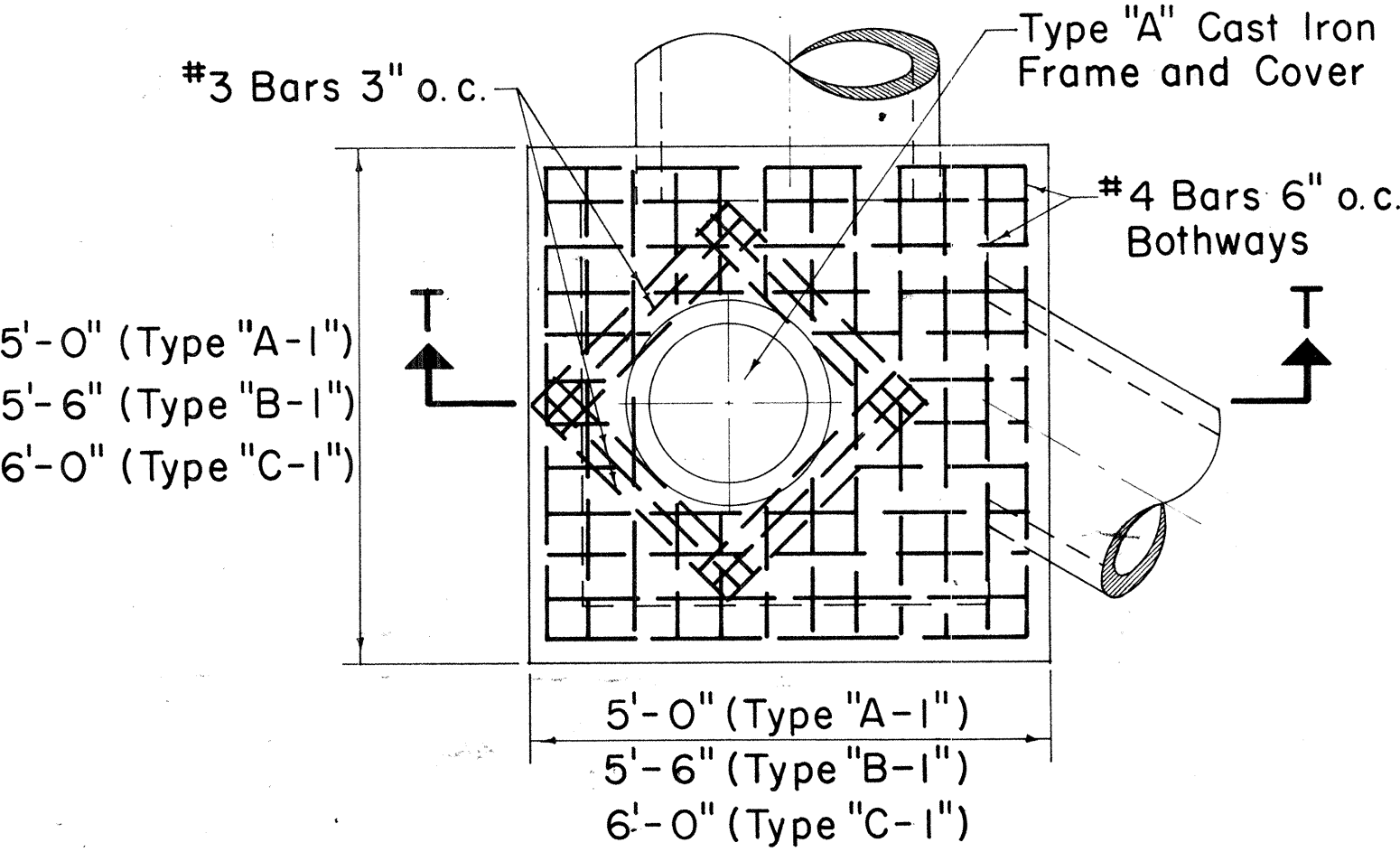
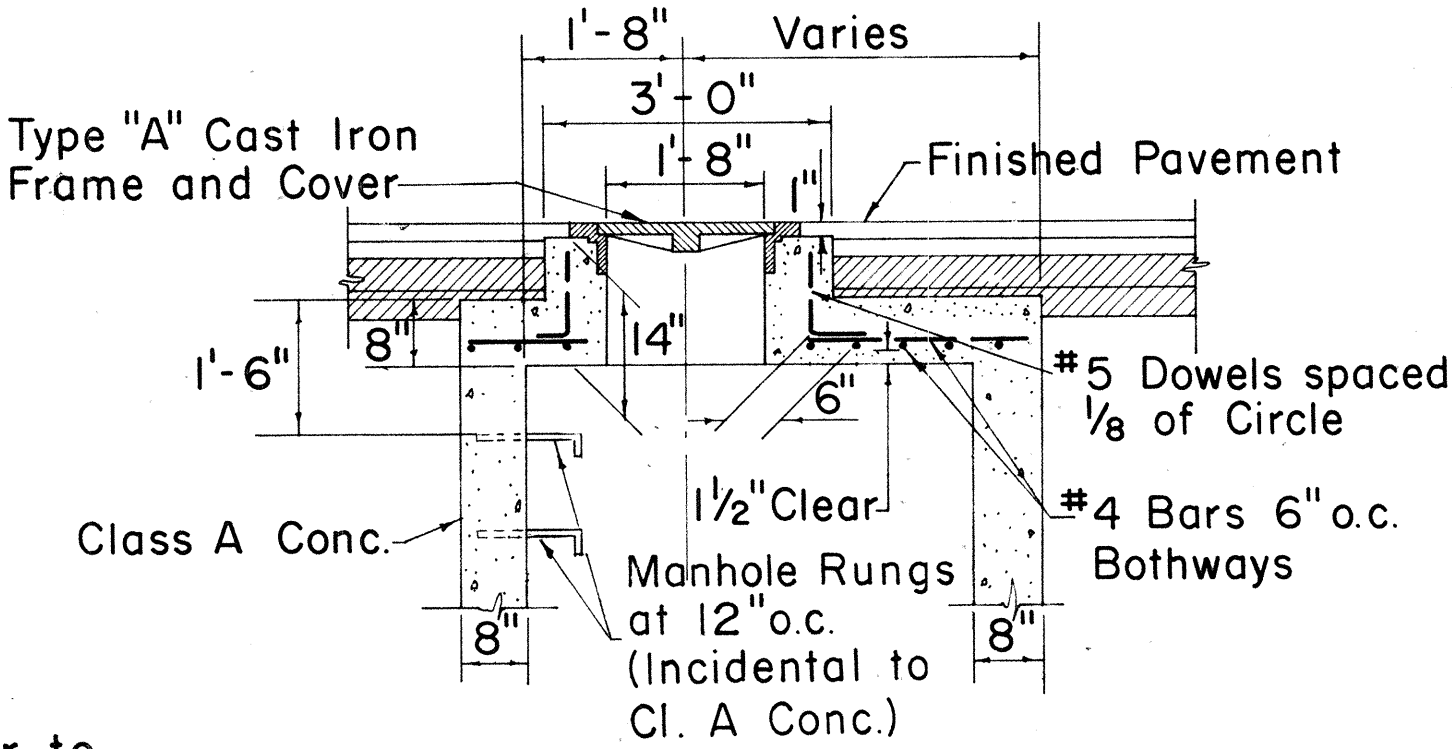


FED. ROAD DIST. NO.	STATE	PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	191-01-78	1978	4	6



PLAN



SECTION T-T

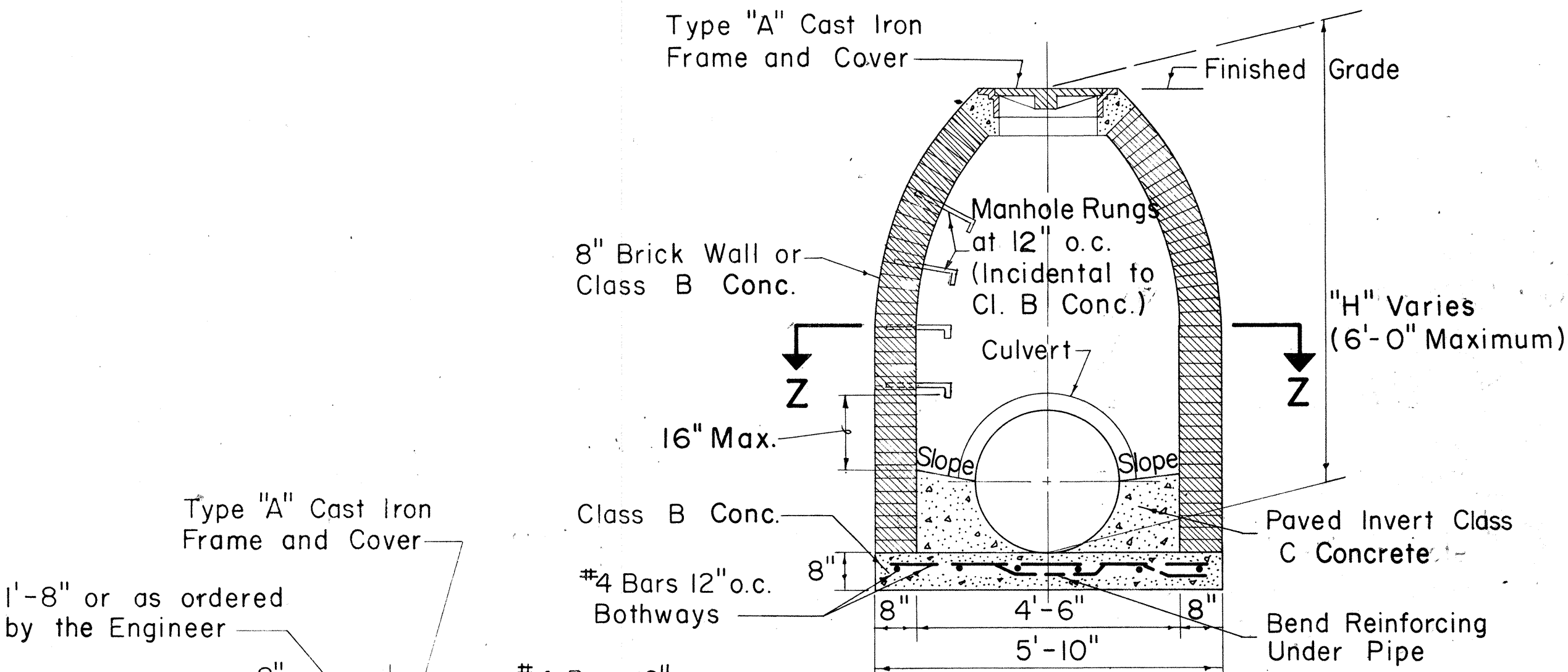
TYPE "A-I", "B-I", & "C-I" STORM DRAIN MANHOLE TOP DETAIL UNDER PAVEMENT

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

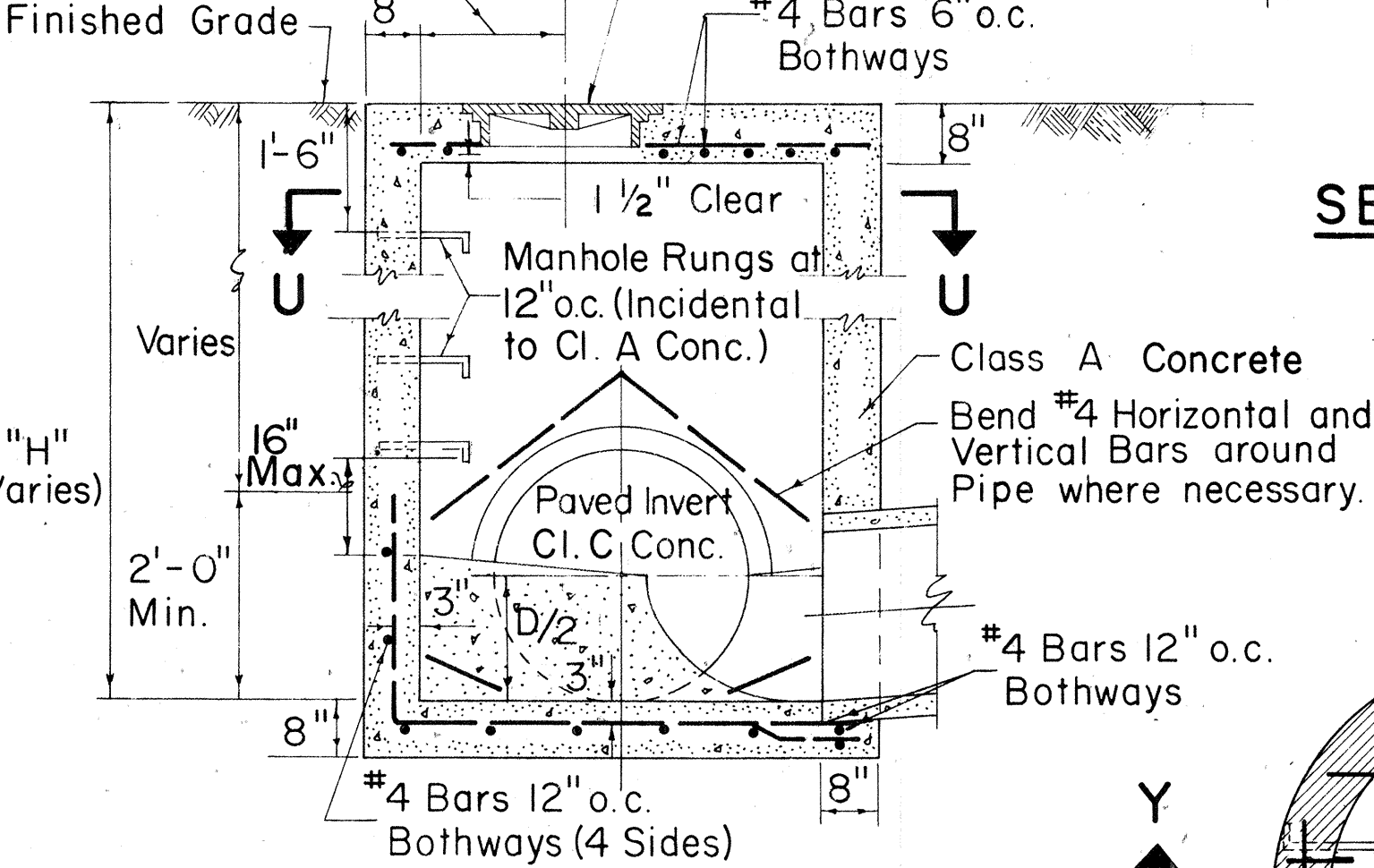
Note:
Bottom detail similar to
Type "A", "B", & "C"

GENERAL NOTES

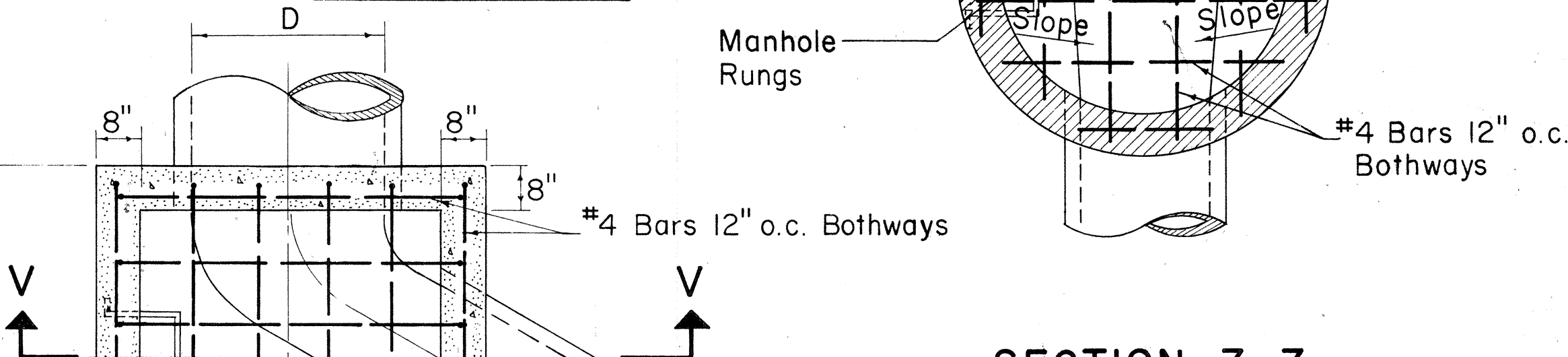
- Culvert shall enter and leave S.D.M.H. from any position and in the direction indicated by the plans or ordered by the Engineer.
- Manhole Rungs (12" o.c.) are required when "H" is greater than 4'-6". Only one rung (16" from the bottom) is required if "H" is 4'-6" or less. Type "A" C.I. Frame and Cover and Manhole Rungs may be placed at any location as ordered by the Engineer.



SECTION Y-Y



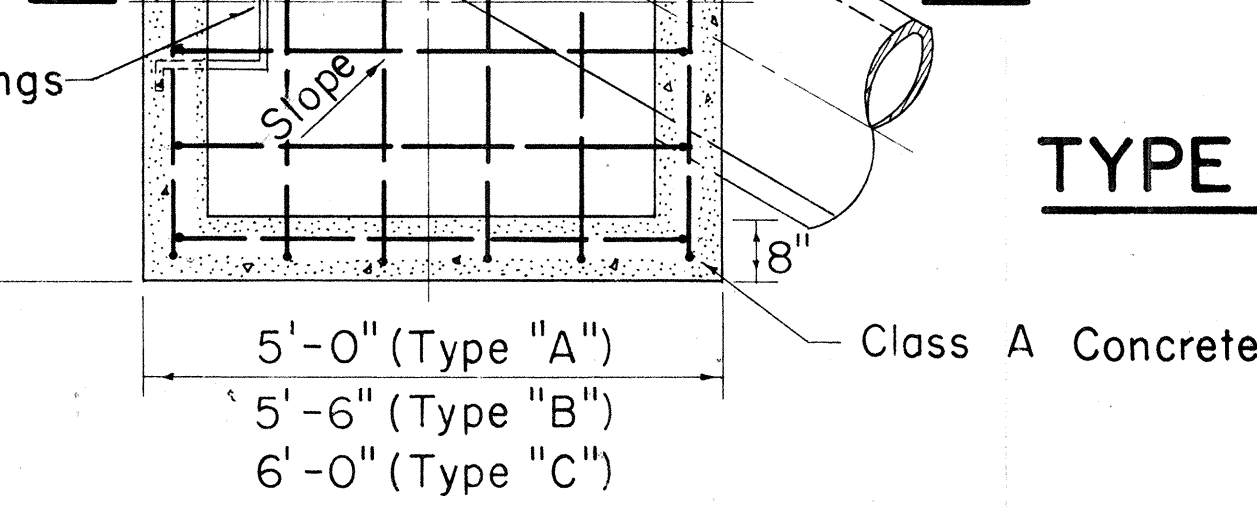
SECTION V-V



SECTION Z-Z

TYPE "D" STORM DRAIN MANHOLE

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



SECTION U-U

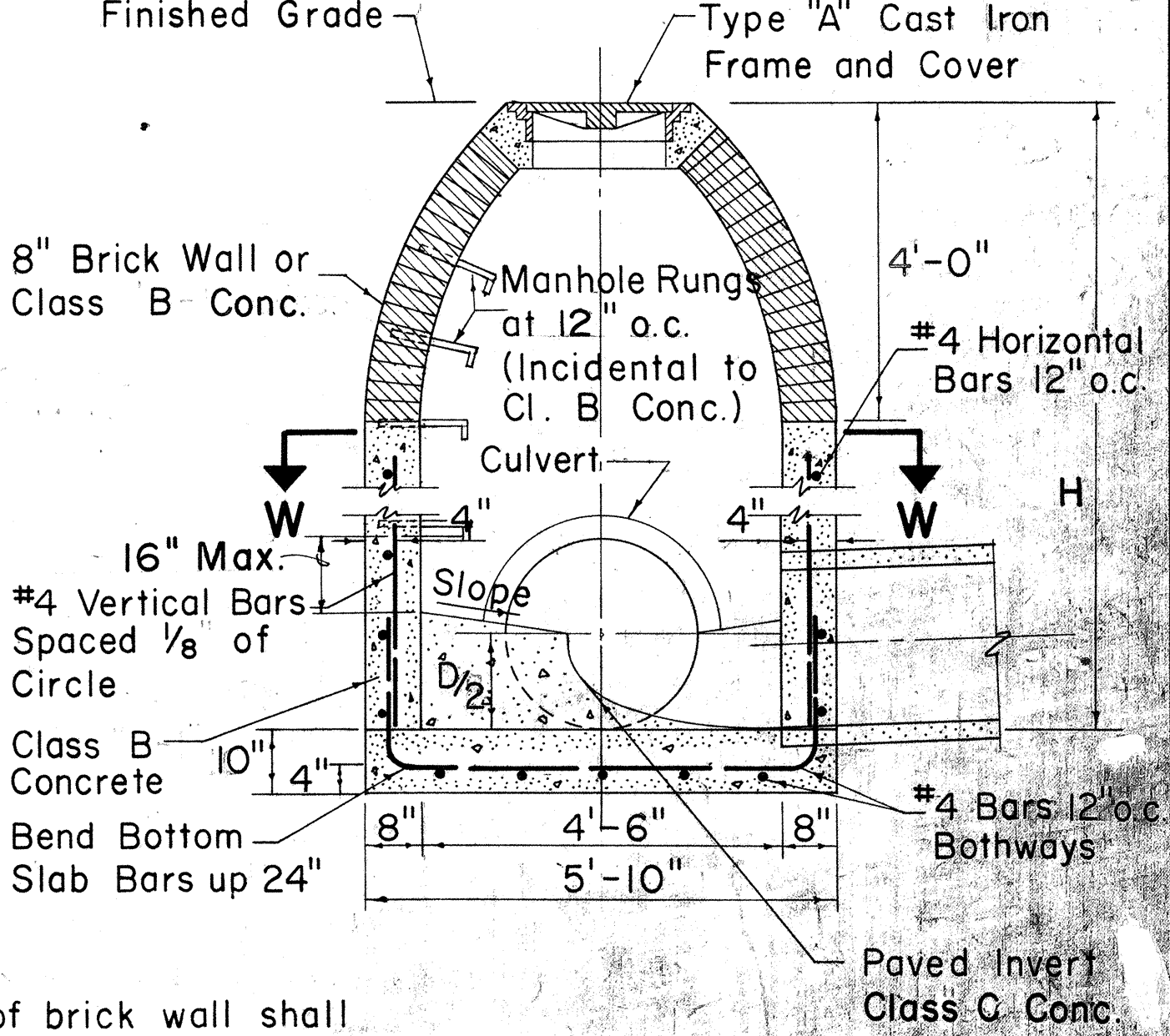
TYPE "A", "B", & "C"

S.D.M.H.

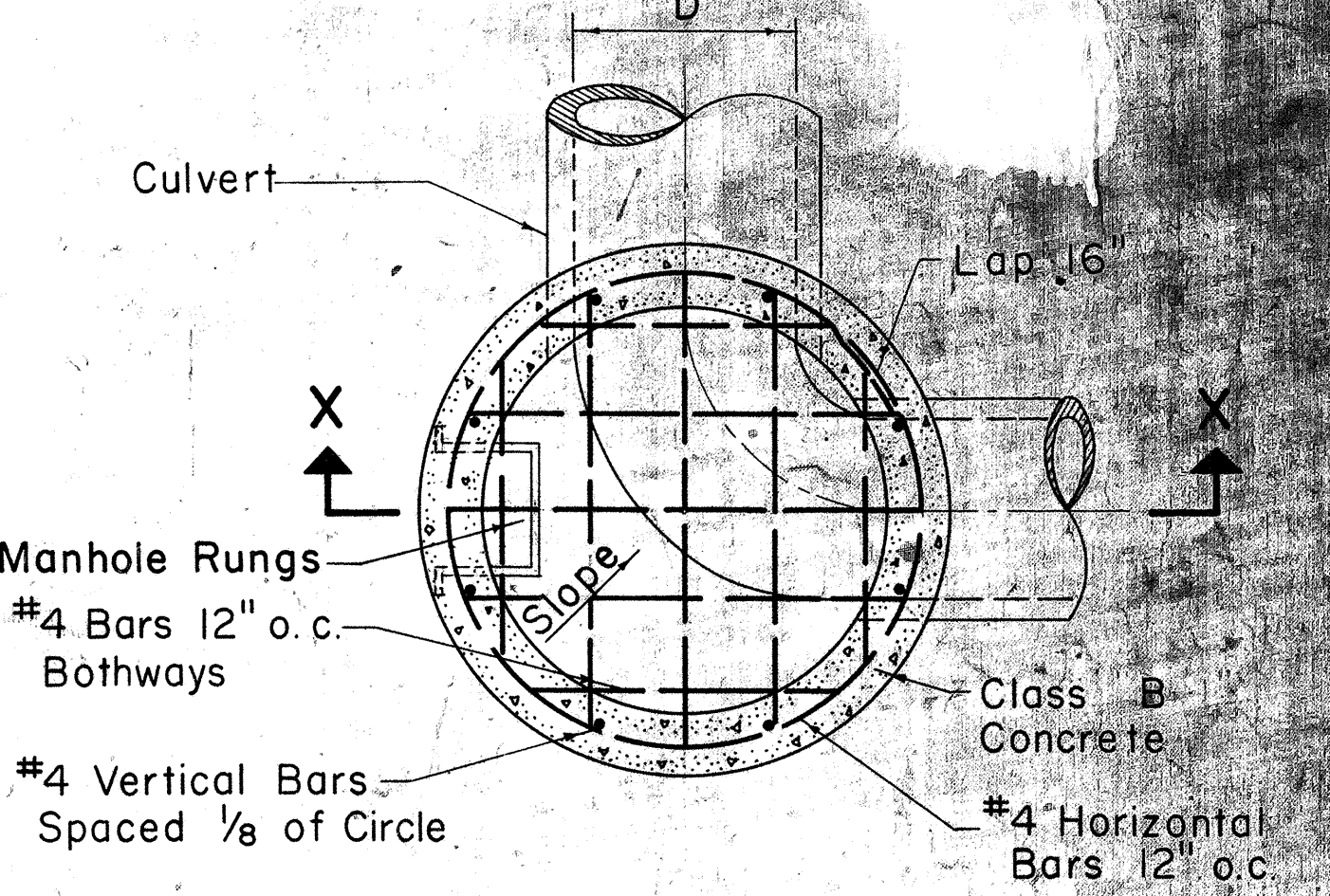
Scale: 1/2" = 1'-0"

APPROVAL RECOMMENDED:
HYDRAULIC DESIGN ENGINEER
DATE 12-17-69

APPROVED:
ASS'T. CHIEF, ENGINEERING
DATE 12-17-69



SECTION X-X



SECTION W-W

TYPE "E" STORM DRAIN MANHOLE

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

NO.	REVISION	APPROVED BY	DATE
1	Spacing on Manhole Rungs to conform to OSHA.	H.T.	1-21-75

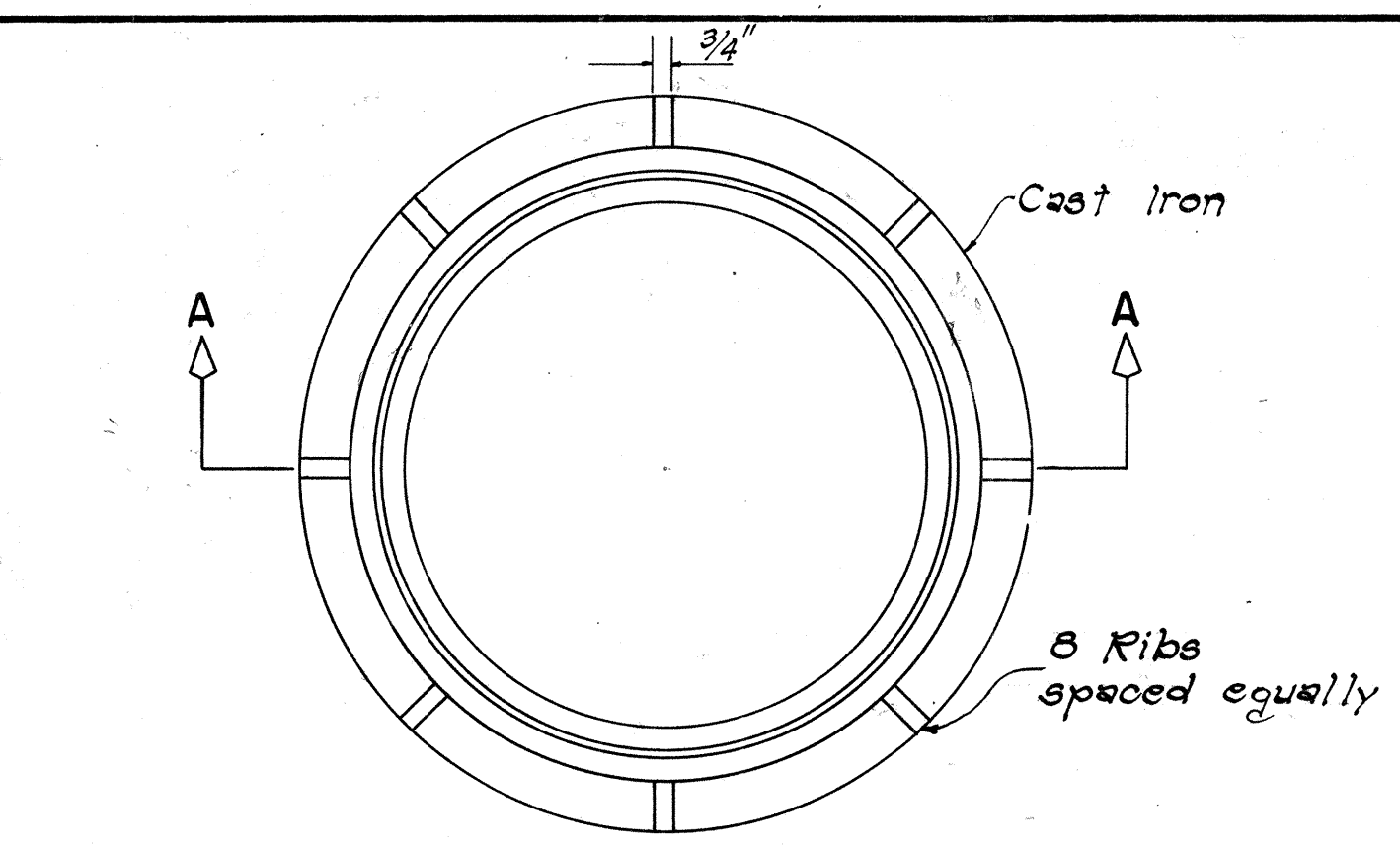
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS STORM DRAIN MANHOLES

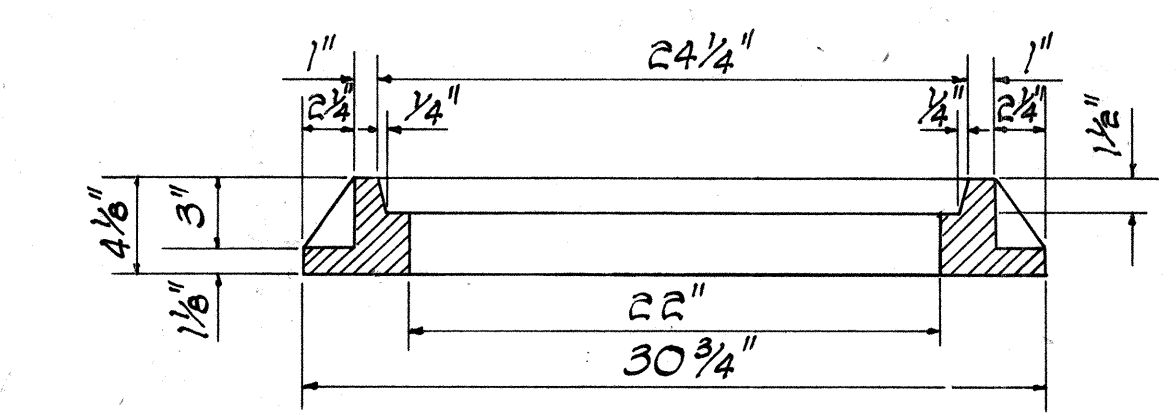
Scales: As Noted Date: July 1, 1969

SHEET NO. 1 OF 3 SHEETS DH 5

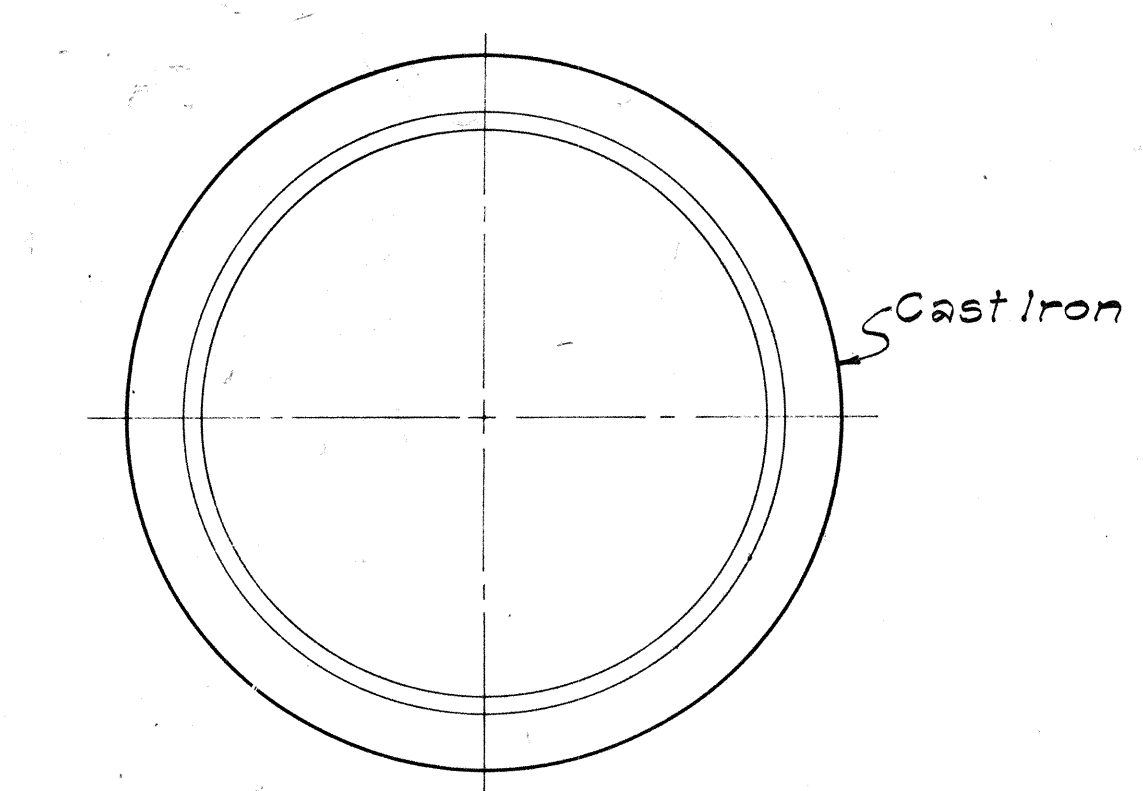
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	17L-01-78	1978	5	6



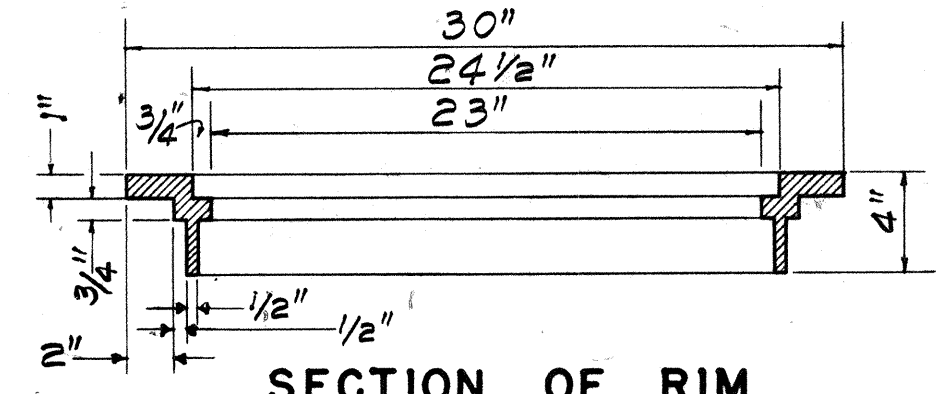
PLAN



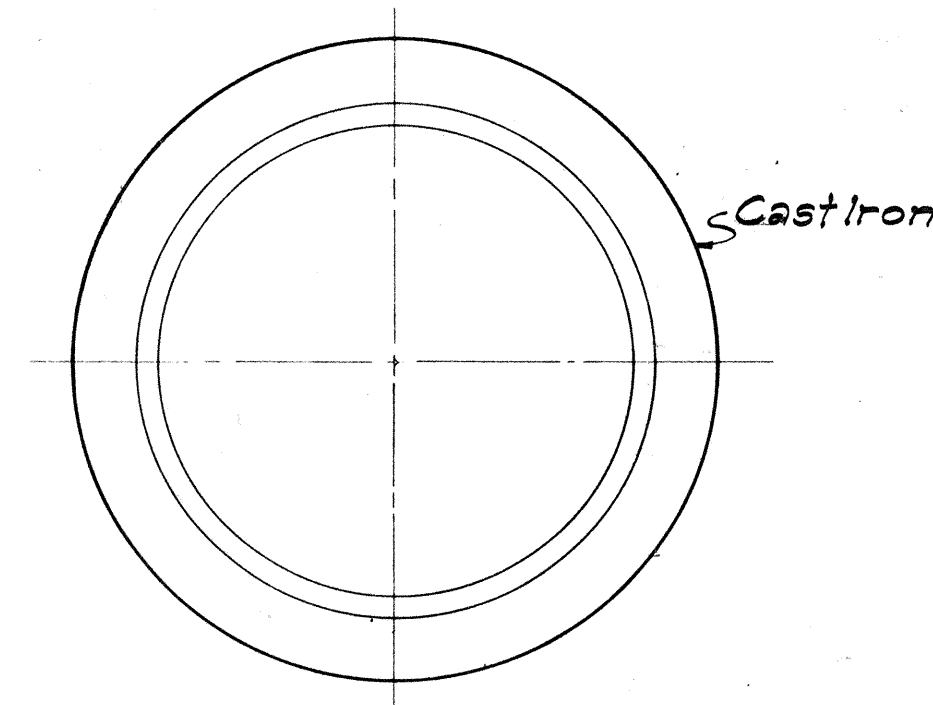
SECTION A-A



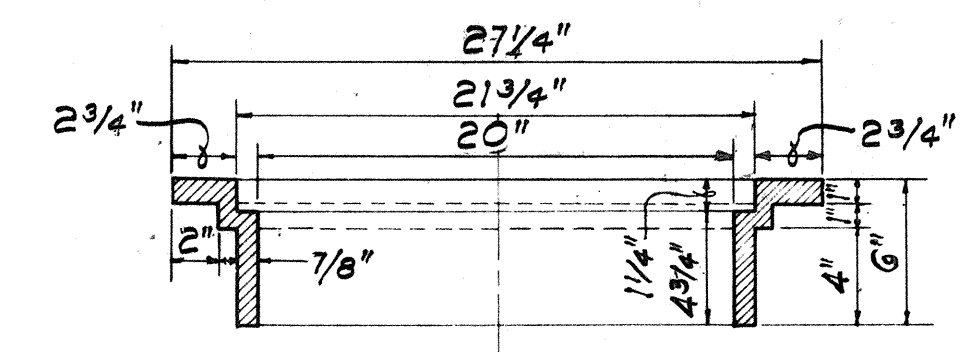
PLAN OF RIM



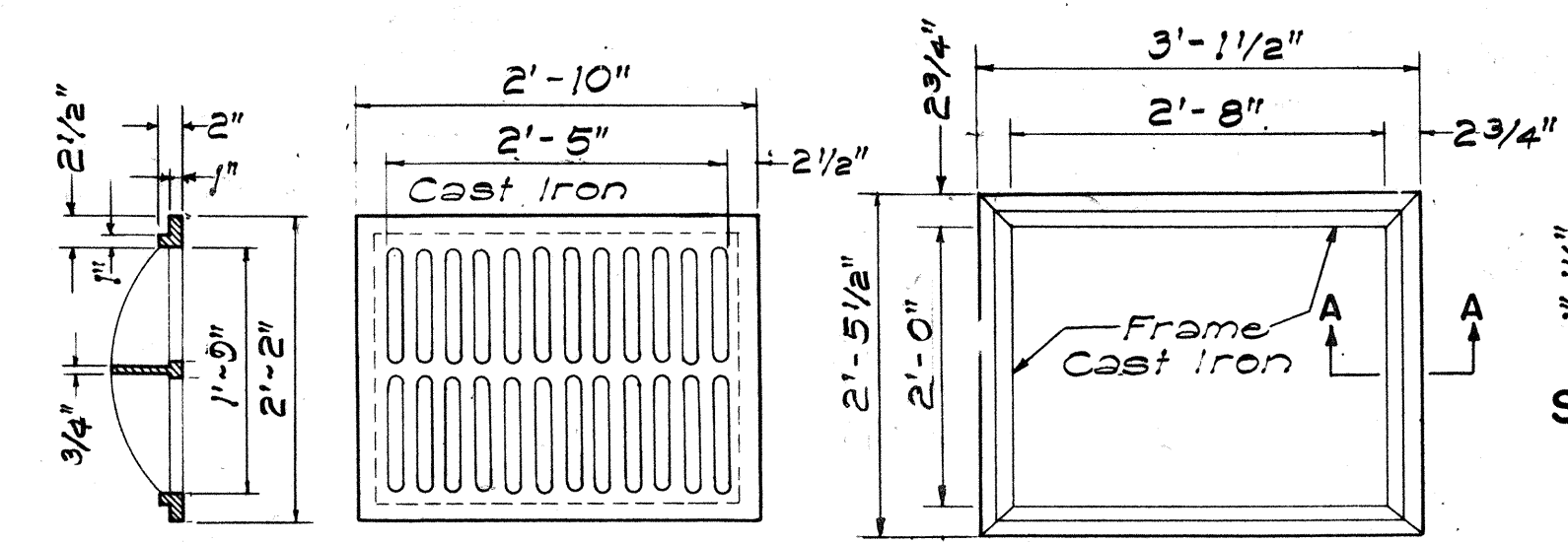
SECTION OF RIM



PLAN OF RIM



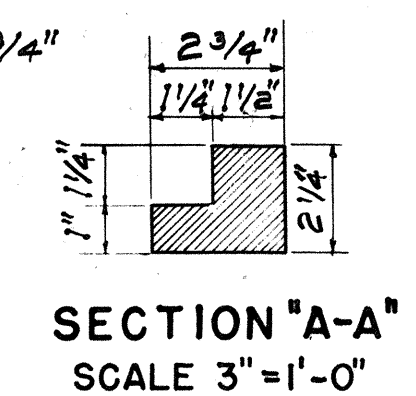
SECTION OF RIM



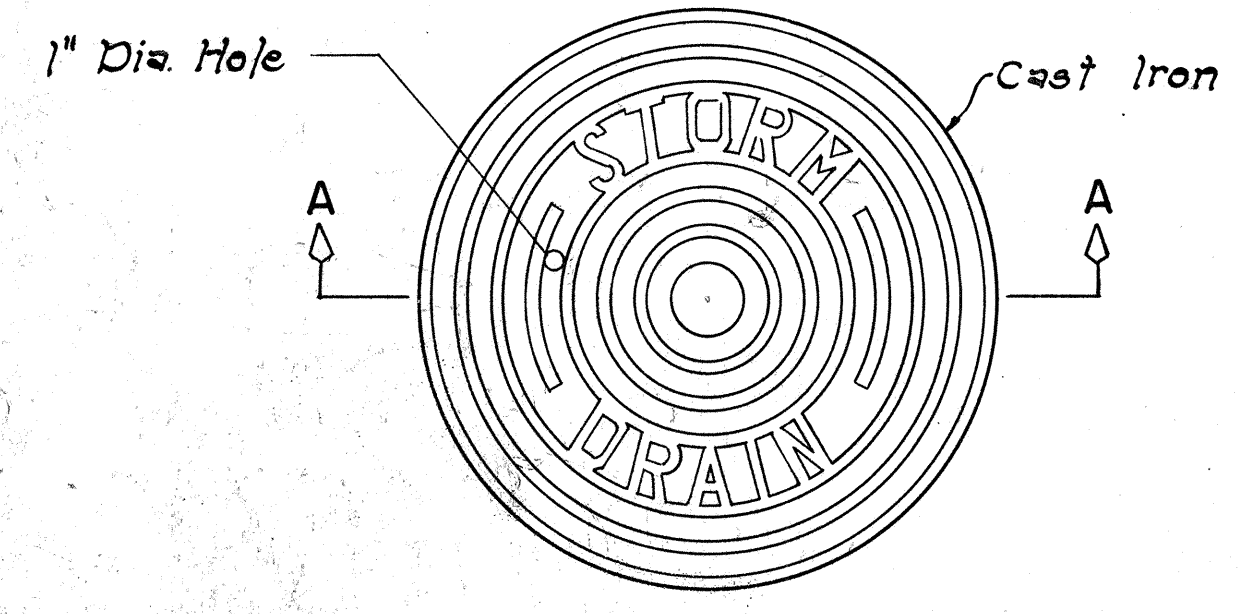
SECTION TOP VIEW TOP VIEW

TYPE C C.I. FRAME AND GRATE

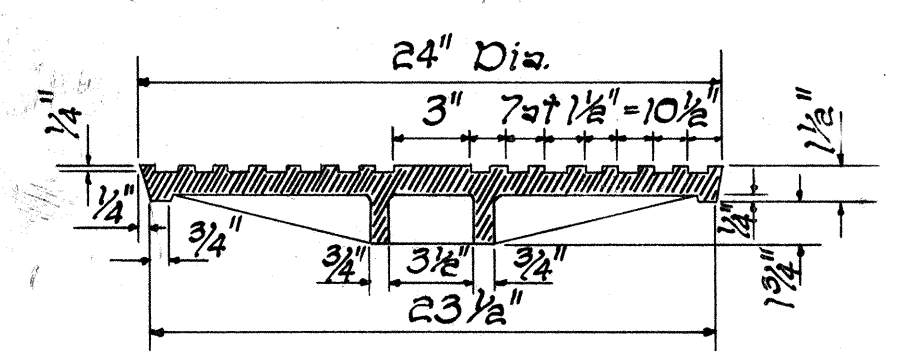
SCALE: 3/4" = 1'-0"



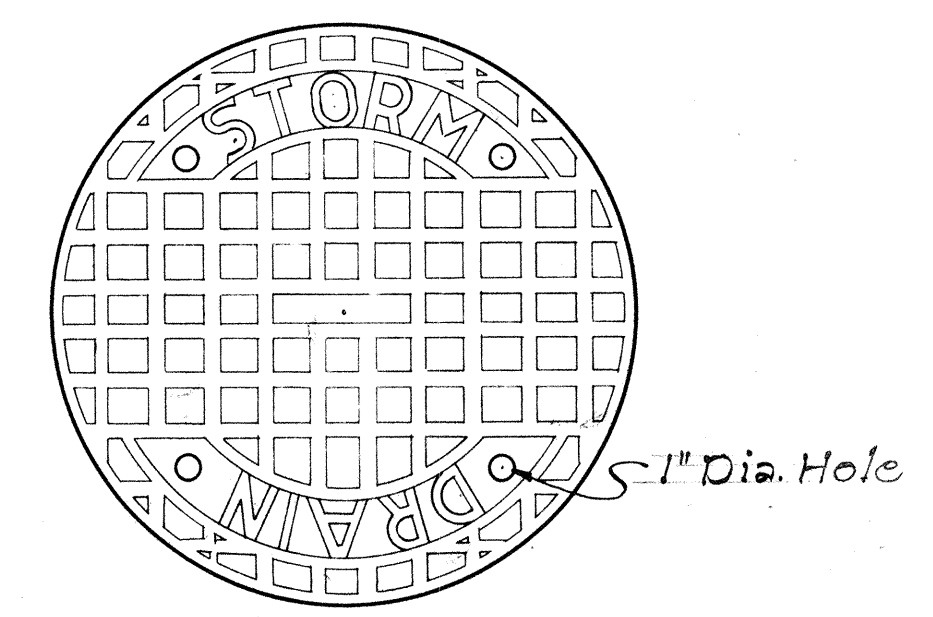
SECTION "A-A"
SCALE 3" = 1'-0"



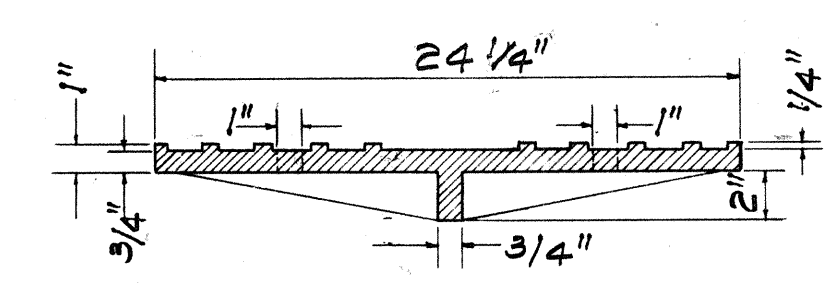
PLAN



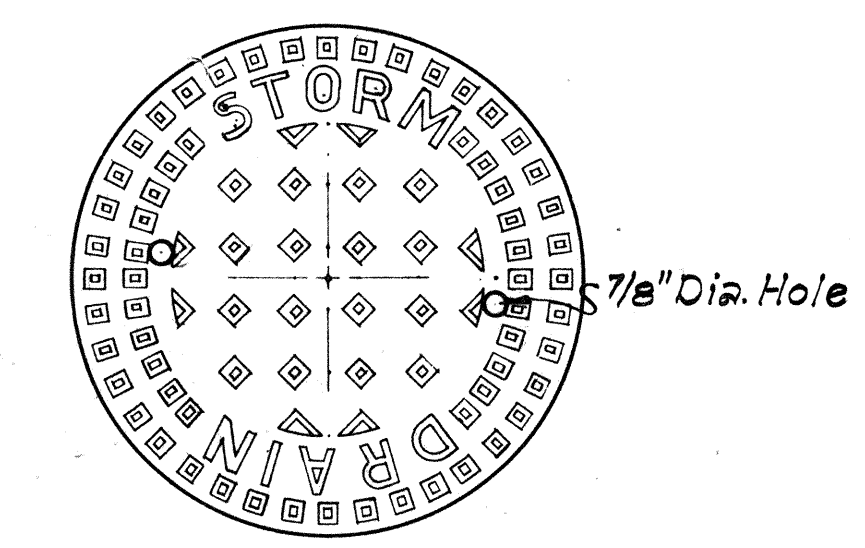
SECTION A-A



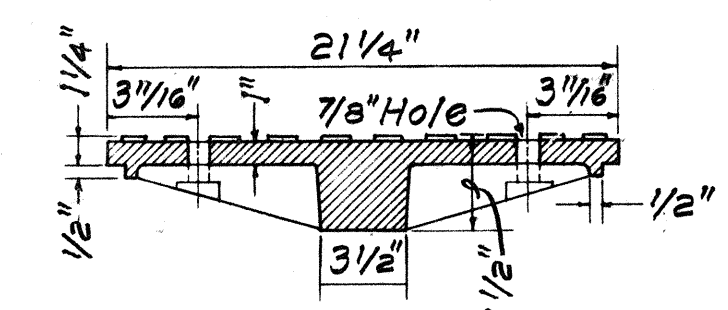
TOP VIEW OF COVER



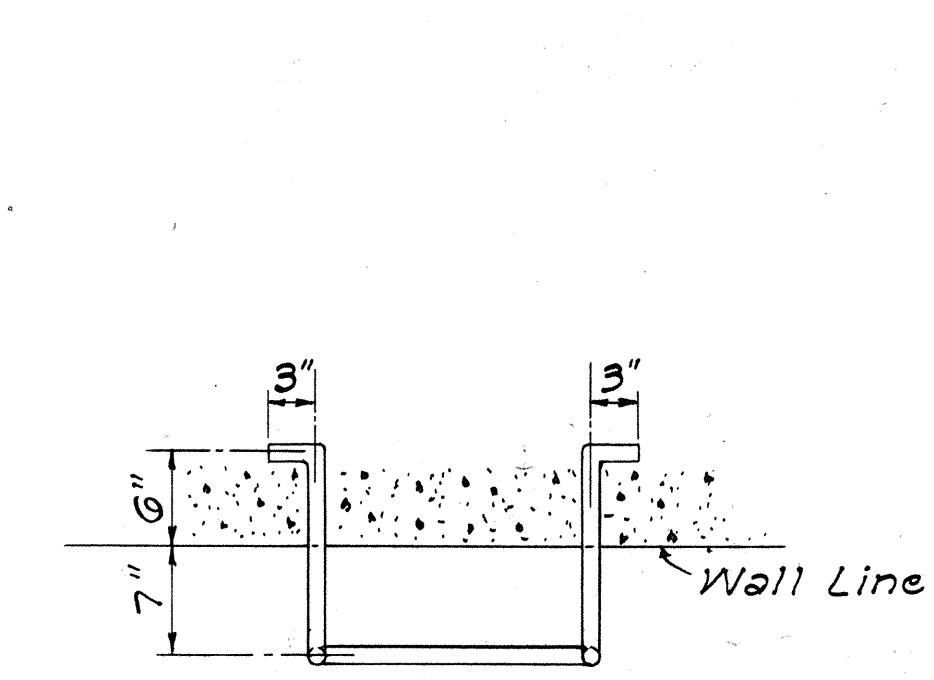
SECTION



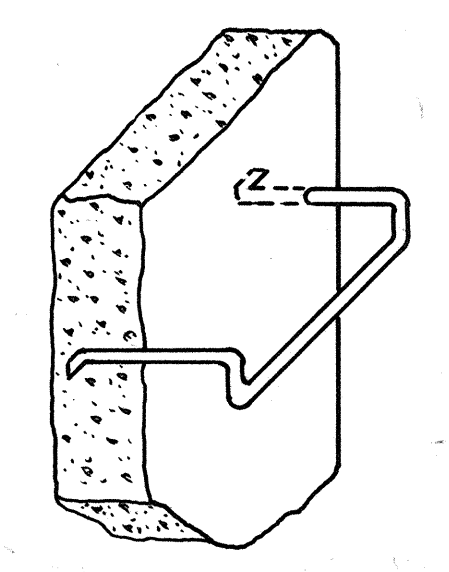
TOP VIEW OF COVER



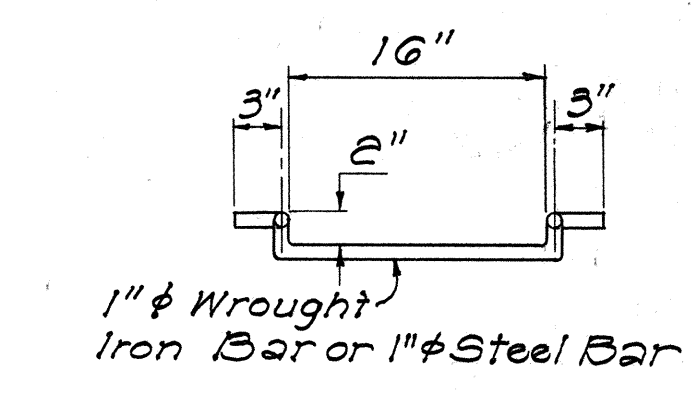
SECTION



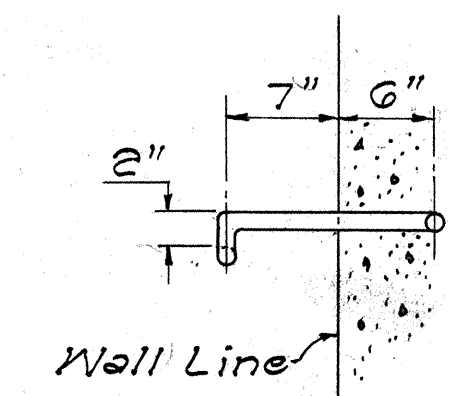
P L A N



PICTORIAL VIEW
NOT TO SCALE



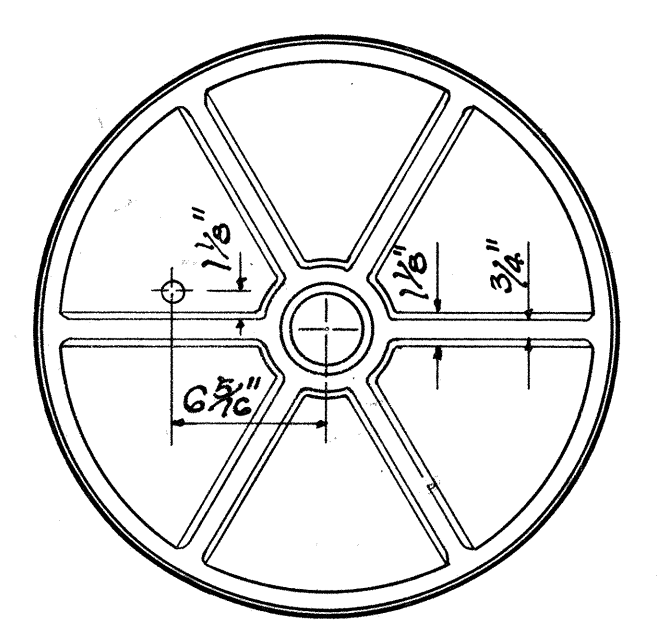
FRONT VIEW



SIDE VIEW

DETAILS OF MANHOLE RUNG

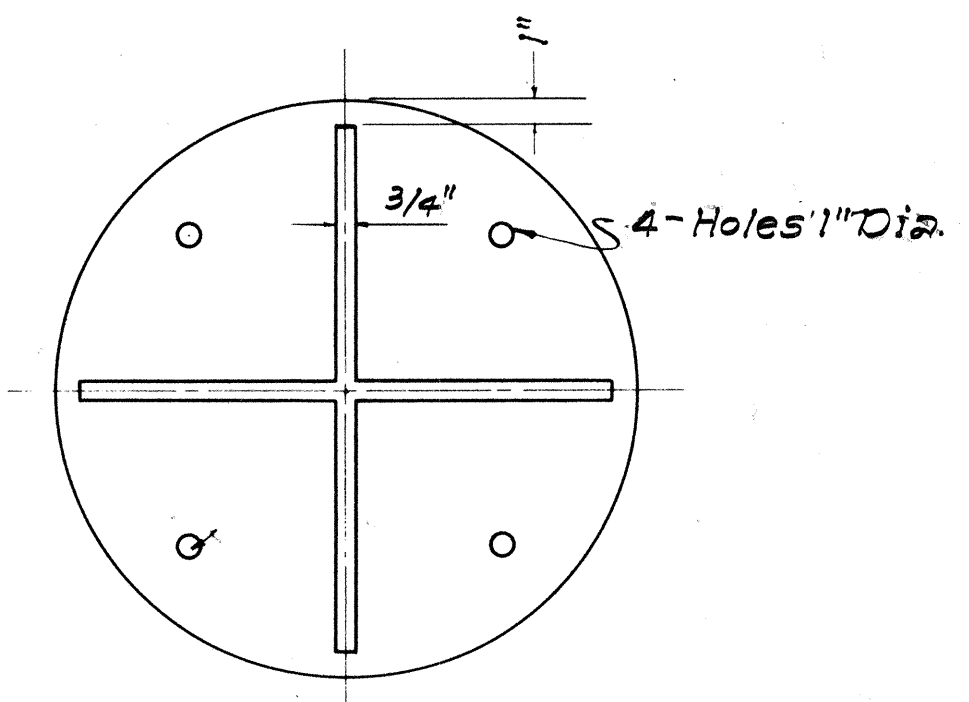
SCALE: 1" = 1'-0"



BOTTOM VIEW OF COVER

DETAILS OF TYPE "P"
CAST IRON FRAME AND COVER

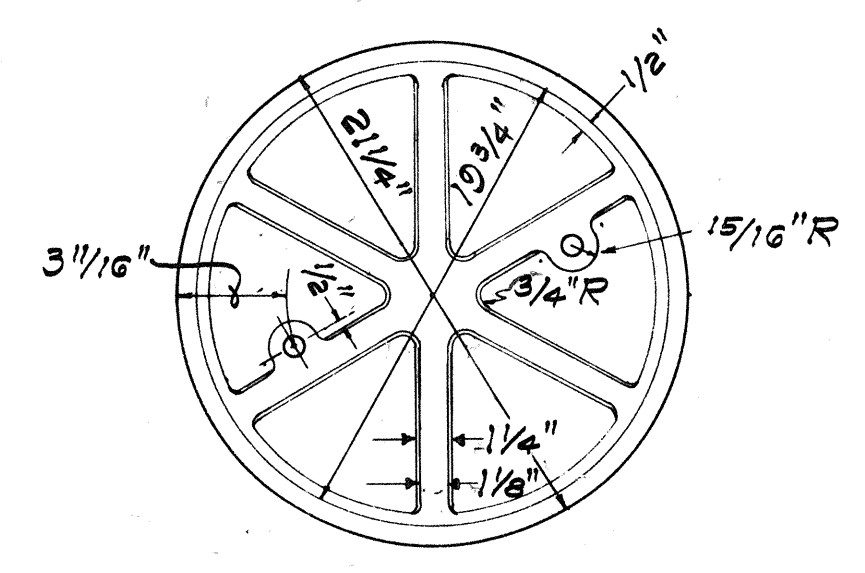
SCALE: 1-1/2" = 1'-0"



BOTTOM VIEW OF COVER

DETAILS OF TYPE "B"
CAST IRON FRAME AND COVER

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



BOTTOM VIEW OF COVER

DETAILS OF TYPE "A"
CAST IRON FRAME AND COVER

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

NO.	REVISION	APPROVED BY	DATE
1.	Detail of Type "P" Cast Iron Frame and Cover	H.T.	1-6-71
2.	Details of Manhole Rungs to conform to OSHA.	H.T.	1-21-75
3.	Option for Manhole Rungs	H.T.	1-18-76

APPROVAL RECOMMENDED:
P. Nakano 12-17-67
 HYDRAULIC DESIGN ENGINEER DATE

APPROVED:
W. J. J. J. 12-17-67
 ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
 CATCH BASIN AND
 MANHOLE CASTINGS

Scale: As Noted Date: July, 1969
 SHEET NO. 2 OF 3 SHEETS DH 6

DESIGNED BY: DATE:
 DRAWN BY: A. Calisto
 TRACED BY: A. Calisto
 NOTE BOOK
 QUANTITIES BY:
 CHECKED BY:

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	191-01-78	1978	6	6



CW20-1a 48" x 48"



CW20-2d 48" x 48"



CW20-3b 48" x 48"



CW20-4d 48" x 48"



CW20-5d(L) 48" x 48"



CW20-7c 48" x 48"



CW21-1 30" x 30"



CW21-2 30" x 30"



CW21-3 36" x 36"



CW21-4 36" x 36"



CW21-5 30" x 30"



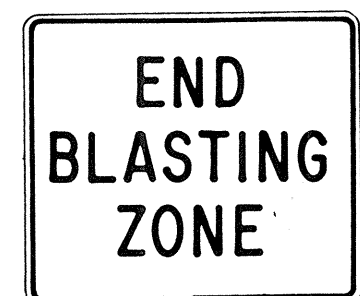
CW21-6 30" x 30"



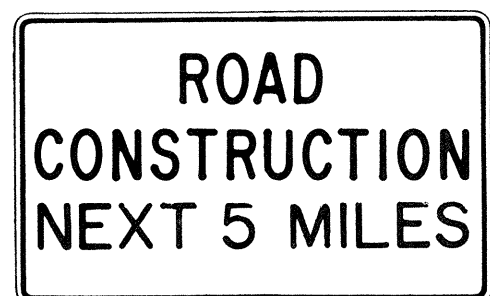
CW22-1b 48" x 48"



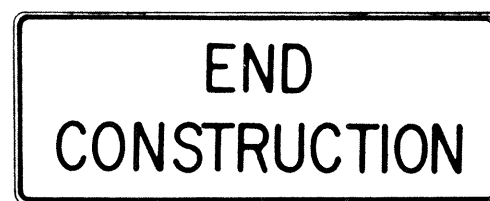
CW22-2 42" x 36"



CW22-3 42" x 36"



CG20-1(5) 60" x 36"



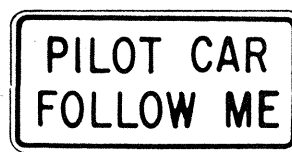
CG20-2 60" x 24"



CM4-9(R) 30" x 24"



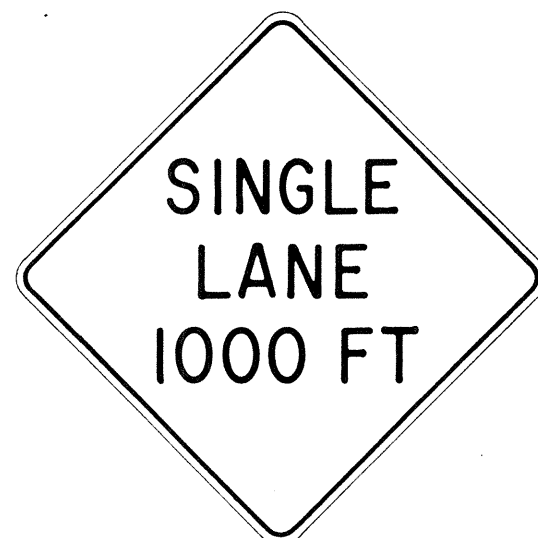
CM4-10(R) 48" x 18"



CG20-4 36" x 18"



CW23-1 36" x 36"



CW23-2b 48" x 48"



CW23-3(R) 48" x 48"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All construction signs shall be reflectorized.
- All construction signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- For "CW" series signs, suffixes a,b,c and d are as follows:
a-1500 FT, b-1000 FT, c-500 FT and d-AHEAD.

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 104 Approved 12-30-69	H.C.	3/23/72
2	Revised General Note 1	H.C.	10/16/74
3	Revised General Note 2	M.H.	9-16-75
4	Revised General Note 2 and sign CG20-1(5)	H.C.	9-14-76

APPROVAL RECOMMENDED:
Erich Tanaka 3/21/72
TRAFFIC ENGINEER DATE

APPROVED:
Arthur S. Sisk 3/23/72
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
CONSTRUCTION SIGNS

NOT TO SCALE

SHEET No. 3 OF 3 SHEETS DT 104

ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY	
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	
No.		