

2/17/59
4/6/59

White Letters and Border on Red Background (Background may be of red reflective sheeting). Letters to be reflectorized with buttons or reflective sheeting.

NOTE: Signs noted with an (R) designation indicate reflectorization with either buttons or reflective sheeting.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-02600	1959	9	30

JULY 3, 1957

R-1
30" x 30"

R-6
18" x 24"

R-8
18" x 24"

R-10
12" x 18"

R-11
18" x 24"

R-12
18" x 24"

R-13
24" x 30"

R-14 (R)
18" x 24"

R-15
24" x 24"

R-16-R (R)
R-16-L (R)
36" x 12"

R-18
12" x 18"

R-26
12" x 18"

R-29
24" x 30"

R-41-S
24" x 24"

R-42-S
12" x 18"

R-43-S
12" x 18"

R-44-S
12" x 18"

R-102-A
24" x 30"

R-102-B
24" x 30"

R-102-C (R)
24" x 30"

R-104
24" x 30"

R-105-A (R)
24" x 30"

R-105-B
24" x 30"

R-105-C
24" x 30"

R-104-A
24" x 30"

R-7
18" x 24"

R-66
18" x 24"

R-106
24" x 30"

R-107-A
24" x 30"

R-14-A
24" x 24"

W-2-R
*W-2-L
24" x 24"

W-4-R
*W-4-L
24" x 24"

W-5-R
*W-5-L
24" x 24"

W-6
24" x 24"

W-7
24" x 24"

W-8-R
*W-8-L
24" x 24"

W-9
24" x 24"

W-10
24" x 24"

W-13
24" x 24"

W-14
24" x 24"

W-40
24" x 24"

W-19
30" x 30"

W-20
30" x 30"

W-21
30" x 30"

W-22
24" x 24"

W-24
30" x 30"

W-25
24" x 24"

W-29
24" x 24"

W-59
24" x 24"

W-39
24" x 24"

W-1-R
*W-1-L
24" x 24"

NOTE: R-104 A,B,C signs with (R) designation shall have white numerals reflectorized with buttons or reflective sheeting on a black background.

NOTE: R-102 A,B,C signs with (R) designation: Lower half with white numerals, reflectorized with buttons or reflective sheeting, on black background.

NOTE: R-105 A,B,C signs with (R) designation shall have white numerals, reflectorized with buttons or reflective sheeting on a black background.

Background may be made of Yellow Reflective sheeting.

Unless otherwise specified, all signs shall conform with requirements of "Manual on Uniform Traffic Control Devices for Streets and Highways."

All letters and figures shall be of size and design shown and shall conform with "Standard Alphabets for Highway Signs" as set forth by the Public Roads Administration, Federal Works Agency. Series "C" letters and Series "D" numerals shall be used except where noted.

Note: All Regulatory signs shall have black letters on a white background except where noted. All Warning (W) signs shall have black letters or figures on a "Highway Yellow" background. *Signs shall be similar but opposite in direction. See Specifications for Materials and Finish.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
REGULATORY & WARNING SIGNS

Scale: 1" = 1'-0"

APPROVED: *[Signature]* April 23, 1959
TERRITORIAL HIGHWAY ENGINEER

Notes: Signs shown have been revised 2/4/59 1/1/57

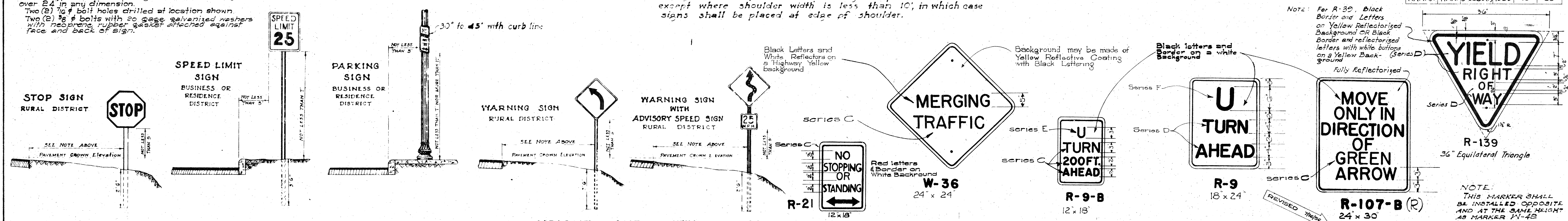
DESIGNED BY: T. Tokunaga
CHECKED BY: J. H. Bink
APPROVED BY: J. H. Bink
DATE: 2/4/59

2/17/50
4/6/59

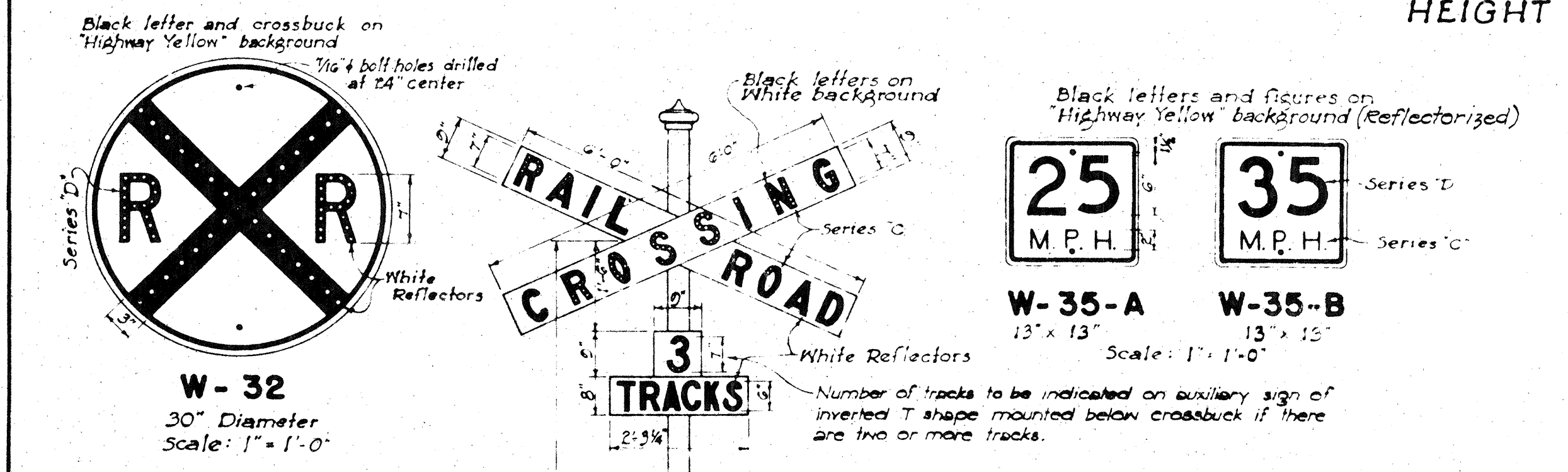
NOTE:
Sign Posts shall be 3" galv. std. pipe for signs larger than 24" in any dimension and 2" galv. std. pipe for signs not over 24" in any dimension.
Two (2) 1/4" bolt holes drilled at location shown.
Two (2) 3/8" bolts with 20 gage galvanized washers with neoprene rubber gasket attached against face and back of sign.

NOTE: All signs shall be placed 10' from edge of pavement except where shoulder width is less than 10', in which case signs shall be placed at edge of shoulder.

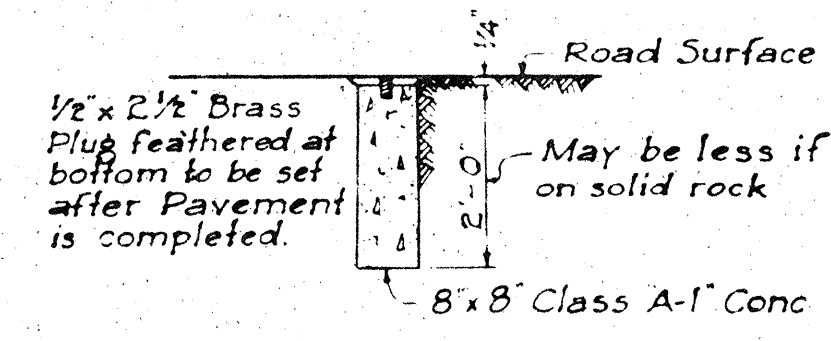
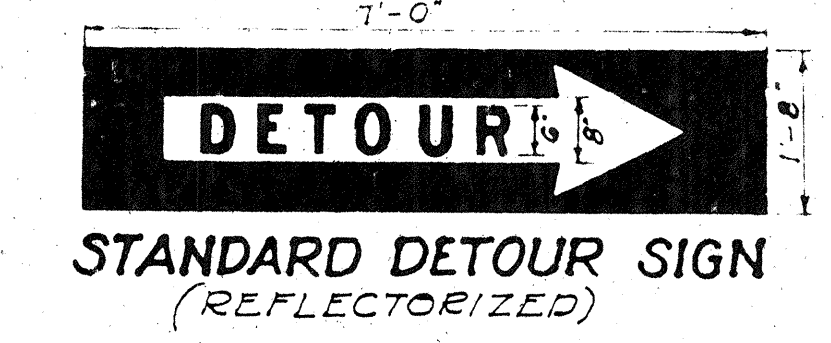
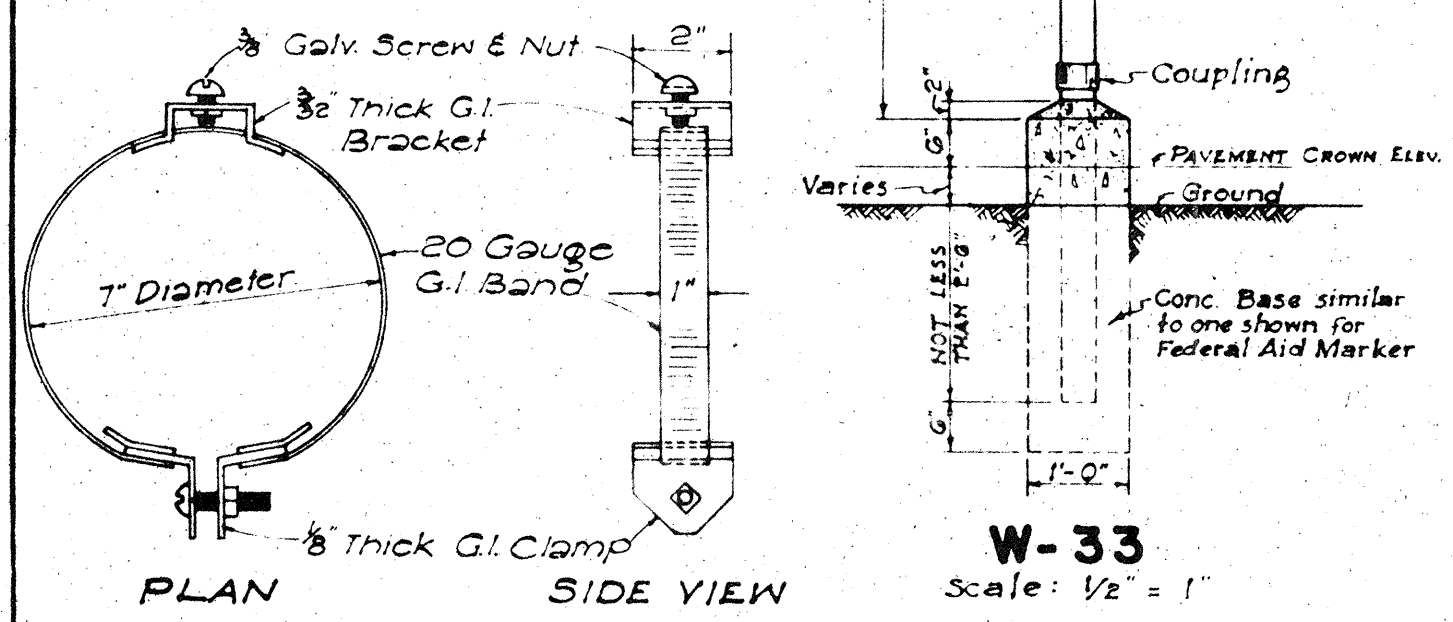
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-026001	1959	10	38



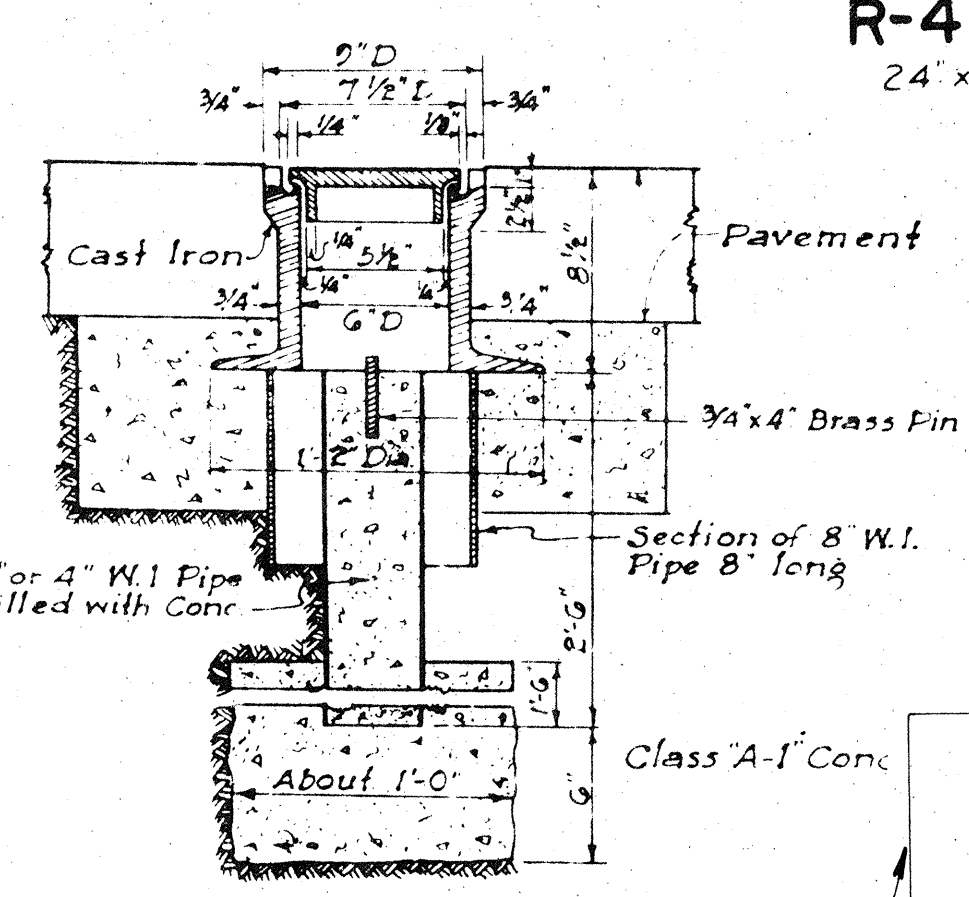
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS
Scale: 1" = 3'-0"



NOTE: This sign shall be placed from 300 to 500 feet from R.R. intersections in rural areas and a minimum distance of 100 feet from R.R. intersections in Residence or Business districts.

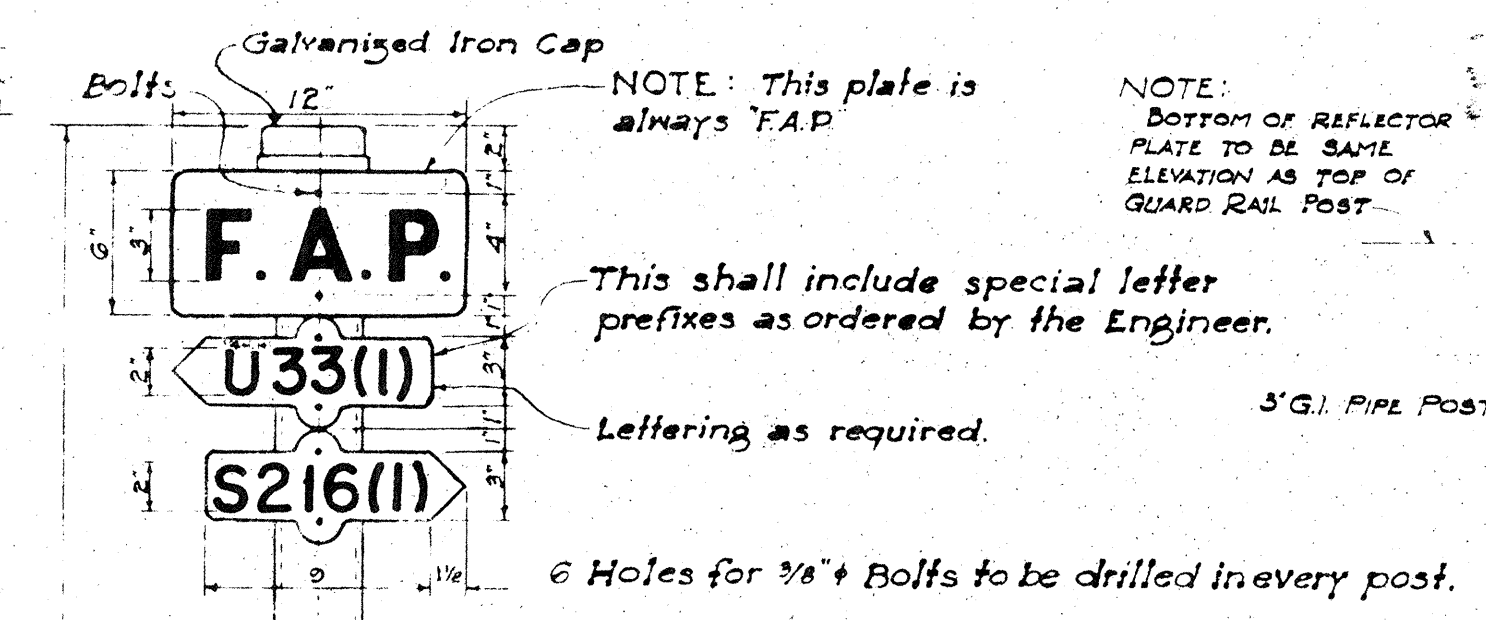
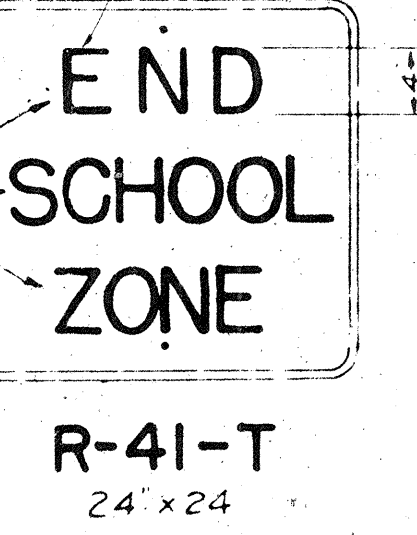
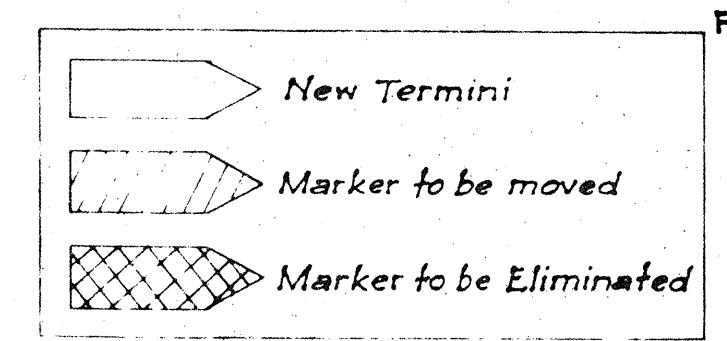


PLAN OF TOP



STANDARD C&C STREET SURVEY MONUMENT

NOTE: The fitting at right, to be installed on sign posts as shown on plans.



ARRANGEMENT OF MARKERS

One F.A.P. Marker and one plate shall be placed at the beginning and end of each isolated F.A. Project. Where two F.A. Projects adjoin, a single marker and two Number plates shall be placed, each Number plate pointing in the direction of the project to which it refers.

Post in place, complete with one F.A.P. Marker plate and its respective Number plate will be paid for as one item. Each additional Number plate will be paid for separately.

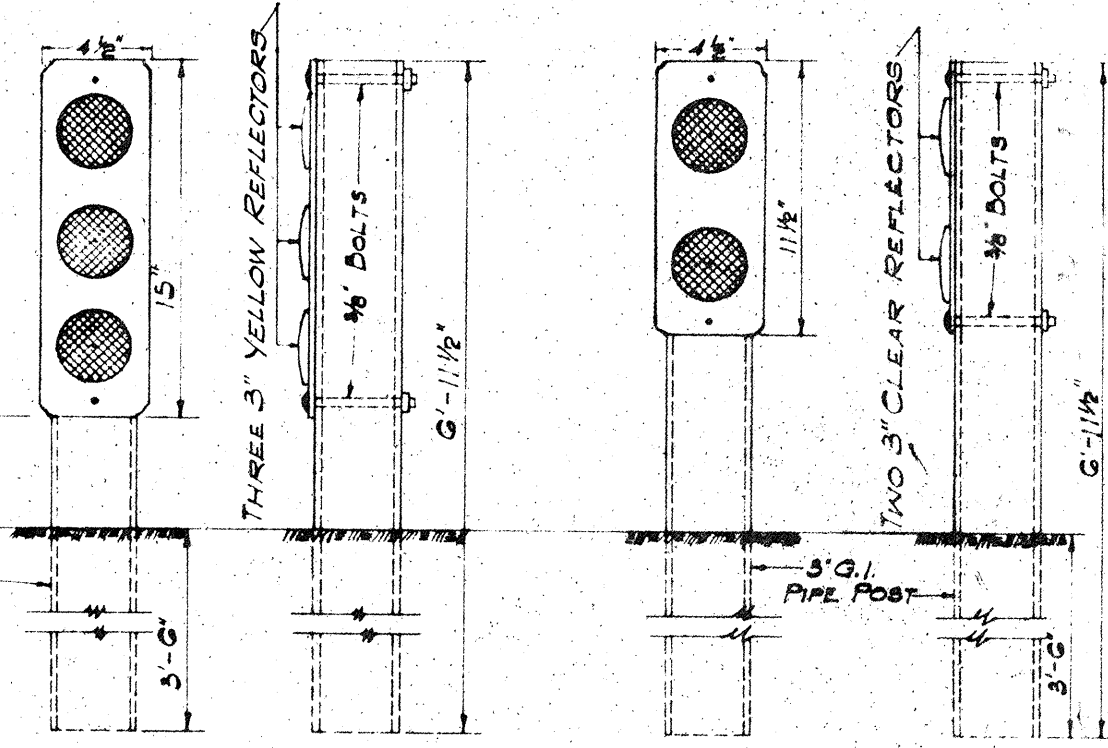
Markers and Number plates shall be No. 16 Ga. galvanized iron with 3/8" holes for fastening as shown on sketch. Markers and Number plates shall be given one coat of best Chromate primer and two coats of White Marine Enamel. Before painting they shall be given a wash of 8 ounces of Copper Sulphate in one gallon of water. The lettering shall be of two coats of Black Marine Enamel.

Markers and plates shall be fastened with 3/8" galvanized bolts and washers in addition to 20 gage galvanized washers with neoprene rubber gaskets attached on both sides of each plate.

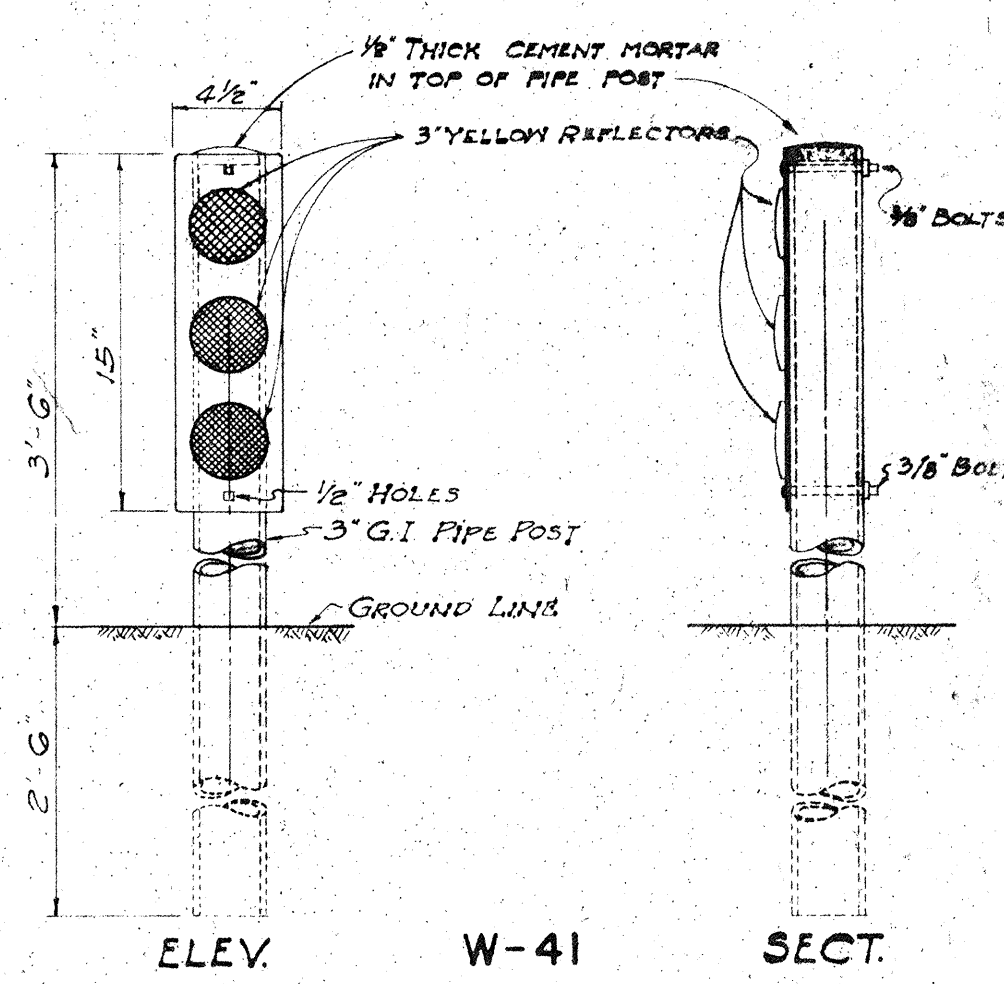
All letters and figures shall be of size and design shown and shall conform with Standard Alphabet for Highway signs as set forth by the Public Roads Administration Federal Works Agency Series 'C' letters and Series 'D' numerals shall be used except where noted.

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

DETAIL SHOWING ANGLE OF TRAFFIC SIGNS AND CURB LINE
Scale: 1" = 1'-0"



W-42 W-43



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

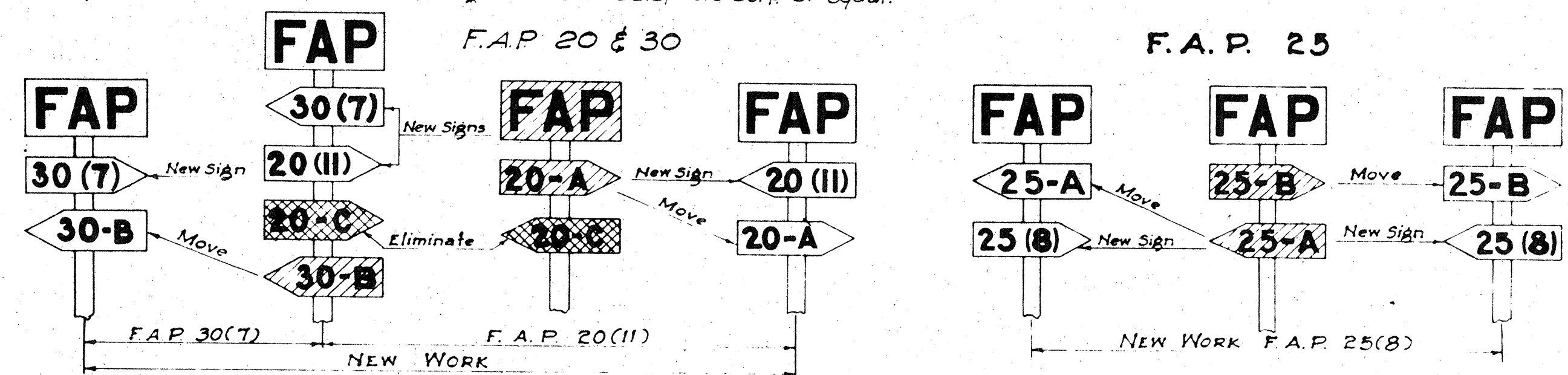
NOTE: W-44 3"-5" yellow reflectors mounted on plate
W-45 2"-3" Clear reflectors mounted on plate

JUNE 12, 1957 MAY 13, 1958
JULY 16, 1956

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
F.A. MARKERS, MONUMENTS
SIGNS & LOCATION OF SIGNS
SCALES AS NOTED

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

This product to be as shown in Catalogue No. 48 of Cataphote Corp. or equal.



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

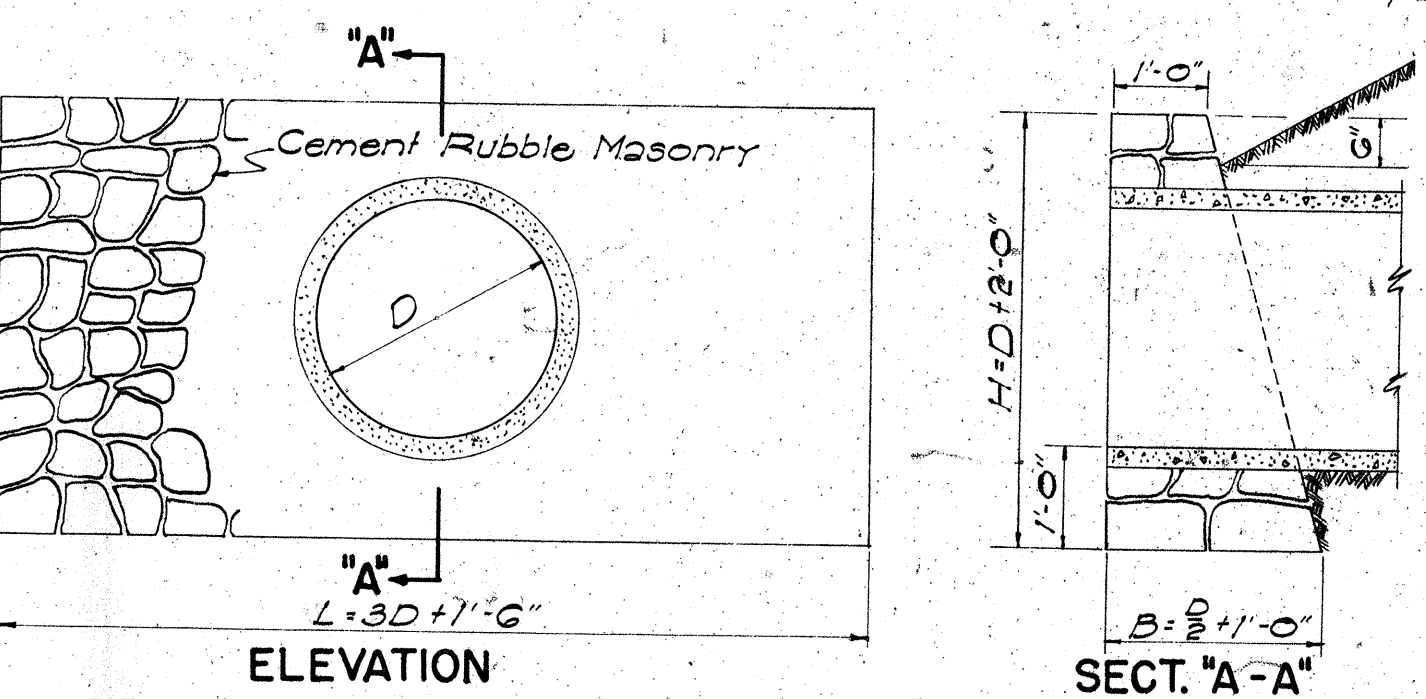
DATA FOR OUTLET DITCH				
D	W	H	T=H+H	
18"	24"	2'-0"	4'-0"	
24"	30"	2'-0"	4'-6"	
30"	30"	2'-6"	5'-0"	
36"	36"	3'-0"	6'-0"	

DETAIL OF OUTLET DITCH
Scale: 1/2" = 1'-0"

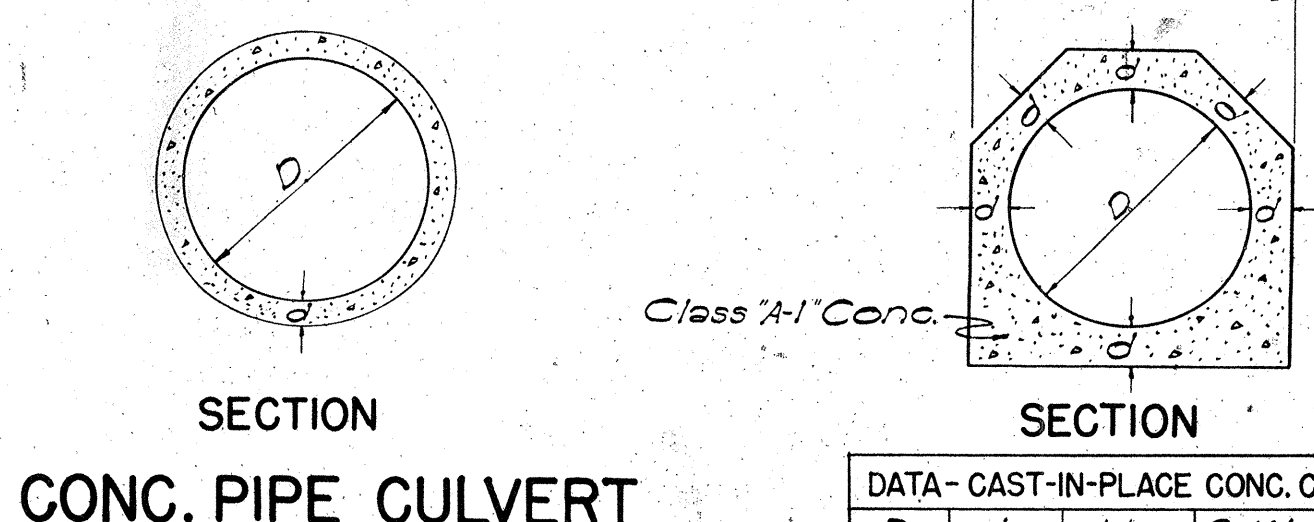
DATA FOR MASONRY DROP INTAKE					Where Variables Equal
D	D	L=D+G	Cu. Yds.		
23"	18"	2'-5"	3.02	4'-6"	
30"	24"	3'-0"	3.61	5'-0"	
37"	30"	3'-7"	4.21	5'-6"	
44"	36"	4'-2"	4.85	6'-0"	

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

DATA - MASONRY HEADWALL					Cash-in-Place Conc. Culvert	Conc. Pipe Culvert	Corrugated Pipe Culvert
D	H	B	L		Cu. Yds.	Cu. Yds.	Cu. Yds.
18"	3'-6"	1'-0"	6'-0"		0.85	0.95	0.98
24"	4'-0"	2'-0"	7'-6"		1.28	1.42	1.41
30"	4'-6"	2'-3"	9'-0"		1.83	2.06	2.00
36"	5'-0"	2'-6"	10'-6"		2.40	2.84	2.72

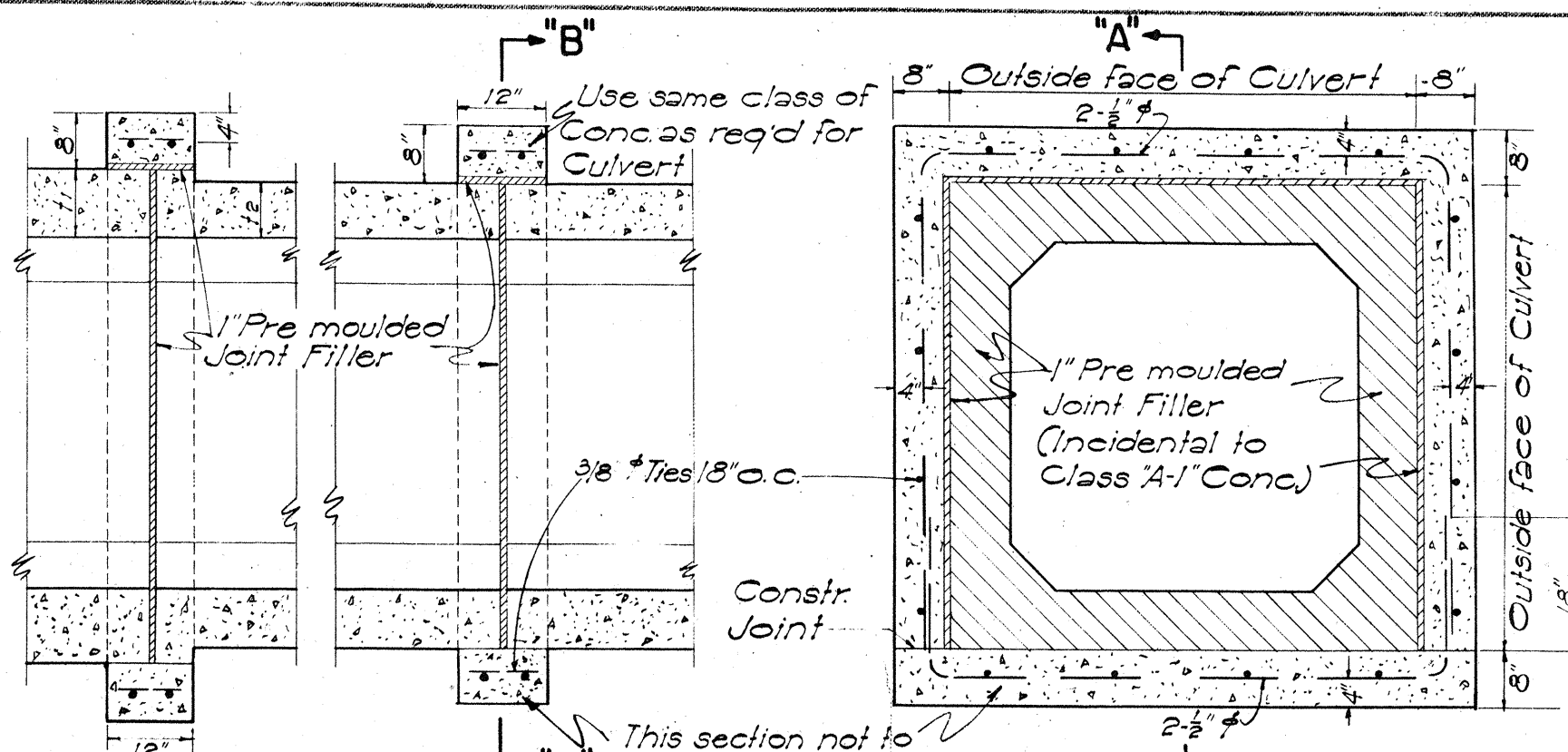


DETAIL OF MASONRY HEADWALL
Scale: 1/2" = 1'-0"

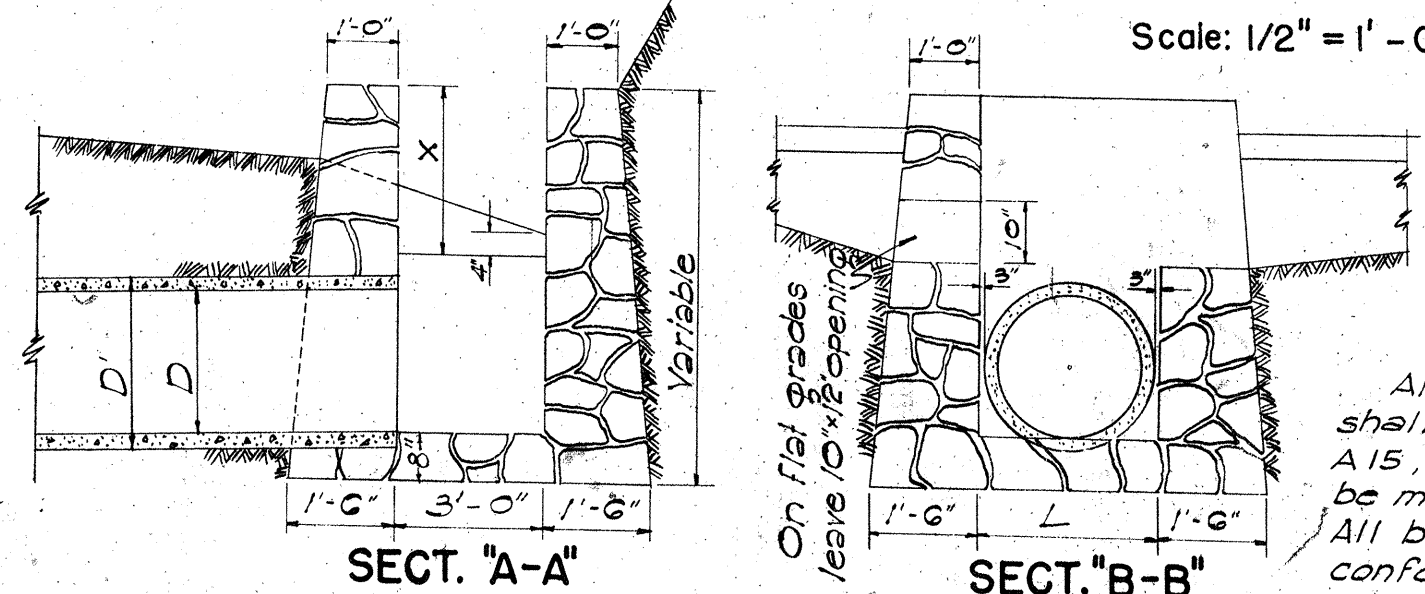


CONC. PIPE CULVERT
NOTE: Thickness 'd', reinforcing, and concrete used, are to conform with the approved design as provided by the Specifications.

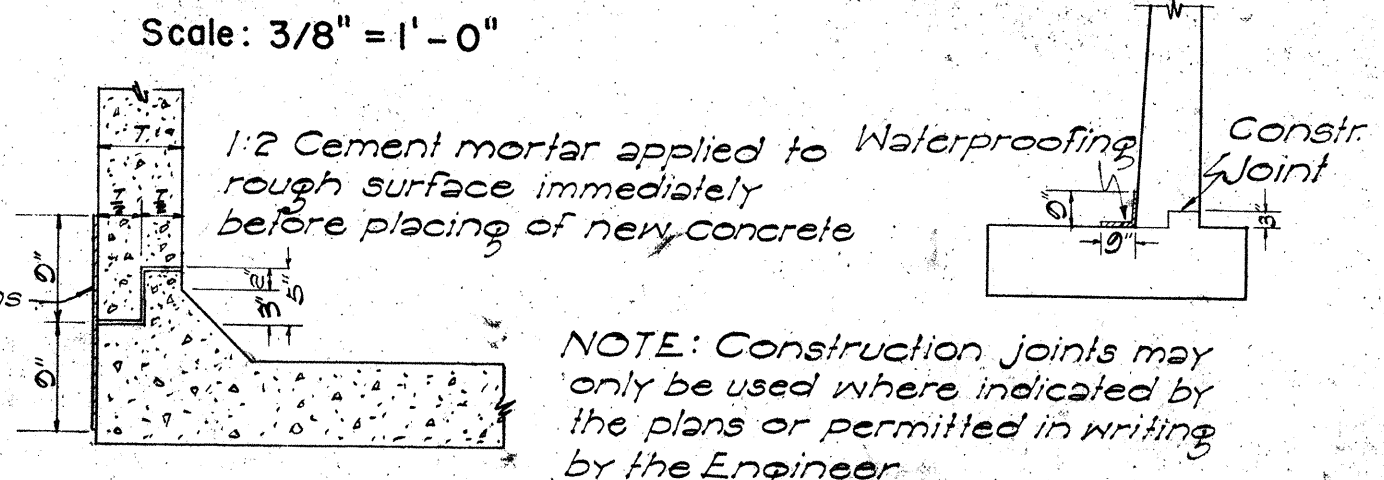
DATA - CAST-IN-PLACE CONC. CULVERT				
D	d	W	Cu. Yds. per ft.	
18"	4"	2'-2"	0.11	
24"	4 1/2"	2'-0"	0.14	
30"	5"	3'-4"	0.19	
36"	5 1/2"	3'-11"	0.26	



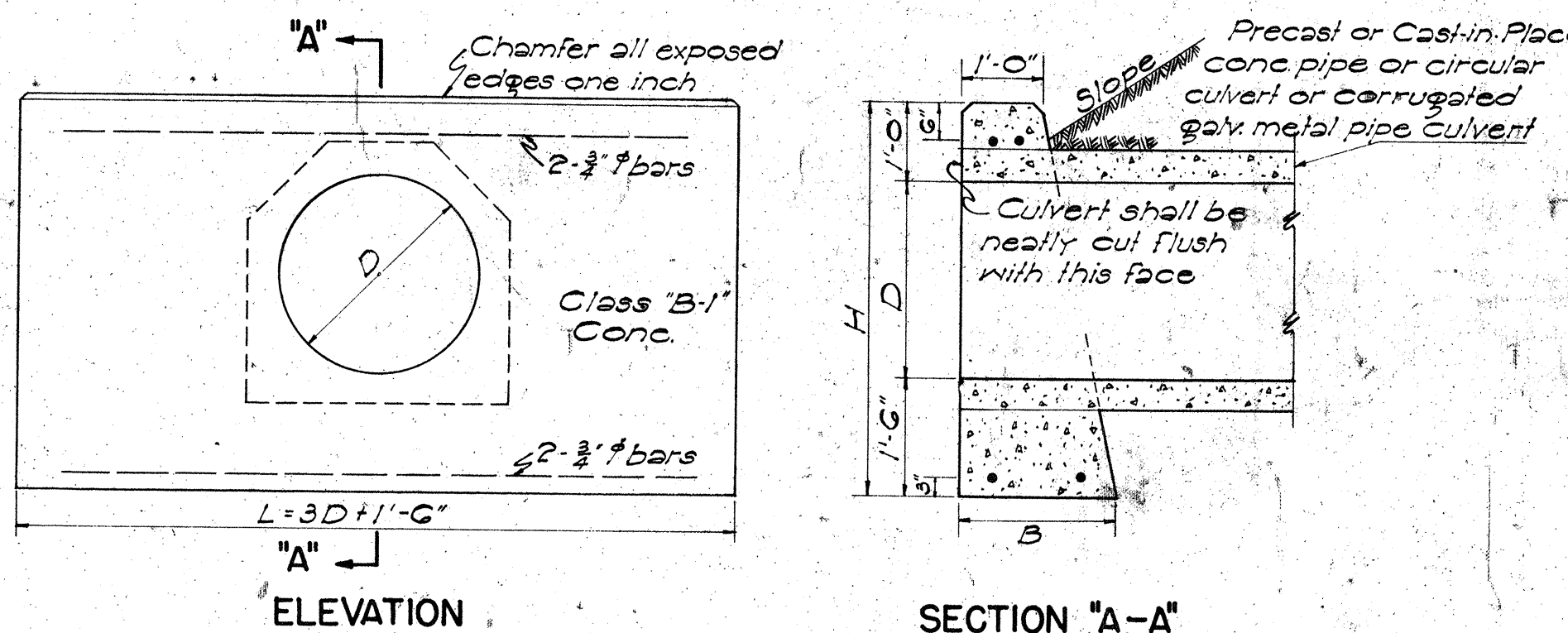
SECTION "A-A" SECTION "B-B"
CONC. COLLAR FOR CONC. BOX CULVERT
Scale: 1/2" = 1'-0"



DETAIL OF MASONRY DROP INTAKE
Scale: 3/8" = 1'-0"

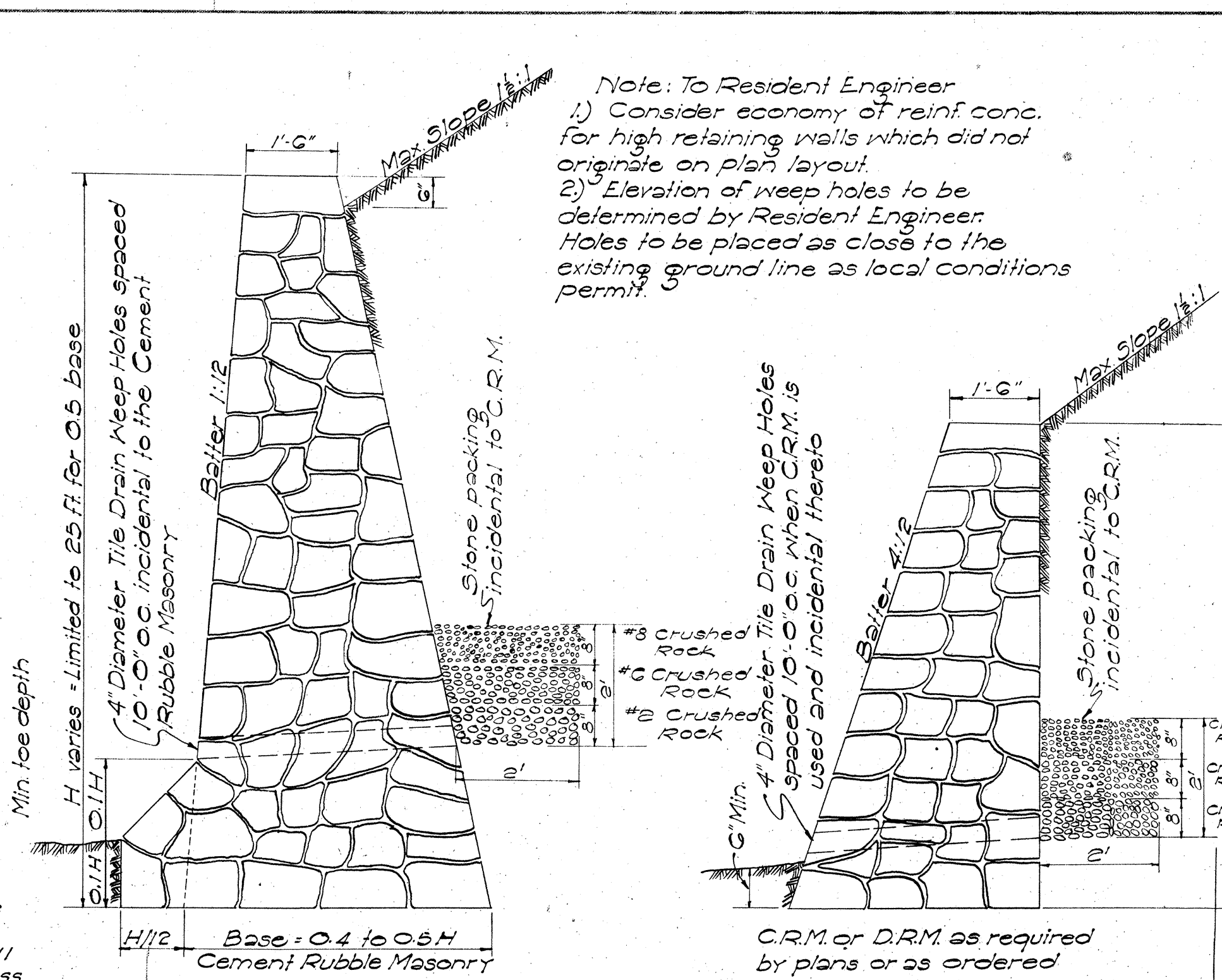


CONSTR. JOINT DETAILS



DATA FOR CONC. HEADWALL					Cash-in-Place Conc. Culvert	Conc. Pipe Culvert	Steel For One Headwall
D	B	L	H		Cu. Yds.	Cu. Yds.	No. of Bars Size Length Lbs.
18"	1'-6"	6'-0"	4'-0"		0.92	1.00	2 3/4" 5'-6" 33
24"	1'-6"	7'-6"	4'-6"		1.25	1.33	4 3/4" 7'-0" 42
30"	2'-0"	9'-0"	5'-0"		1.85	2.17	4 3/4" 8'-6" 51
36"	2'-0"	10'-6"	5'-6"		2.45	2.74	4 3/4" 10'-0" 60
42"	2'-6"	12'-0"	6'-0"		3.87	4.66	4 3/4" 11'-6" 69
48"	2'-6"	13'-6"	6'-6"		4.66		4 3/4" 13'-0" 78

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

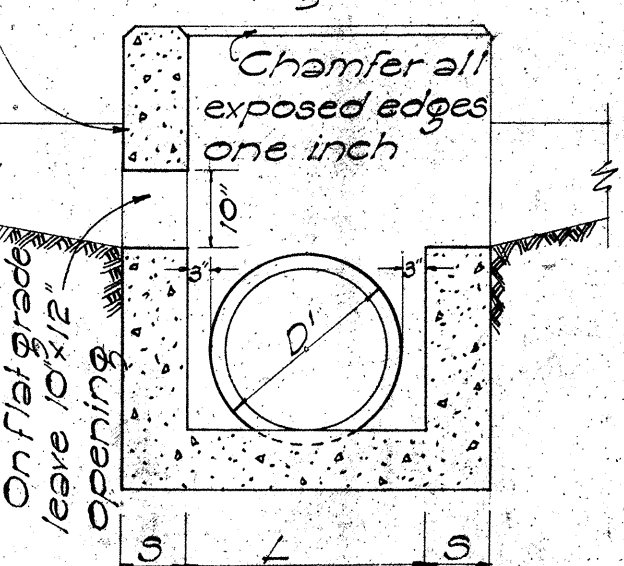


SECTION OF HIGH CEMENT RUBBLE MASONRY RETAINING WALL OR SEAWALL

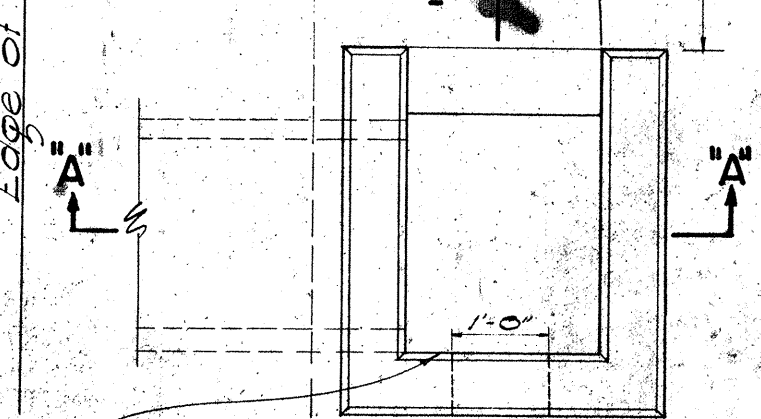
SECTION OF LOW MASONRY RETAINING WALL OR SEAWALL

DATA - CONC. DROP INTAKE					Where Variables Equal
D	D	L=D+G	Cu. Yds.		
23"	18"	2'-5"	1.41	4'-6"	
30"	24"	3'-0"	1.72	5'-0"	
37"	30"	3'-7"	2.32	5'-6"	
44"	36"	4'-2"	2.73	6'-0"	
51"	42"	4'-9"	3.54	6'-6"	
58"	48"	5'-4"	4.01	7'-0"	

Note: Dimension "X" is assumed as 2'-4" in figuring the above quantities. Where drainage comes from both sides lower this wall to same elevation as shown for opposite wall.



SECTION "B-B"



SECTION "A-A"

DETAIL OF CONCRETE DROP INTAKE
Scale: 1/2" = 1'-0"

SECT. OF CULVERT WITH CONC. PROTECTION

DATA FOR 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		
10" " 42"D		
11" " 48"D		
12" " 54"D		
	D/2 + T	Minimum = X
		Maximum pay quantity will be Z-12"

Scale: 1" = 1'-0"

APPROVED: DATE 6-22-52
Territorial Highway Engineer

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
DROP INTAKES, RETAINING WALLS,
HEADWALLS, CONSTRUCTION JOINTS
SCALES AS NOTED

