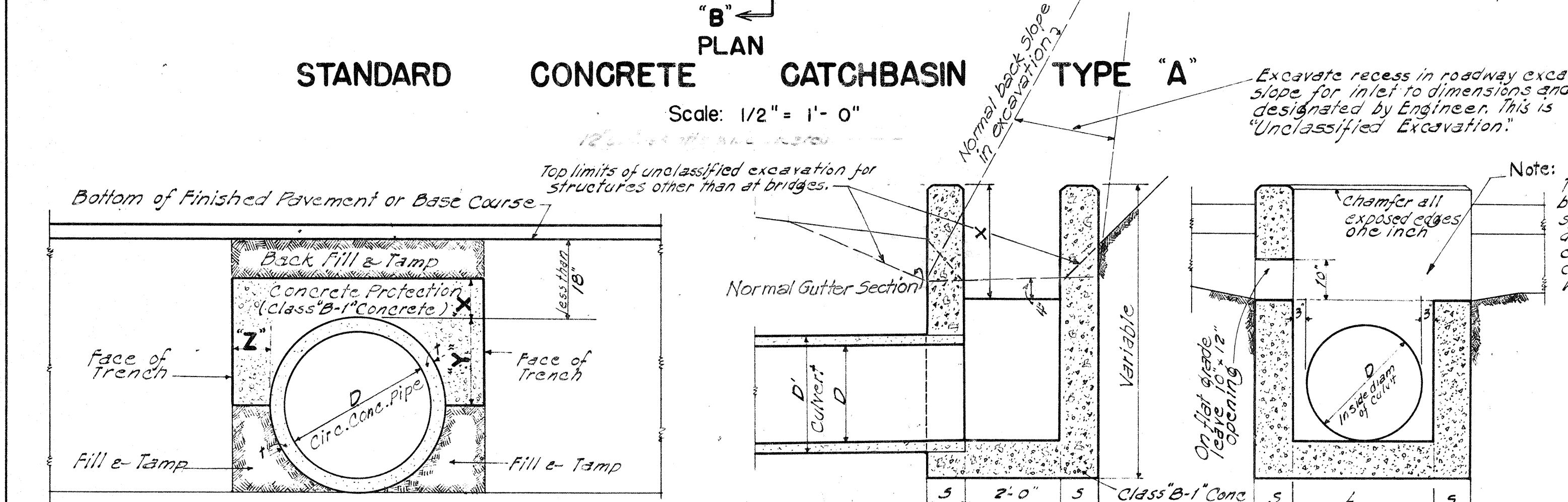
(No hole deducted for Culvert)



Note: **CATCH BASIN TYPE "B"** similar to TYPE "A" except it has only Left Side Inlet in addition to the Main Box.

CATCH BASIN TYPE "C" similar to TYPE "B" except it has only Right Side Inlet in addition to the Main Box.

Concrete Gutter Apron Length:
 TYPE "A" = 30'-0"
 TYPE "B" = 23'-4"
 TYPE "C" = 23'-4"

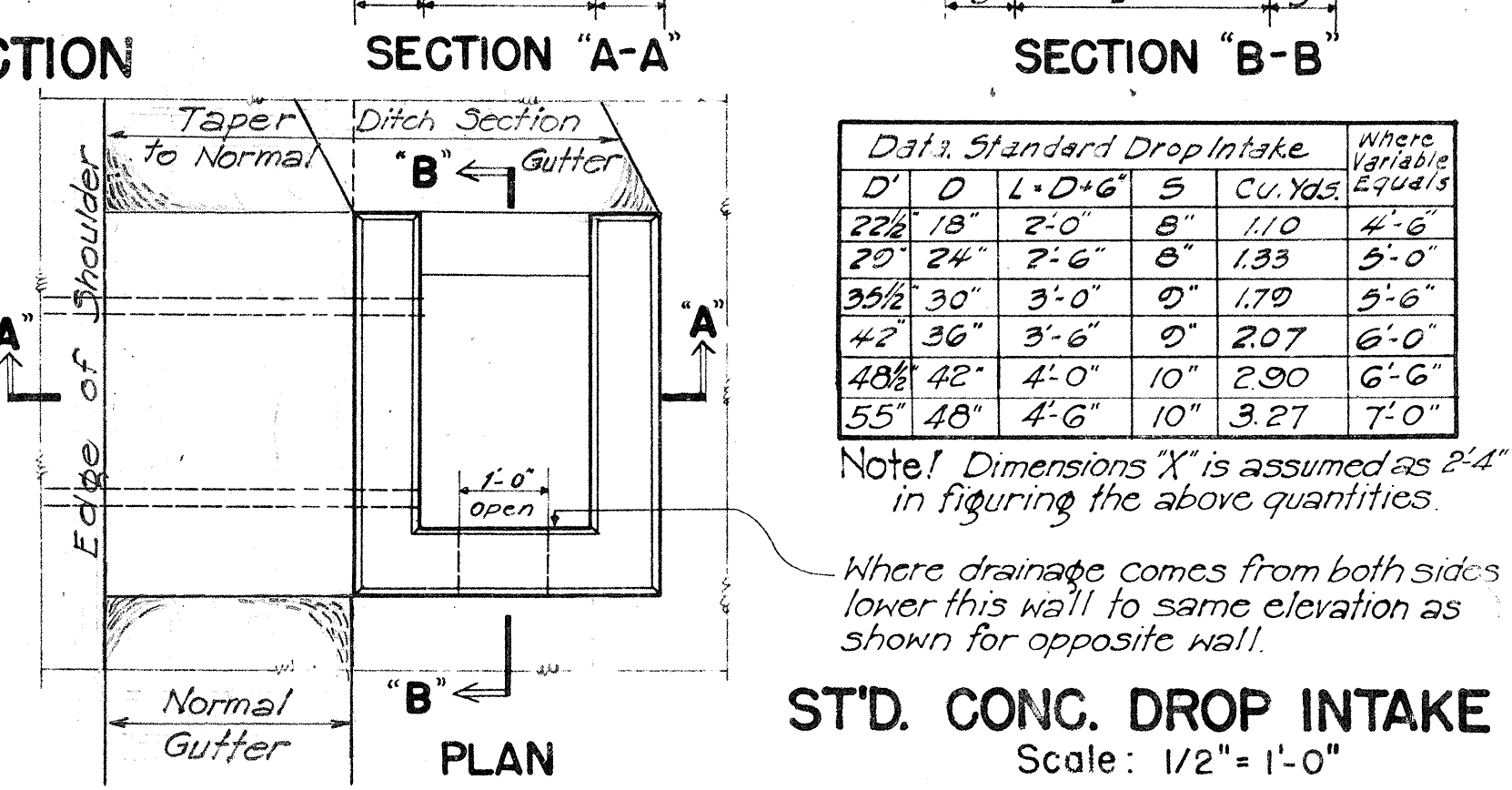


STANDARD CONCRETE CATCHBASIN TYPE "A"

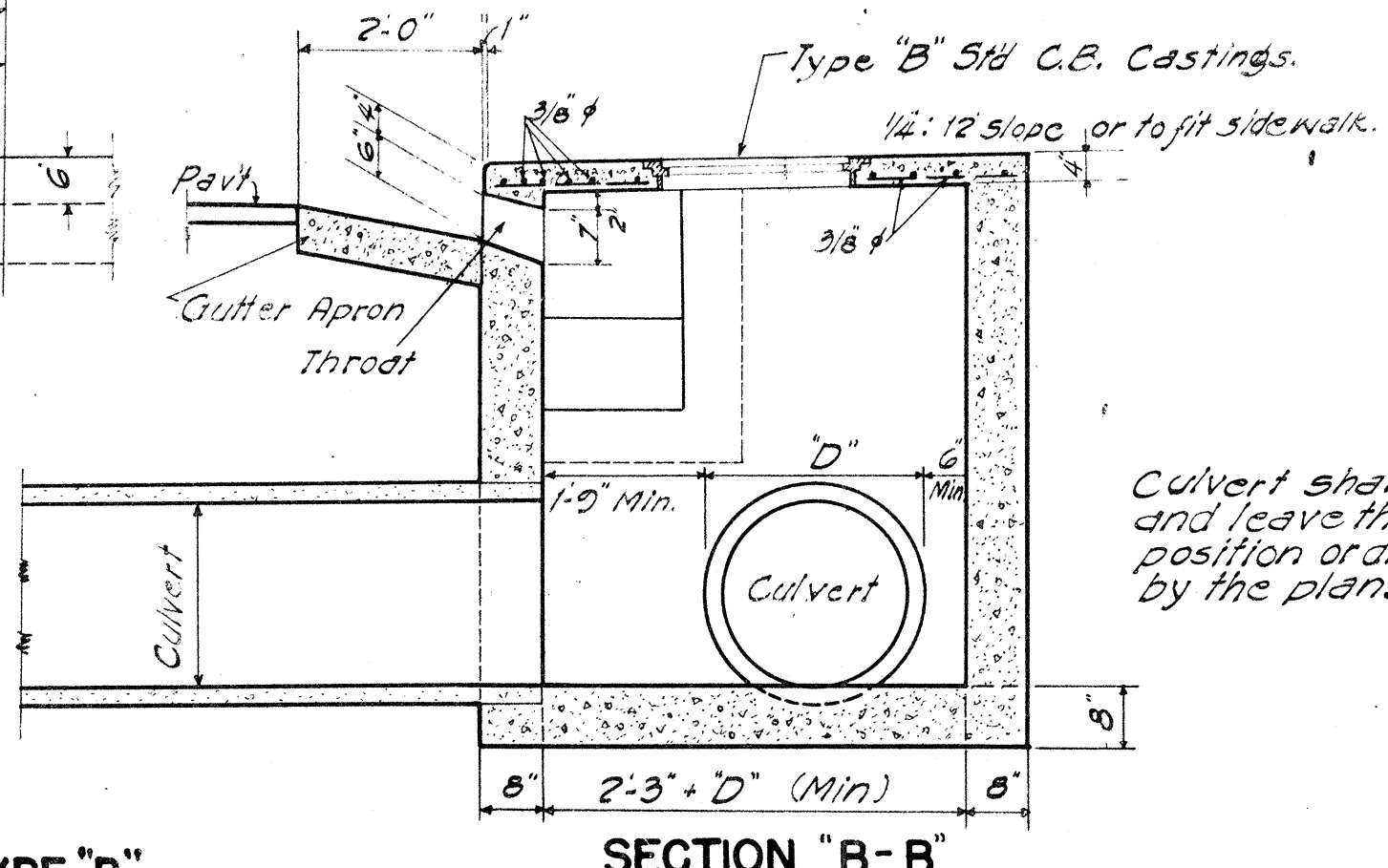
Scale: 1/2" = 1'-0"

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

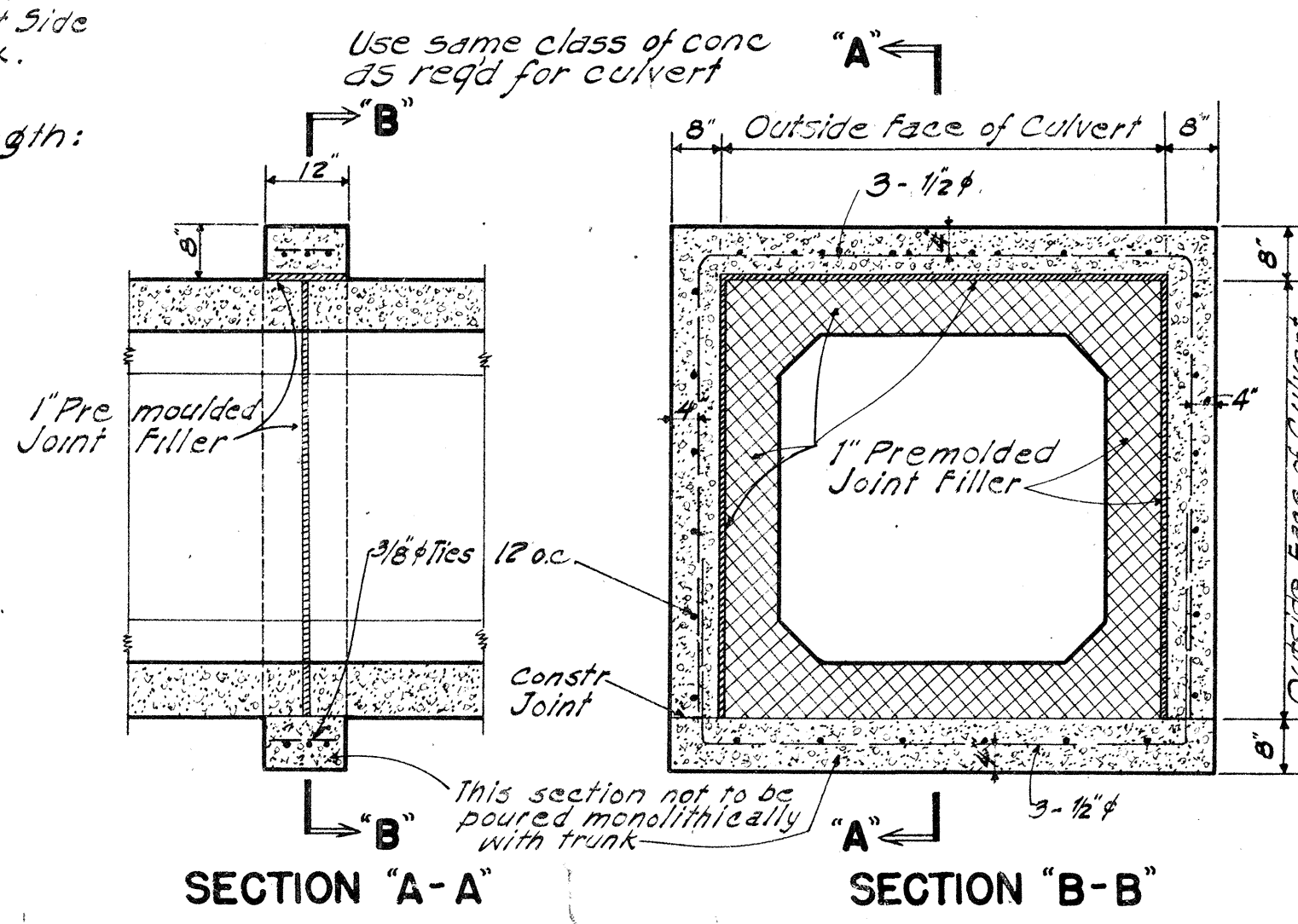
DATA: CONCRETE PROTECTION OVER CULVERTS		
X	Y	Z
6" for 18" D		Z must be from pipe to face of trench
7" " 24" D		
8" " 30" D		
9" " 36" D	D + T	Minimum = X
10" " 42" D		
11" " 48" D		Maximum pay quantity will be Z = 12"
12" " 54" D		



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

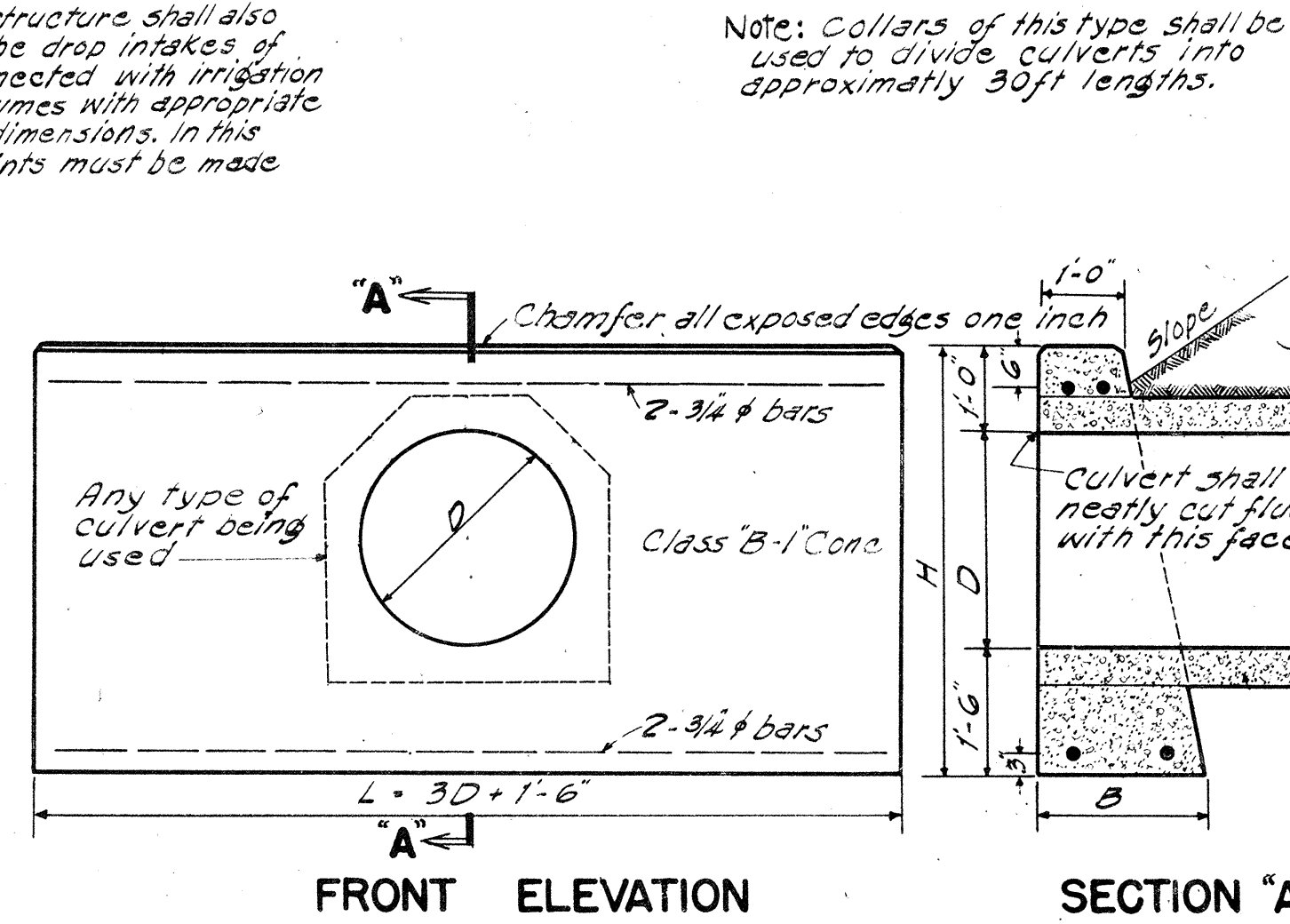


SECTION "B-B"



CONC. COLLAR FOR CONG. BOX CULVERT

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



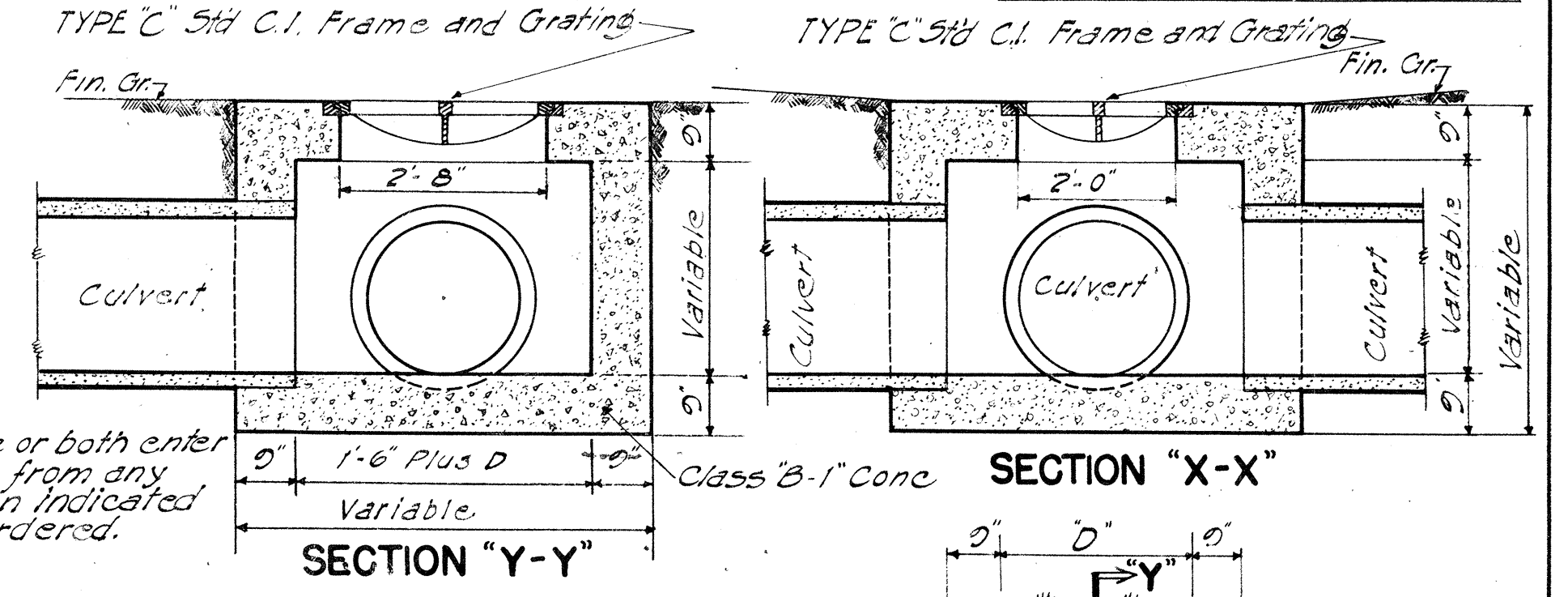
FRONT ELEVATION

SECTION "A-A"

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	Wt. Lbs.
0.02	18"	1'-6"	6'-0"	4'-0"	1.00 Cu. Yds.	4	3/4"	5'-6"	33
1.25	24"	1'-6"	7'-6"	4'-6"	1.38	4	"	7'-0"	42
1.95	30"	2'-0"	9'-0"	5'-0"	2.17	4	"	8'-6"	51
2.75	36"	2'-0"	10'-6"	5'-6"	2.74	4	"	10'-0"	60

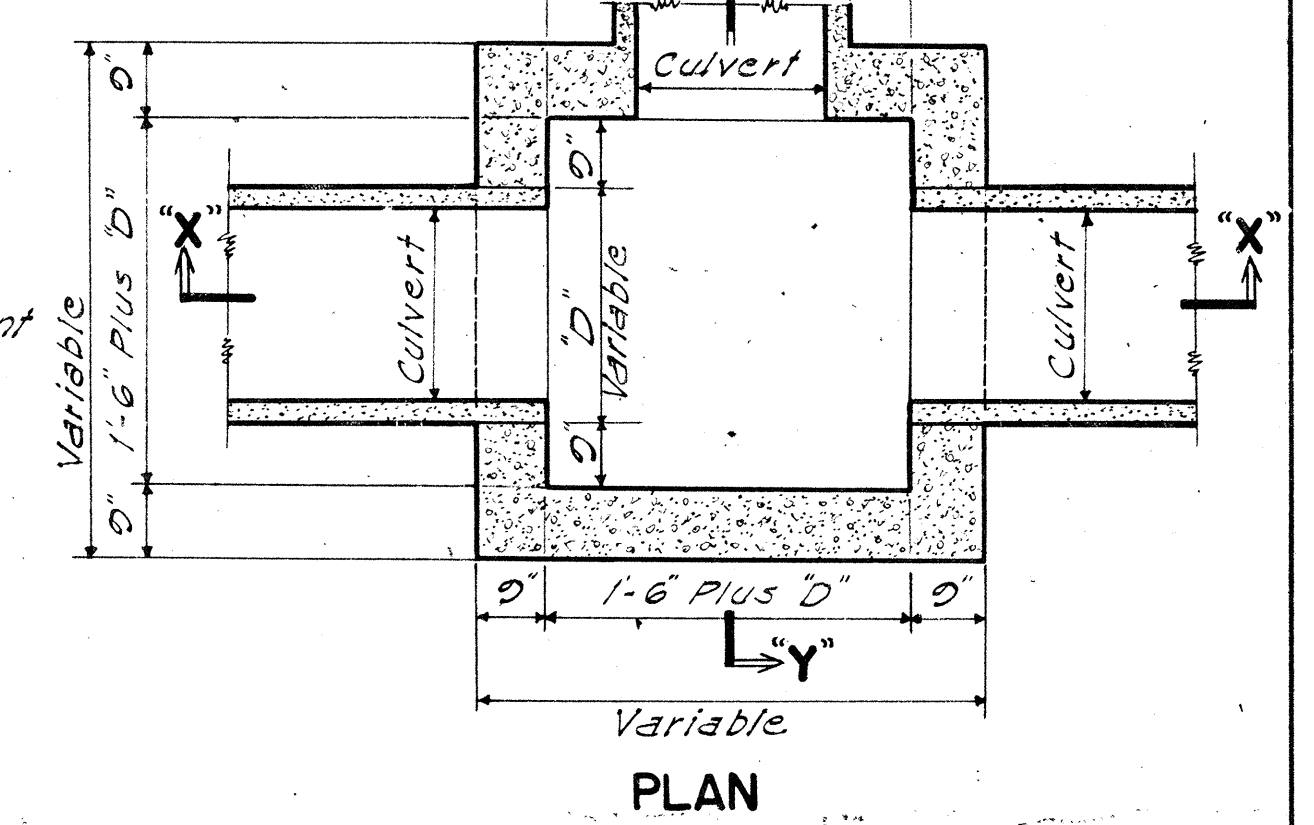
STANDARD CONCRETE HEADWALL

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

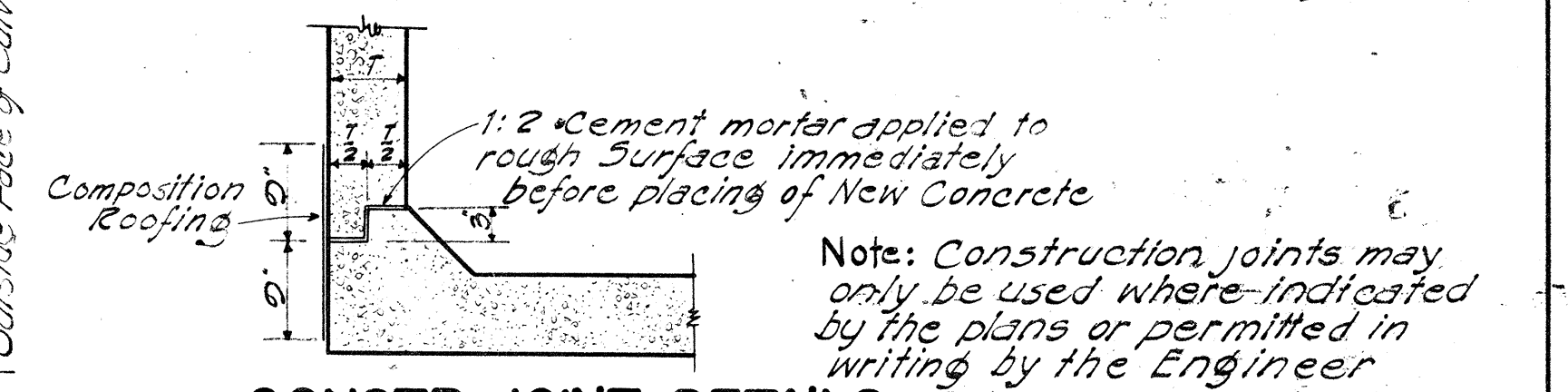


SECTION "Y-Y"

SECTION "X-X"



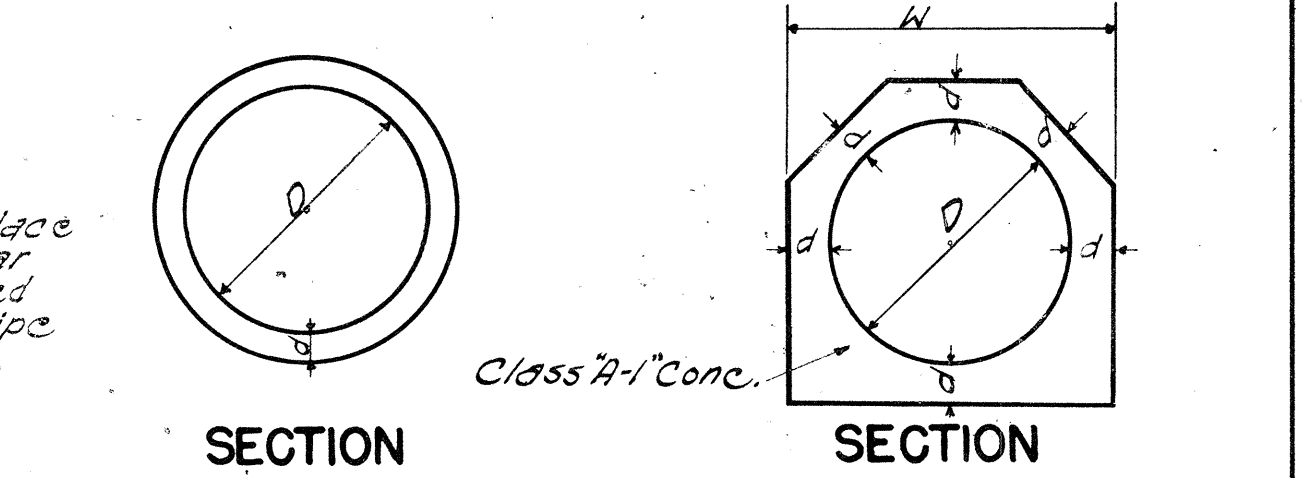
PLAN



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).



SECTION

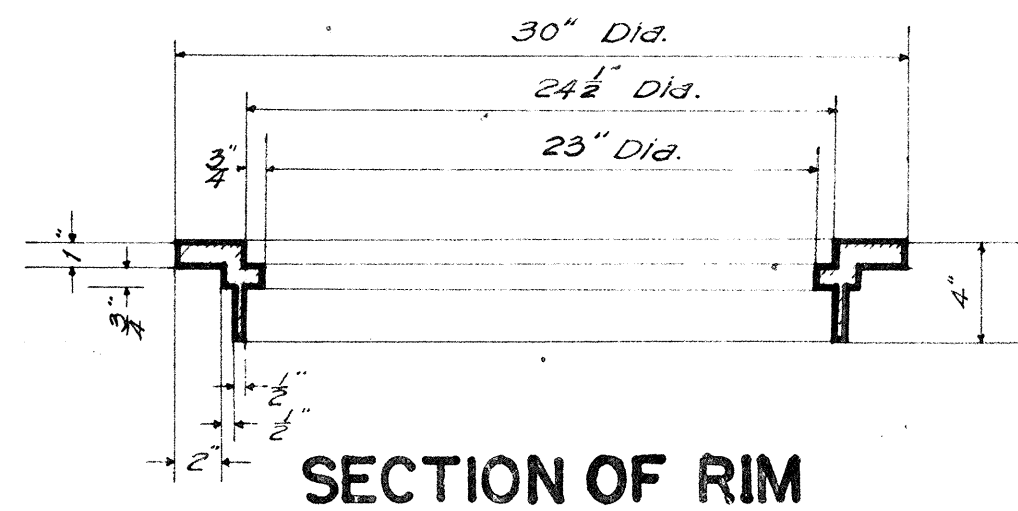
SECTION

CONC. PIPE CULVERT

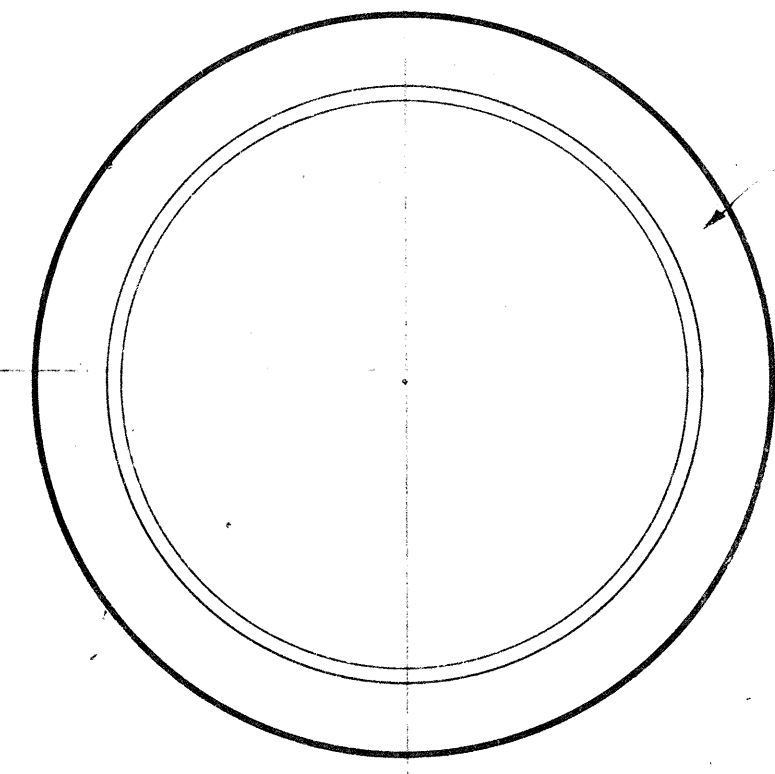
Note: Thickness "a", reinforcing, and concrete used are to conform with the approved design as provided by the specifications.

Data Cast-in-Place Conc. Culvert			
D	d	W	Culvert
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 CONG. CULVERT



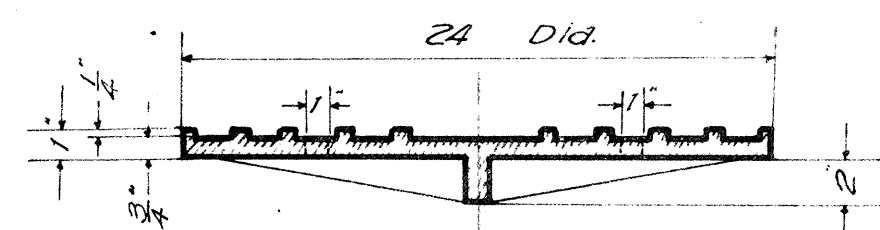
SECTION OF RIM



PLAN OF RIM

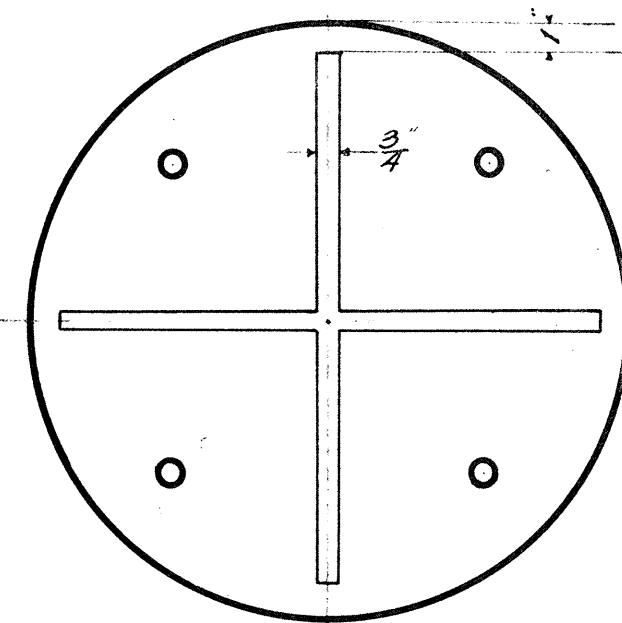


PLAN OF COVER TOP

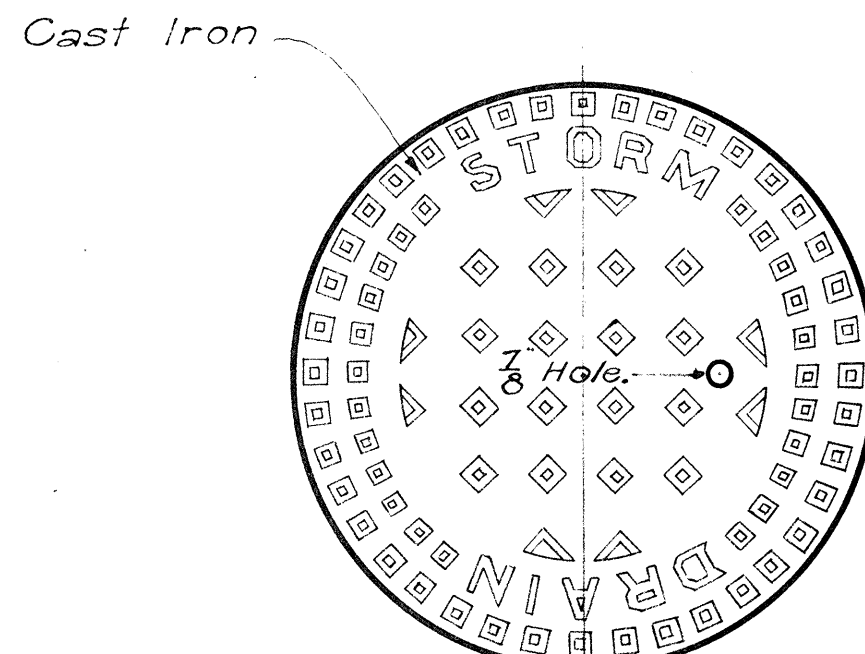


SECTION OF COVER

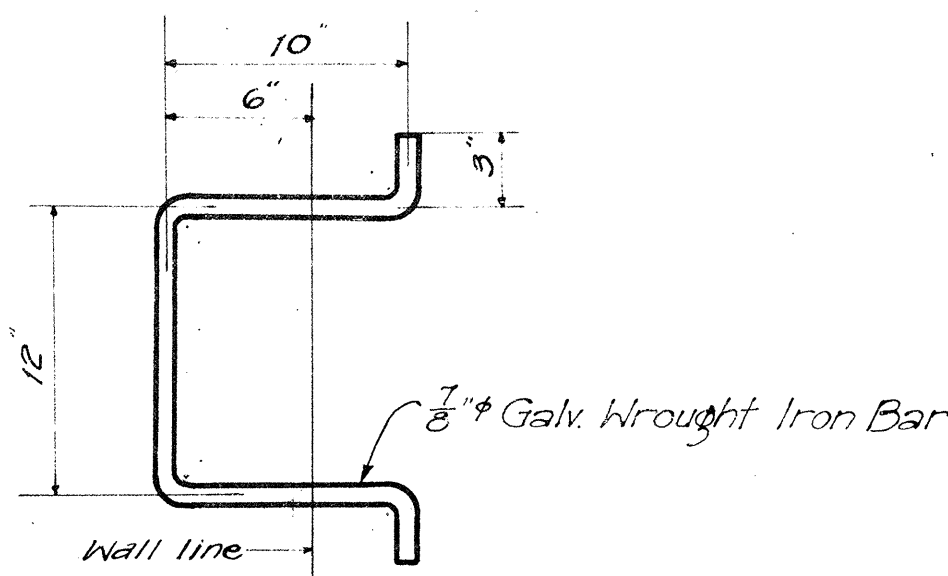
NOTE: A unit includes both Rim and Cover



BOTTOM VIEW OF COVER
TYPE "B"
STANDARD CATCH BASIN CASTINGS
Scale: 1-1/2" = 1'-0"

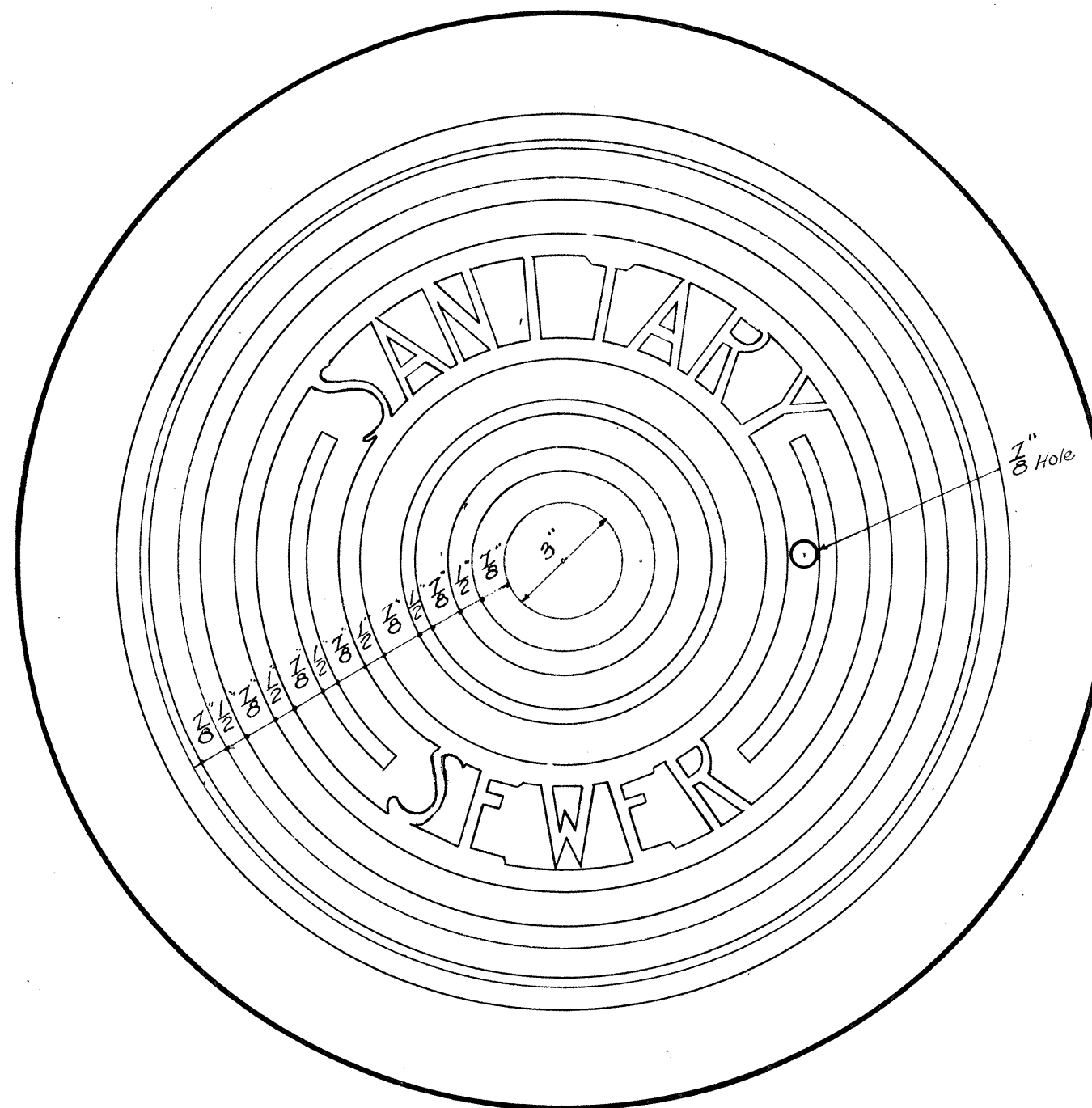


PATTERN FOR STORM DRAIN MANHOLE COVER

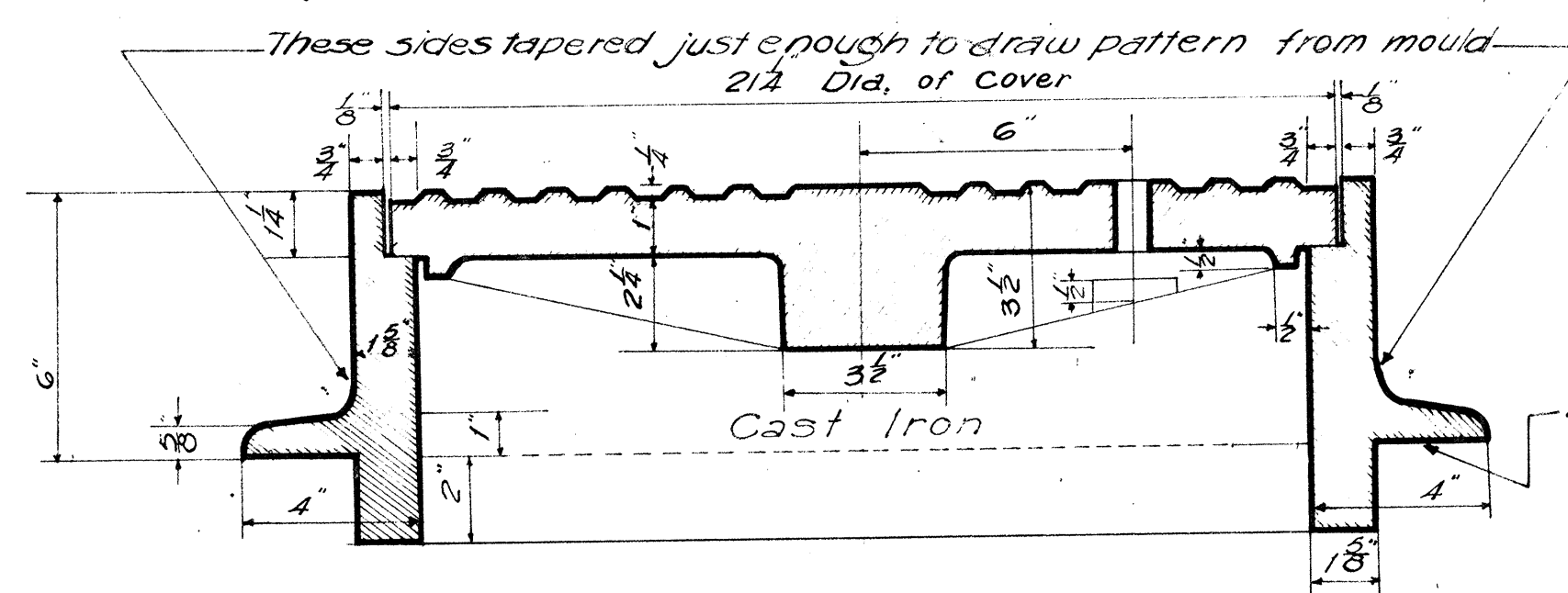


DETAIL OF MANHOLE RUNG
Scale: 1-1/2" = 1'-0"

NOTE: The pattern for water manhole covers shall be the same as for sanitary sewer except that the word "Water" shall be substituted for "Sanitary Sewer."

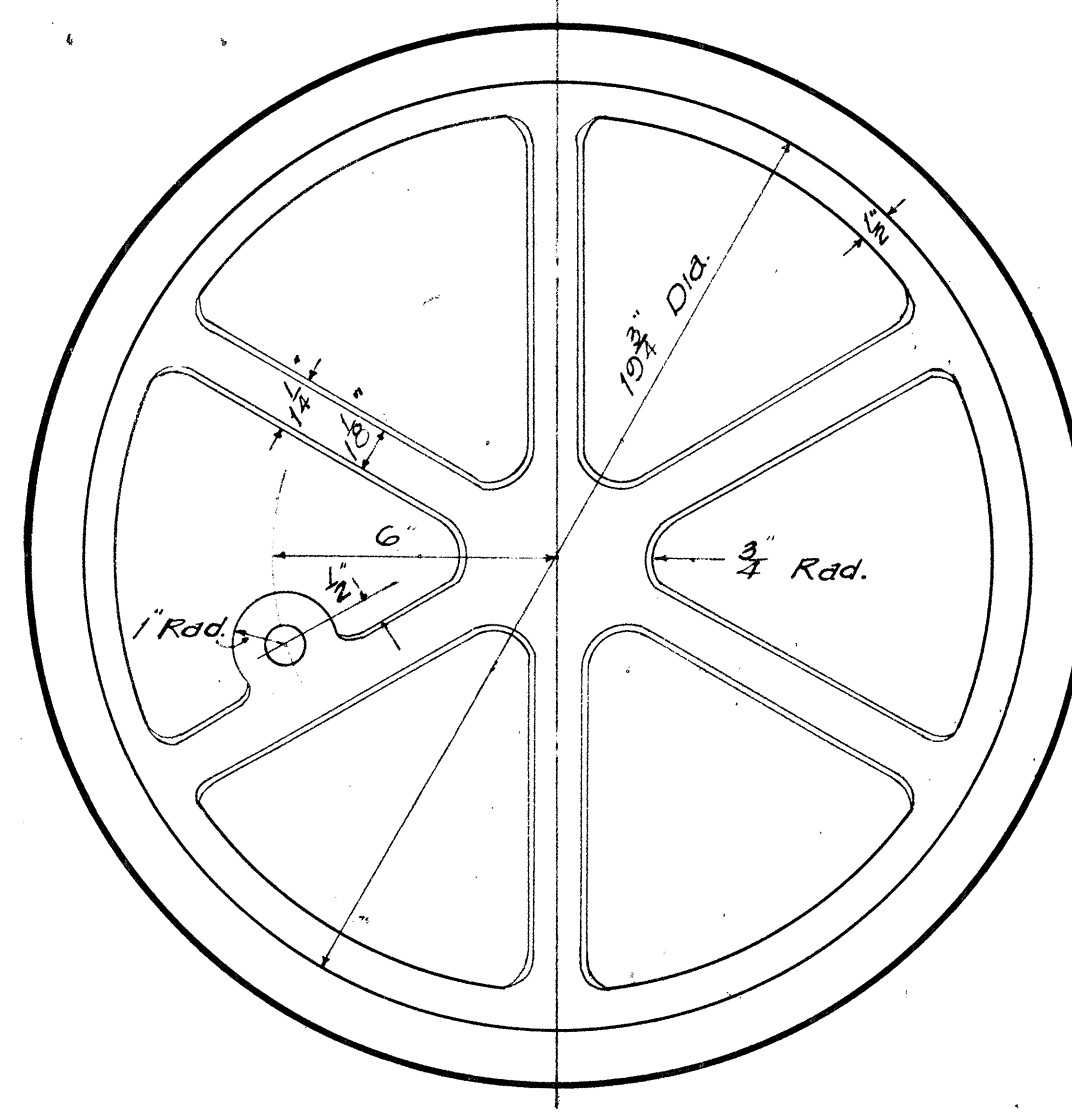


PATTERN FOR SEWER MANHOLE COVER

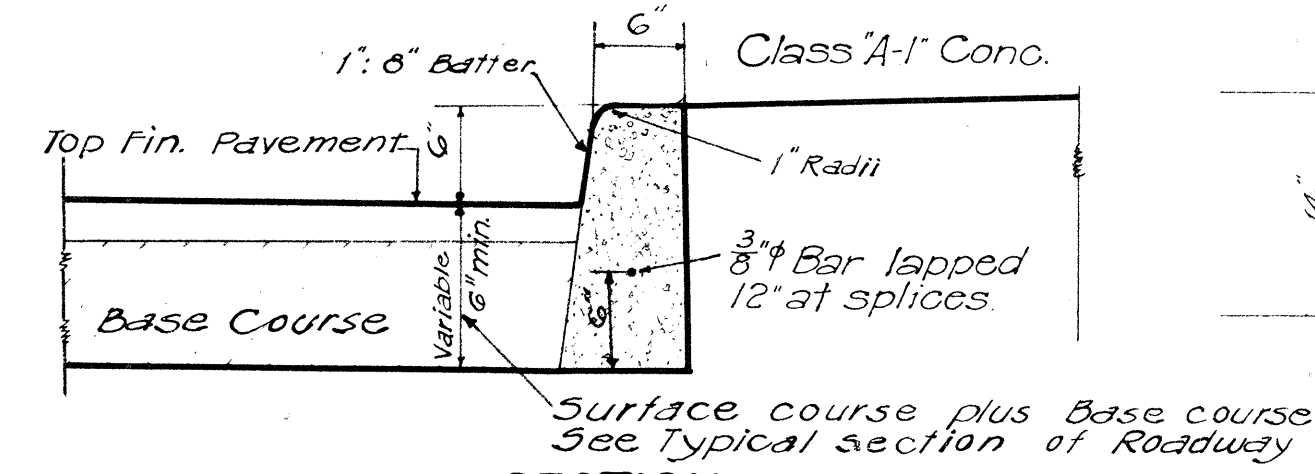


SECTION

NOTE: A unit includes both Frame and Cover

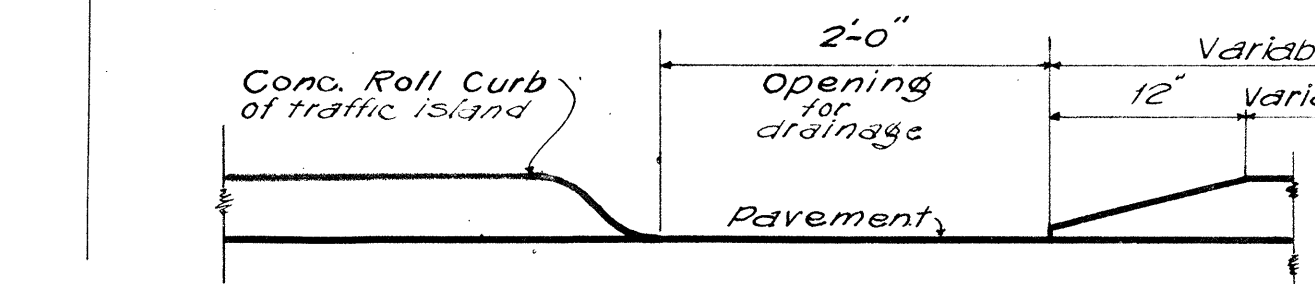


BOTTOM VIEW OF COVER
TYPE "A"
STANDARD MANHOLE CASTINGS
Scale: 3" = 1'-0"



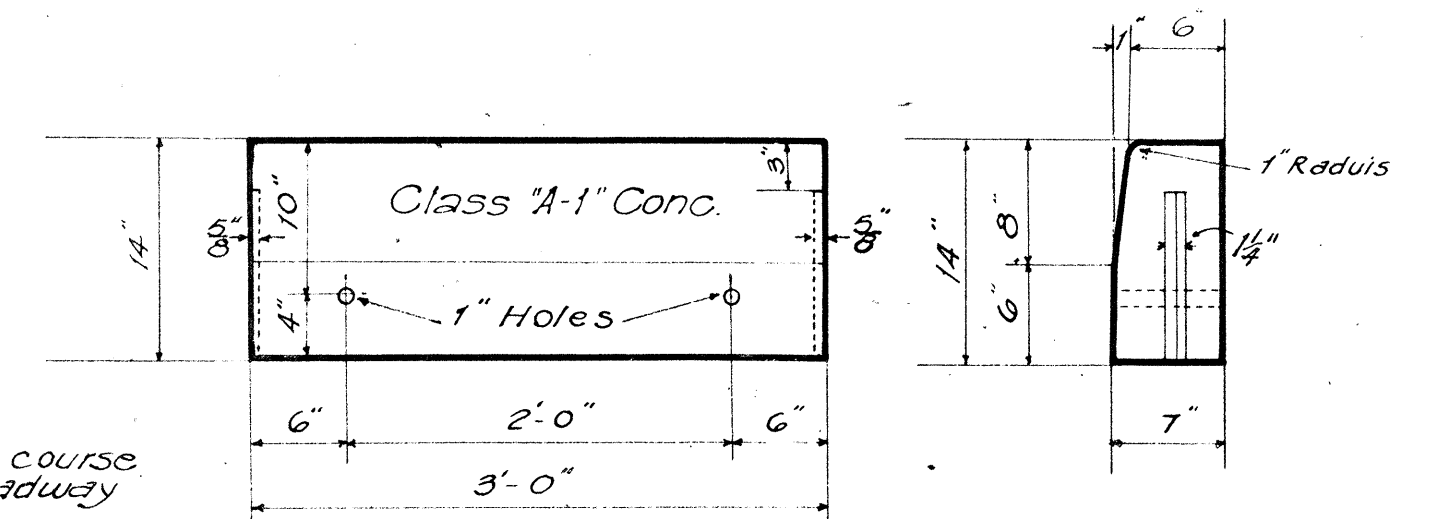
SECTION

ST'D. CAST IN PLACE CONC. CURB
Scale: 1" = 1'-0"



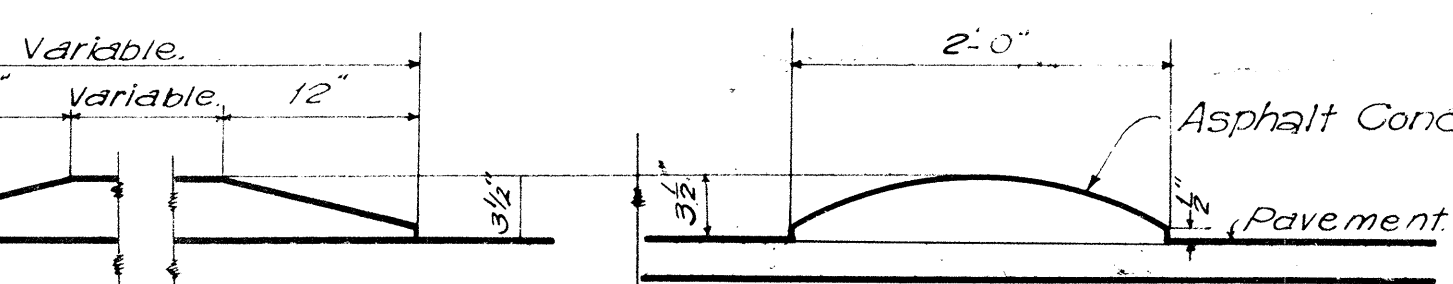
ELEVATION

NOTE: There may be more than one over-all curb height used on an individual project depending upon Base Courses used, but this shall make no difference in items under which payment is made.



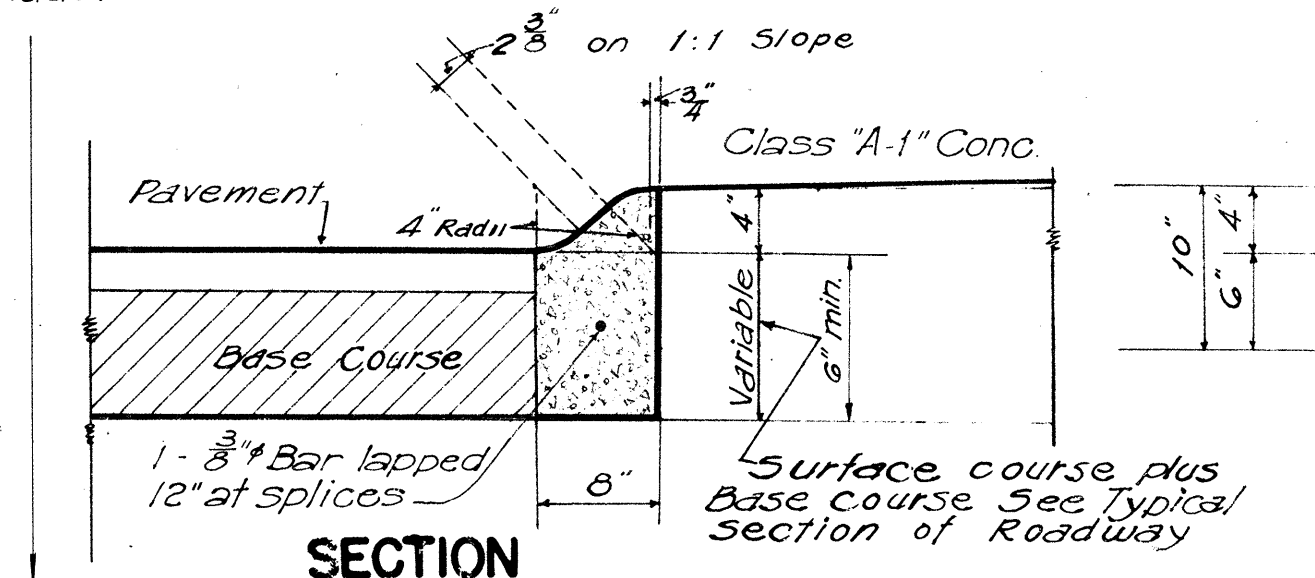
FRONT ELEV

ST'D. PRECAST CONC. CURB
Scale: 1" = 1'-0"



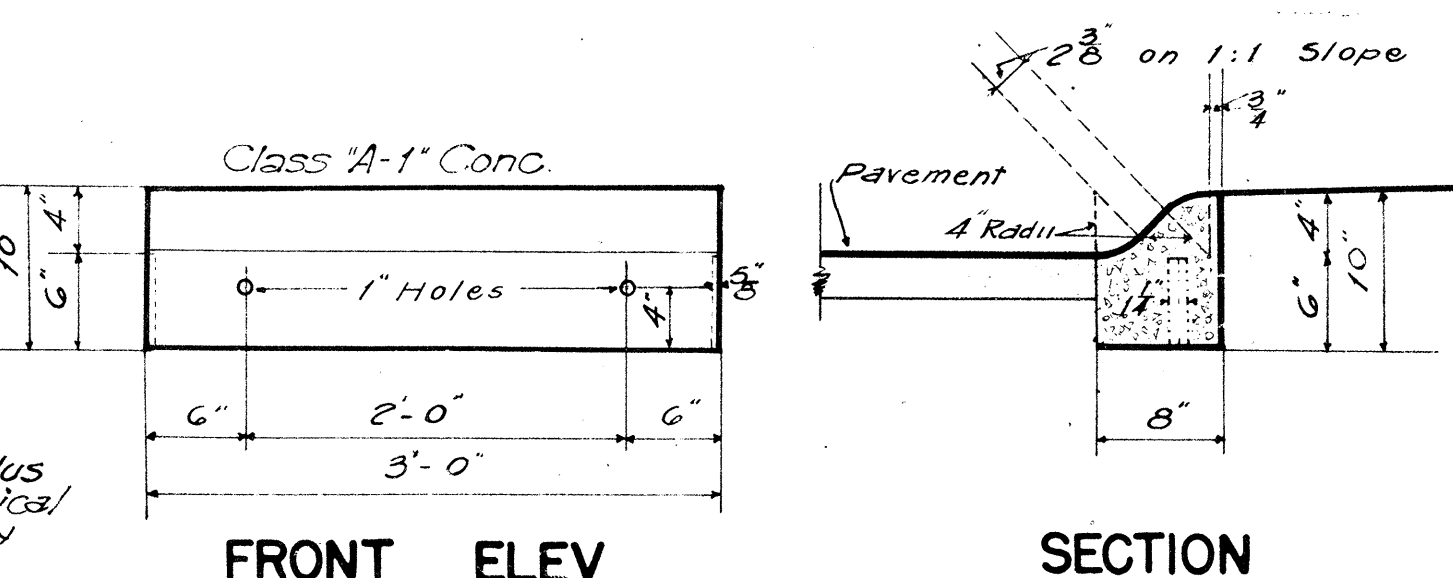
SECTION

DETAIL OF A. C. ROLL
Scale: 1" = 1'-0"



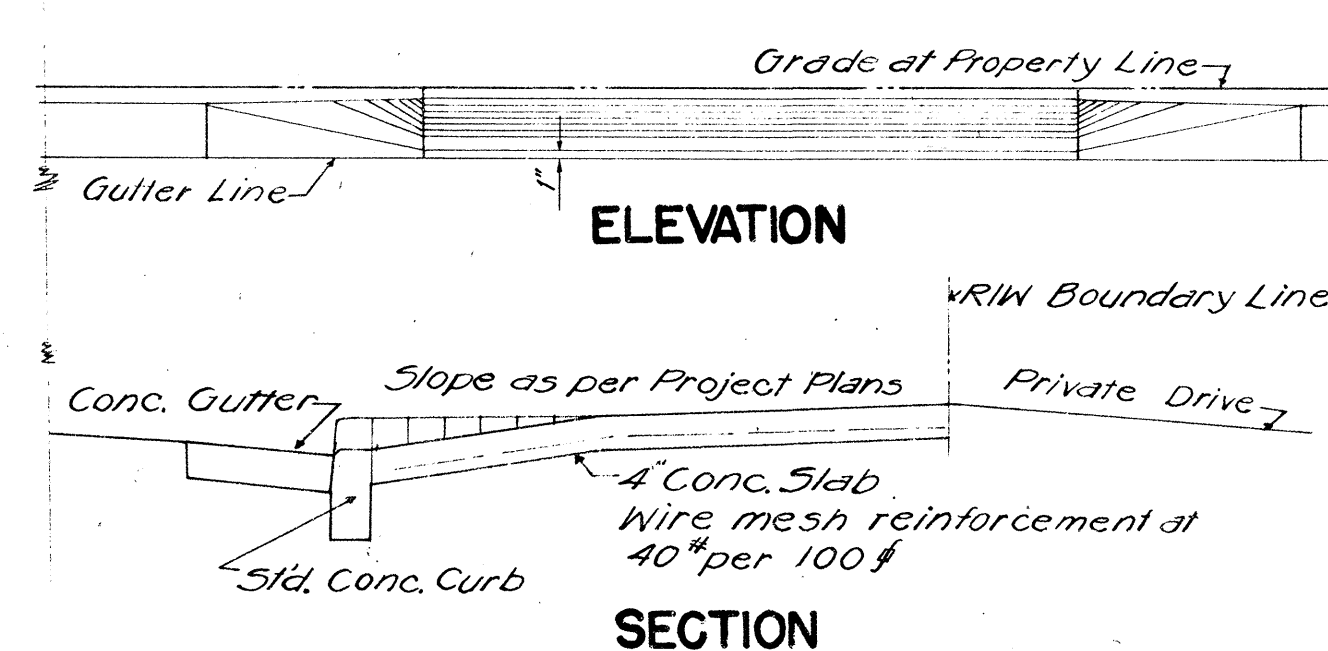
SECTION

ST'D. CAST IN PLACE CONC. ROLL CURB
Scale: 1" = 1'-0"

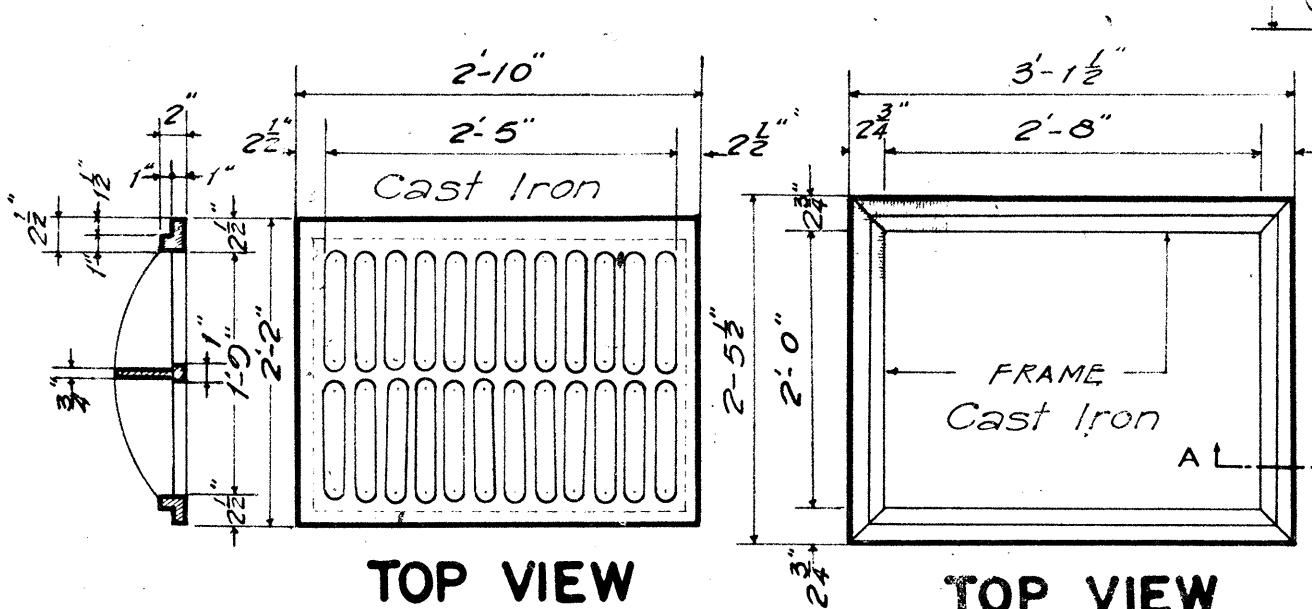


FRONT ELEV

ST'D. PRECAST CONC. ROLL CURB
Scale: 1" = 1'-0"



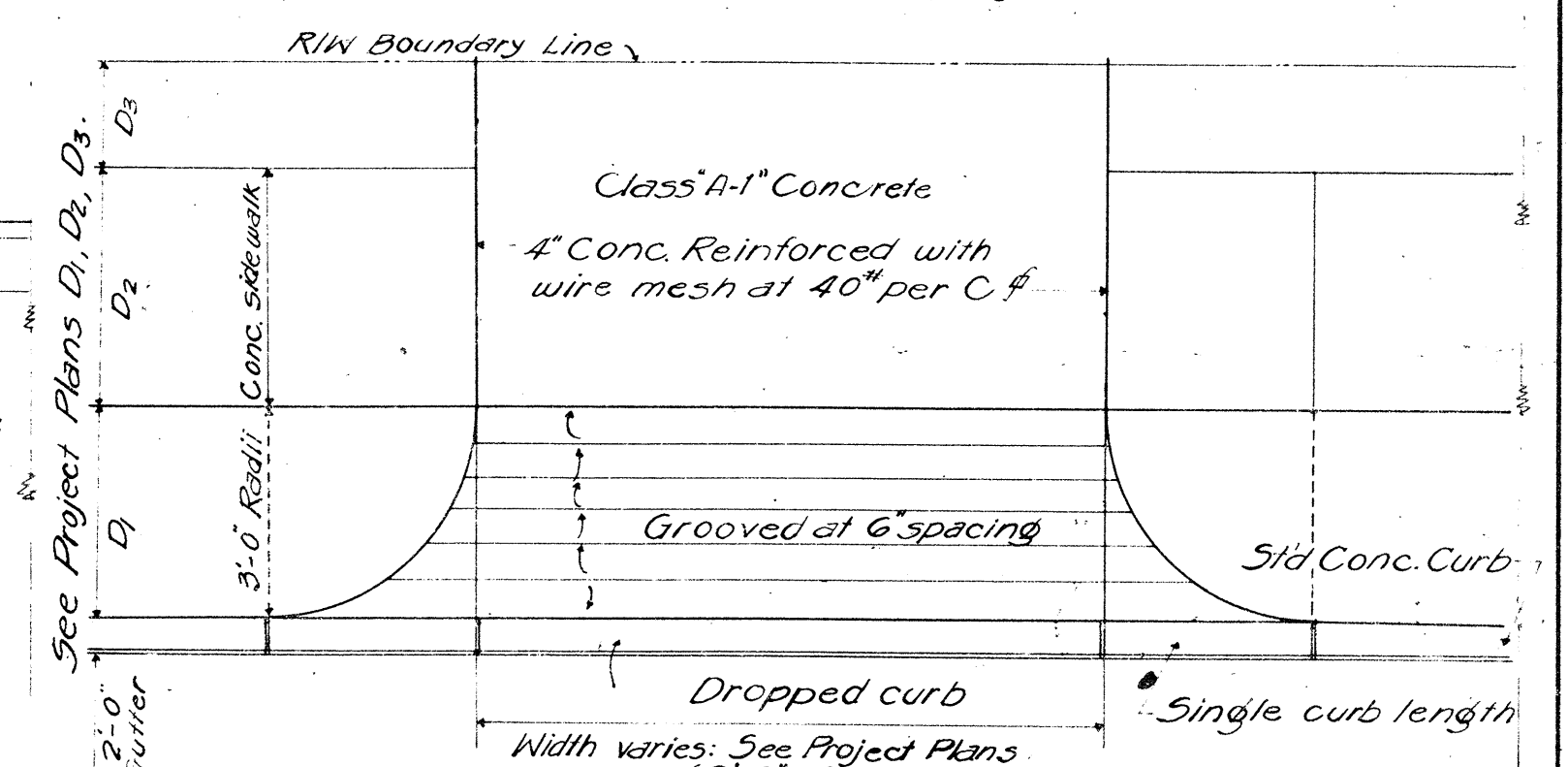
ELEVATION



TOP VIEW

STANDARD C. I. FRAME AND GRATE TYPE "C"
Scale: 3/4" = 1'-0"

NOTE: Stock Pattern from Novelty Foundry-Honolulu



PLAN
DETAILS OF DROPPED DRIVEWAY

SECTION A-A

Scale: 3" = 1'-0"