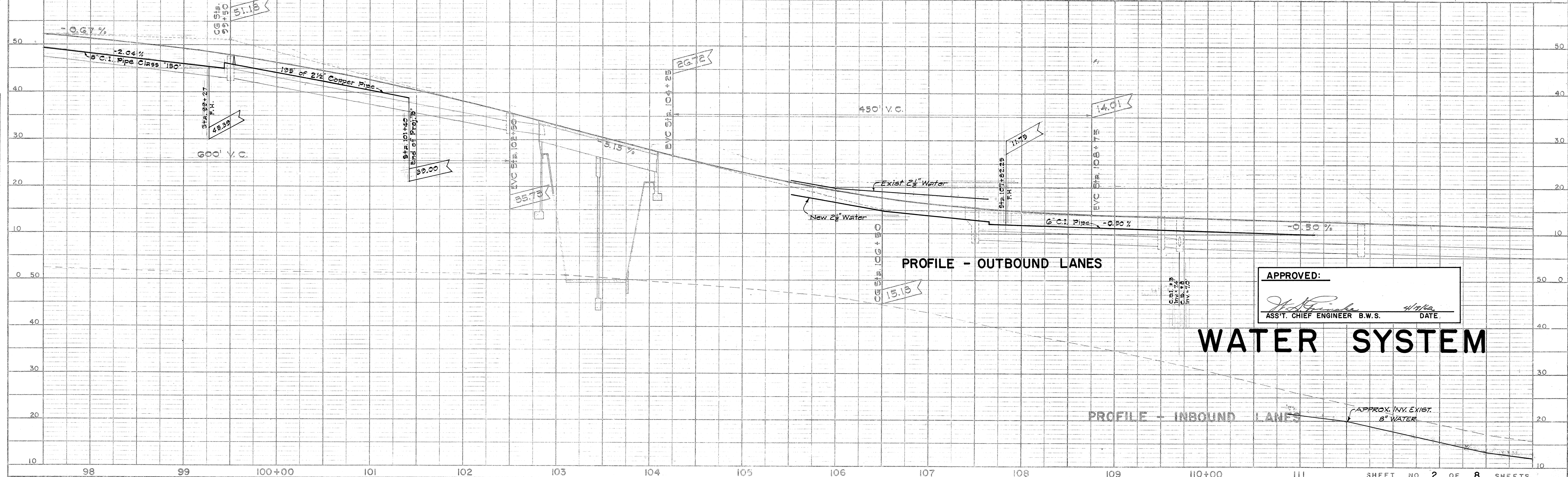
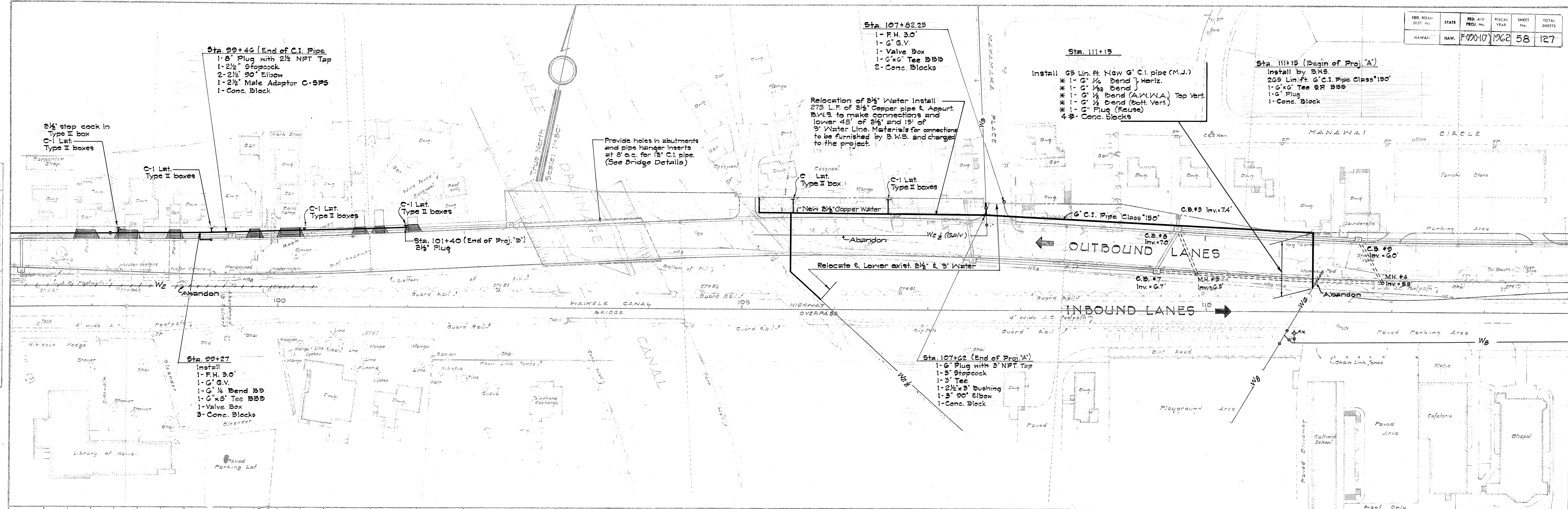


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-020-17	1962	58	127

PLAN	DATE	BY	DATE
SURVEYED			
PLOTTED			
NOTED			
RT. OF WAY CHECKED			
NO.			

PROFILE	DATE	BY	DATE
SURVEYED			
PLOTTED			
NOTED			
STRUCTURE NOTATION'S CH. NO.			
NO.			



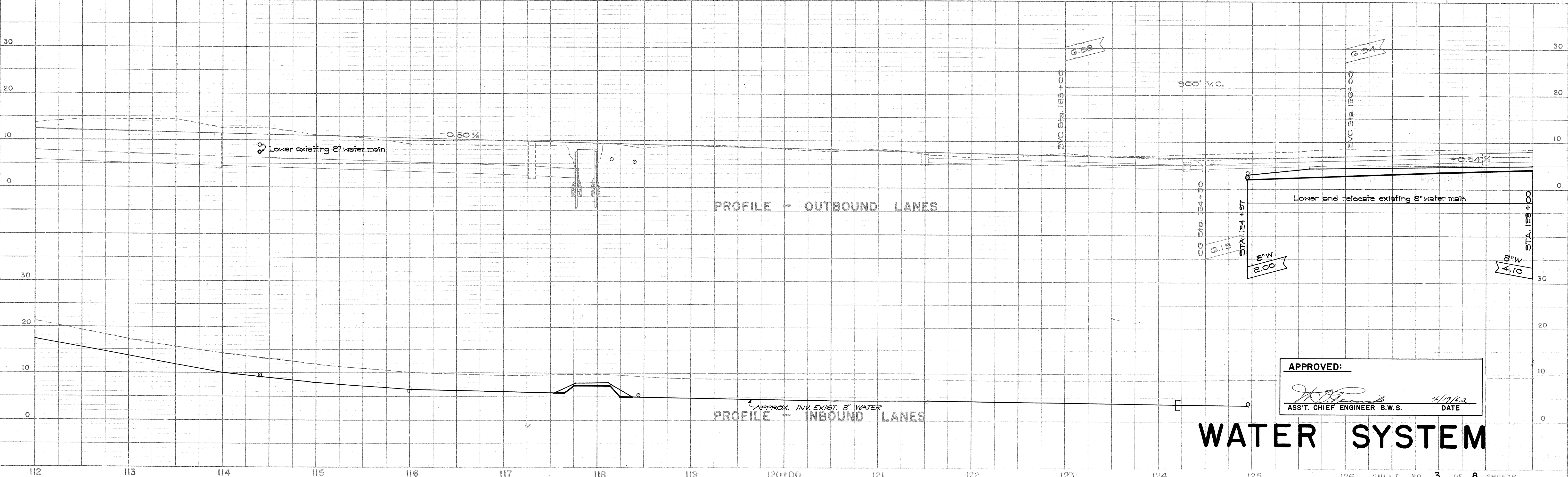
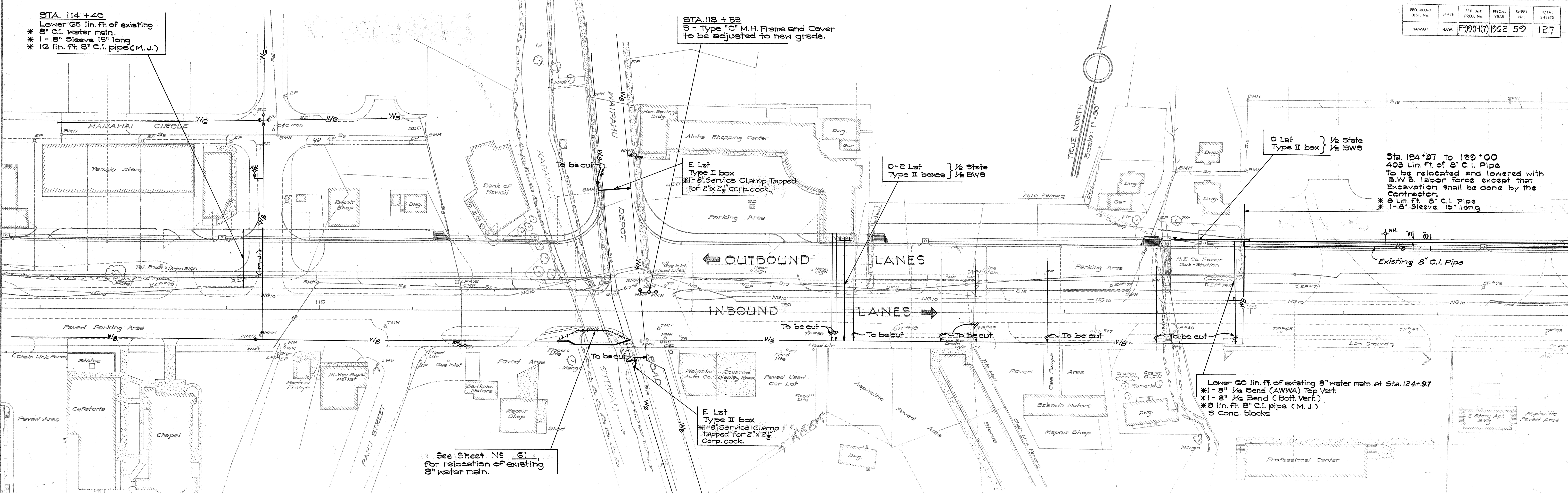
APPROVED: *[Signature]*
 ASS'T. CHIEF ENGINEER B.W.S. DATE: 4/1/62

WATER SYSTEM

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-000-107	1962	57	127

PLAN	DATE
SURVEYED	
NOTED	
NOTED	
NOTED	
NOTED	

PROFILE	DATE
SURVEYED	
NOTED	
NOTED	
NOTED	
NOTED	



APPROVED:

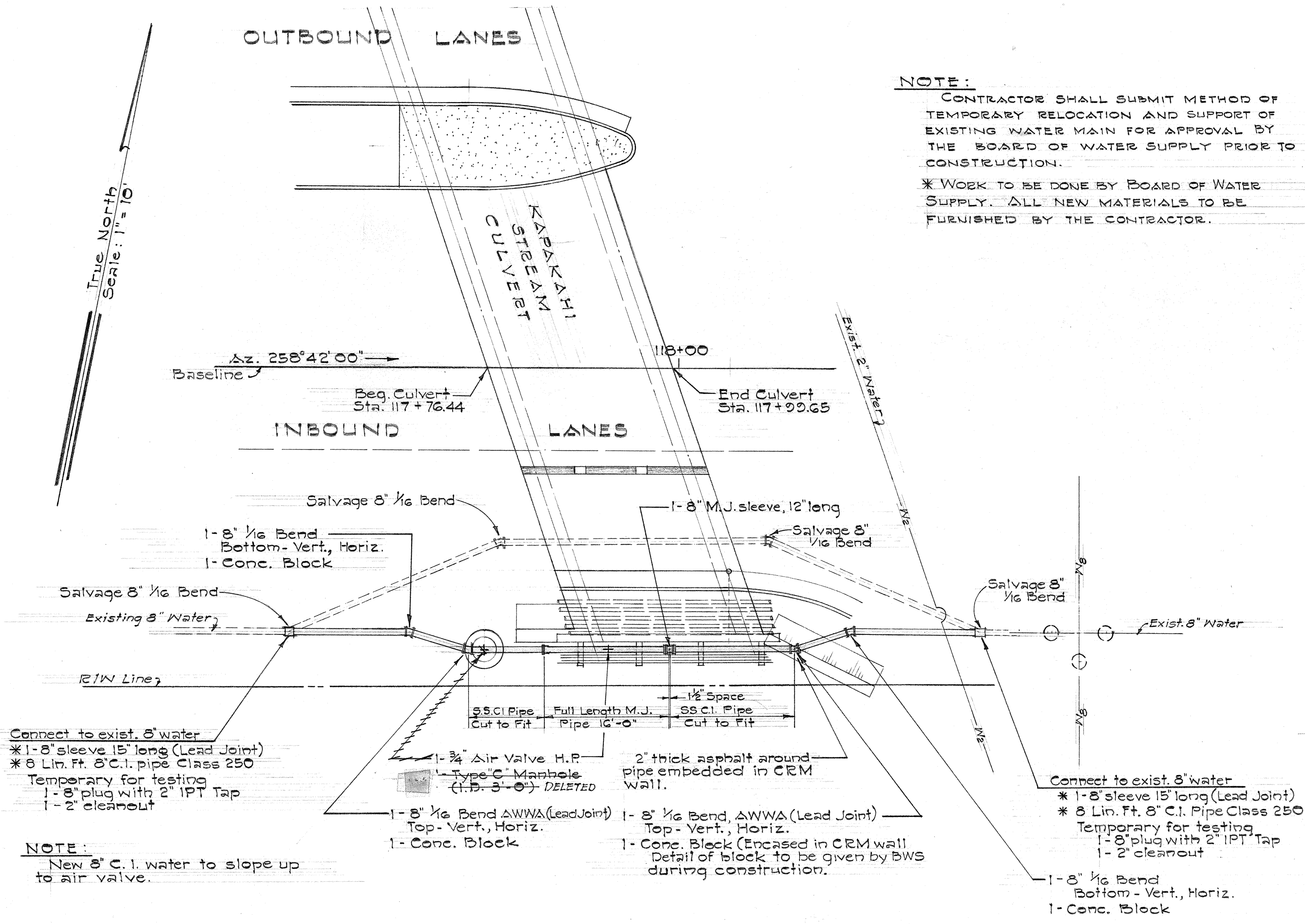
[Signature]

ASS'T. CHIEF ENGINEER B.W.S.

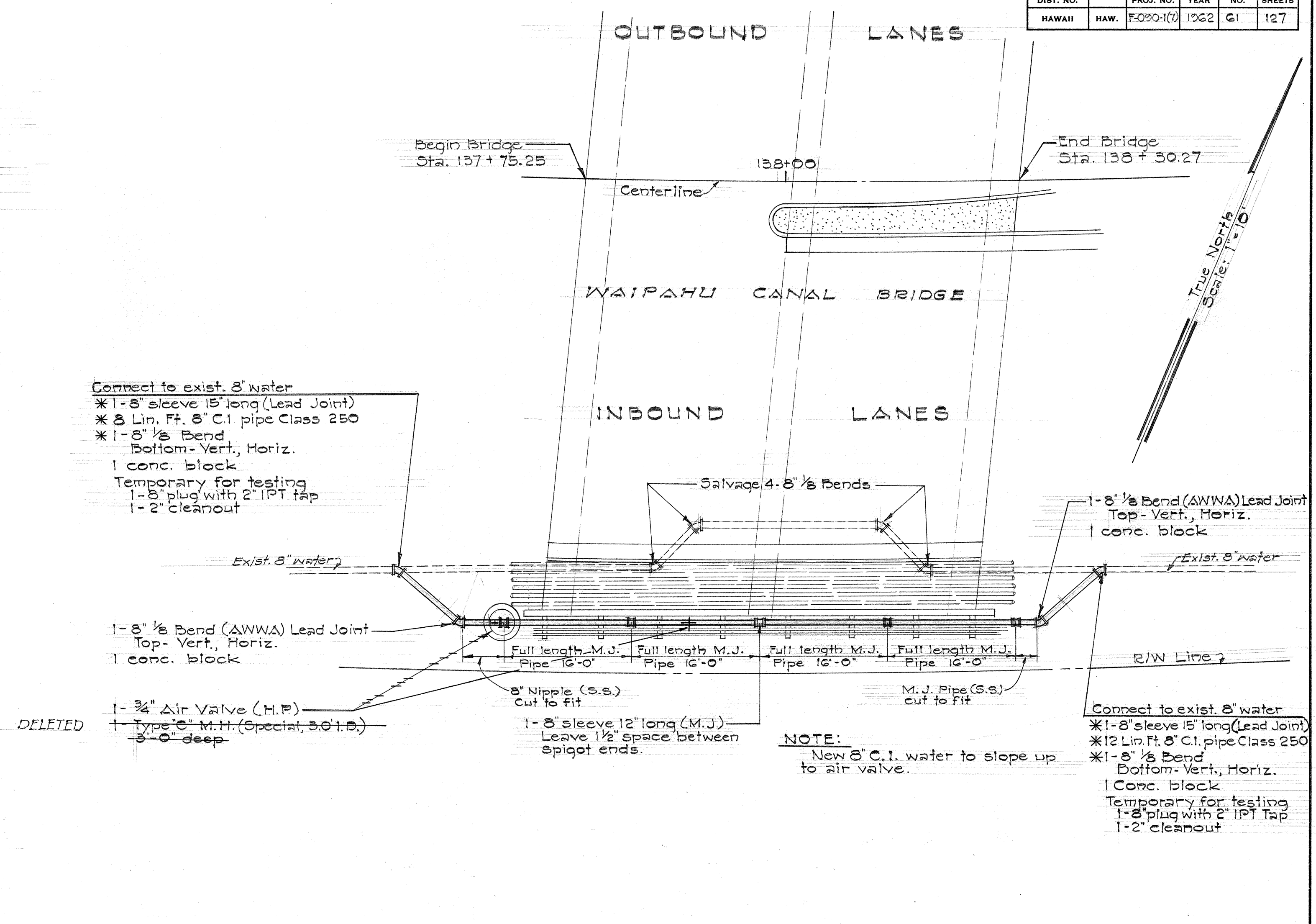
DATE 4/19/62

WATER SYSTEM

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-020-1(7)	1962	51	127



RELOCATION OF 8 INCH WATER MAIN
AT KAPAKAHI STREAM CULVERT
Scale: 1" = 10.00'

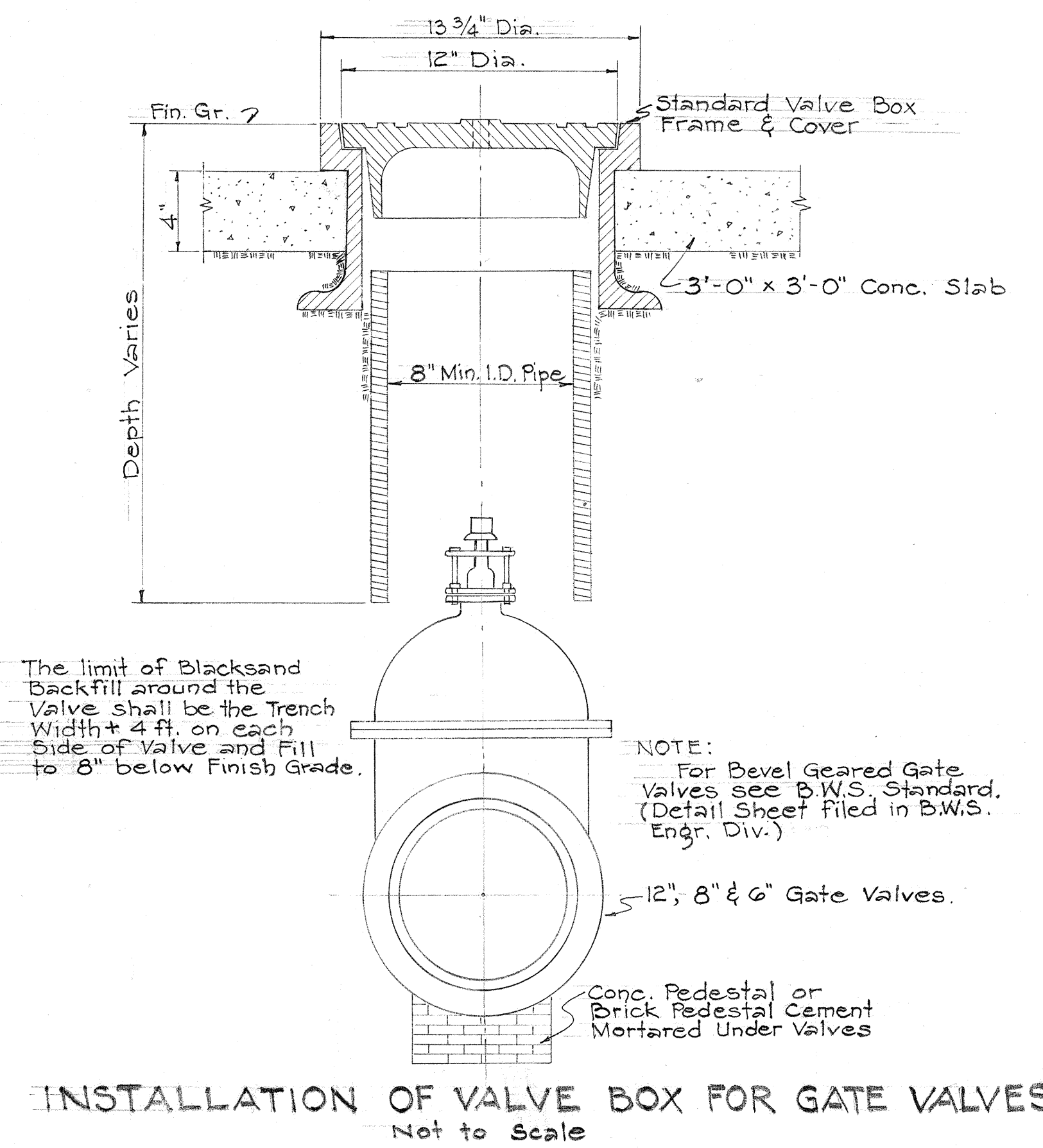
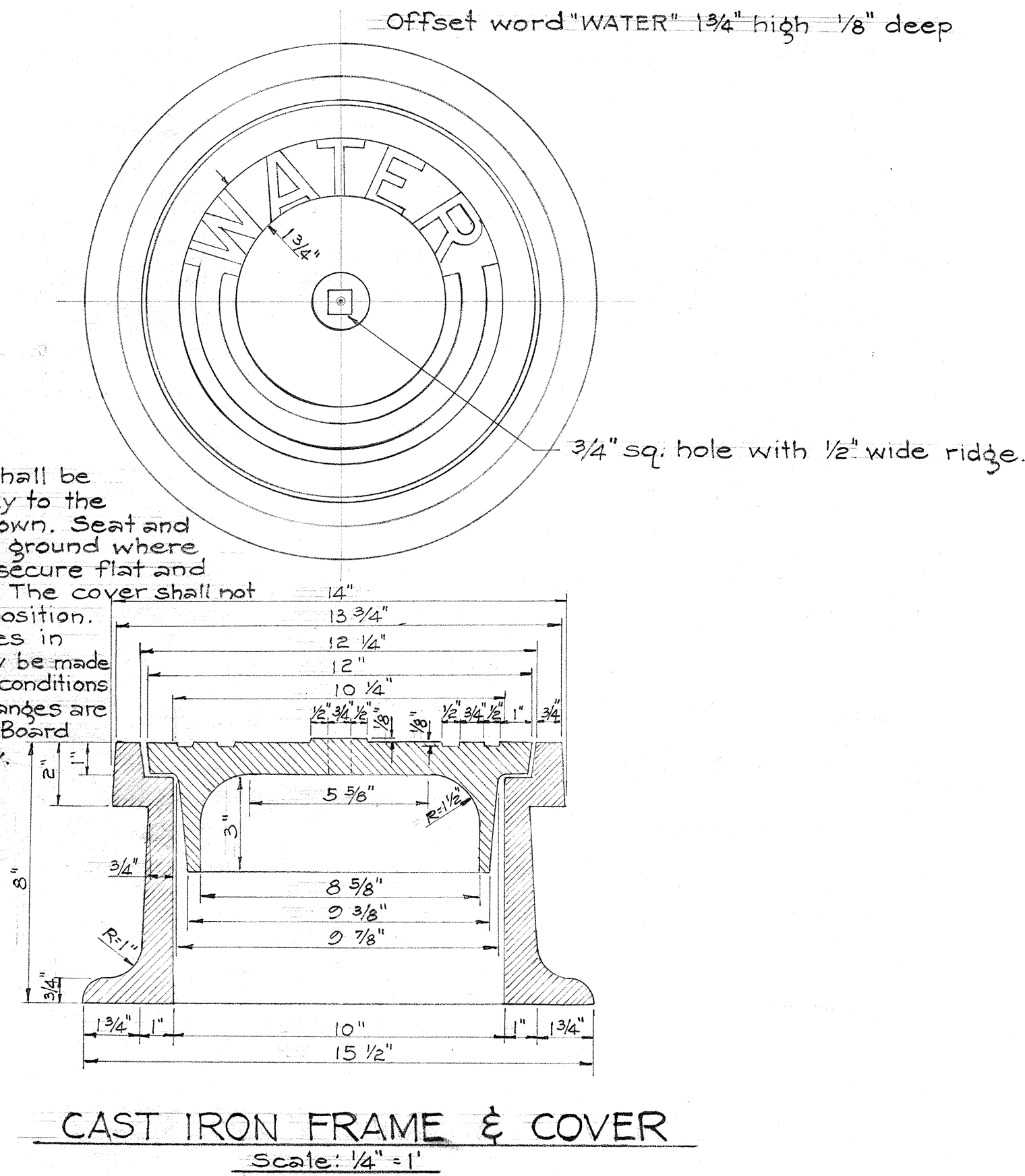


RELOCATION OF 8 INCH WATER MAIN
AT WAIPAHU CANAL BRIDGE
Scale: 1" = 10.00'

APPROVED:
H. J. [Signature]
ASST. CHIEF ENGINEER B.W.S. DATE 4/19/62

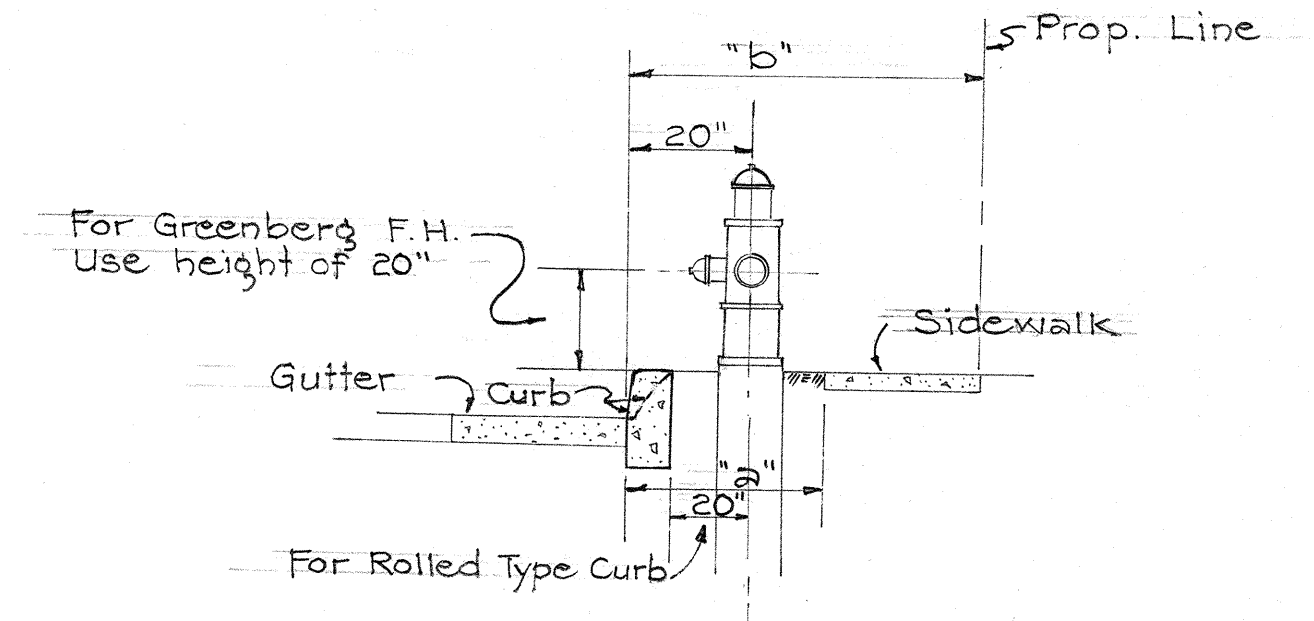
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
RELOCATION OF 8 INCH WATER MAIN
AT KAPAKAHI STREAM CULVERT
AND WAIPAHU CANAL BRIDGE
FARRINGTON HIGHWAY
PROJECT NO: F-020-1(7)
Scale: As Shown Date: Apr. 1962
SHEET No. 5 OF 8 SHEETS

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



Type F.H. Used	Type Curb Used	With Concrete Sidewalk Min. Distance Required	Without Concrete Sidewalk Min. Distance Required
Greenberg	Rolled Type Curb	4 ft.	8 ft.
Greenberg	Standard Curb	3 ft.	7 ft.
Others	Rolled Type Curb	3 ft.	7 ft.
Others	Standard Curb	2 ft.	6 ft.

Where full sidewalk is installed, Greenberg fire hydrants shall not be used. Greenberg fire hydrants may be installed only in suburban areas.



UTILITY AREA REQUIRED FOR INSTALLATION OF DIFFERENT TYPE F.H.S.

APPROVED:
H. J. [Signature]
ASS'T. CHIEF ENGINEER B.W.S. DATE 4/19/62

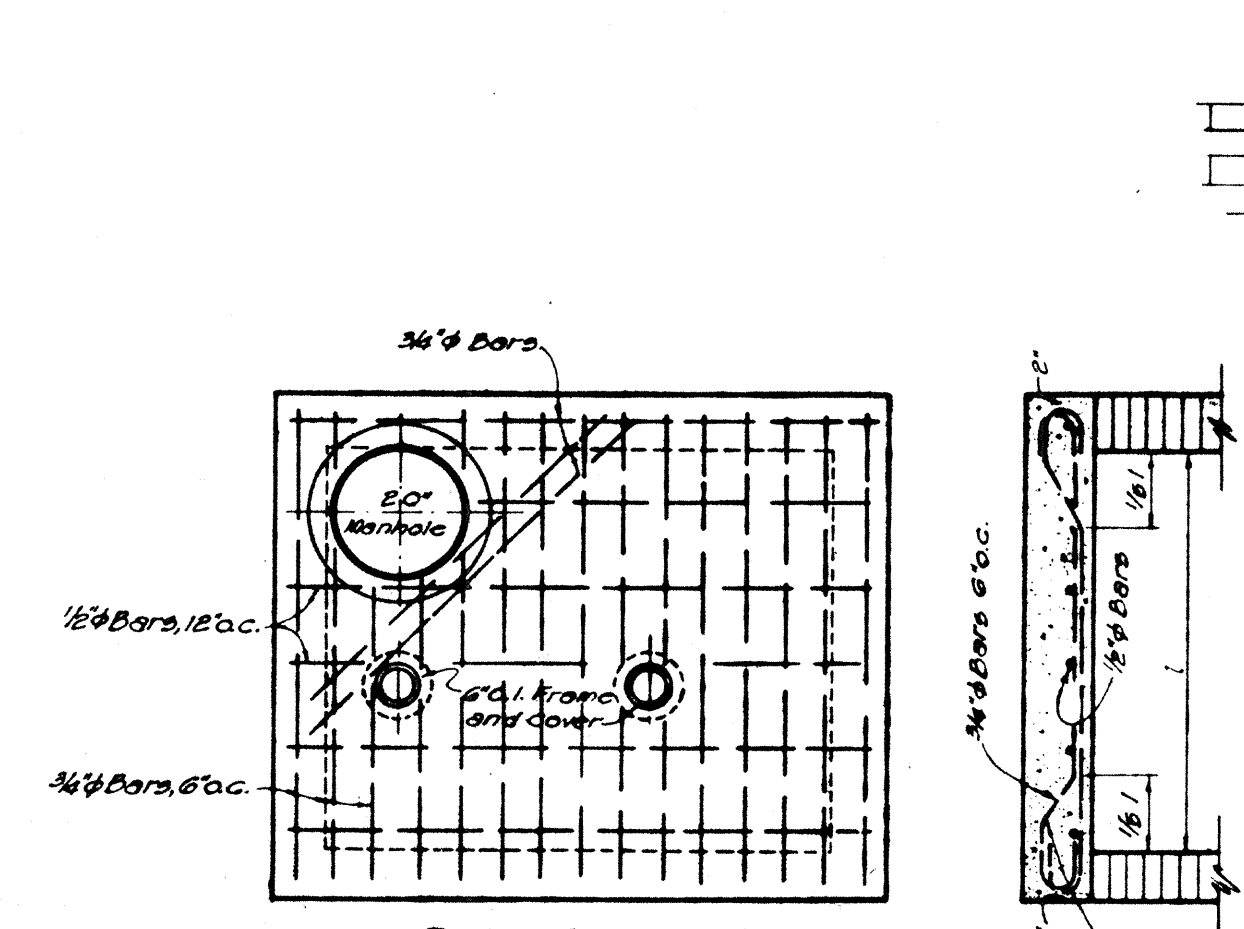
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**WATER SYSTEM
DETAIL**

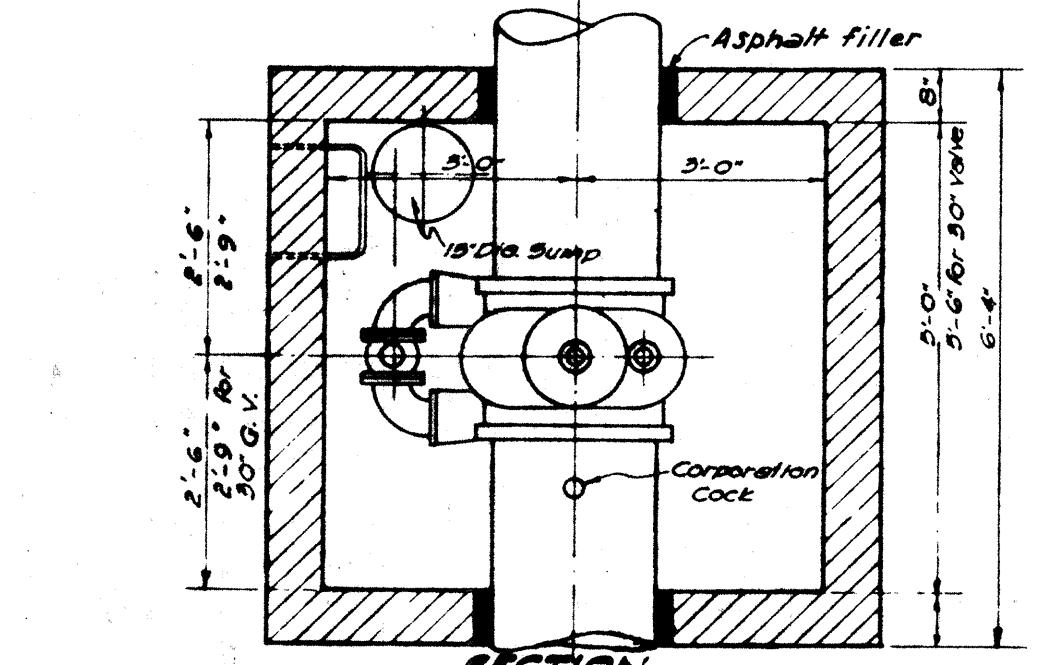
FARRINGTON HIGHWAY
PROJECT NO F-000-(7)

Scale: As Shown Date: Jan. 1962

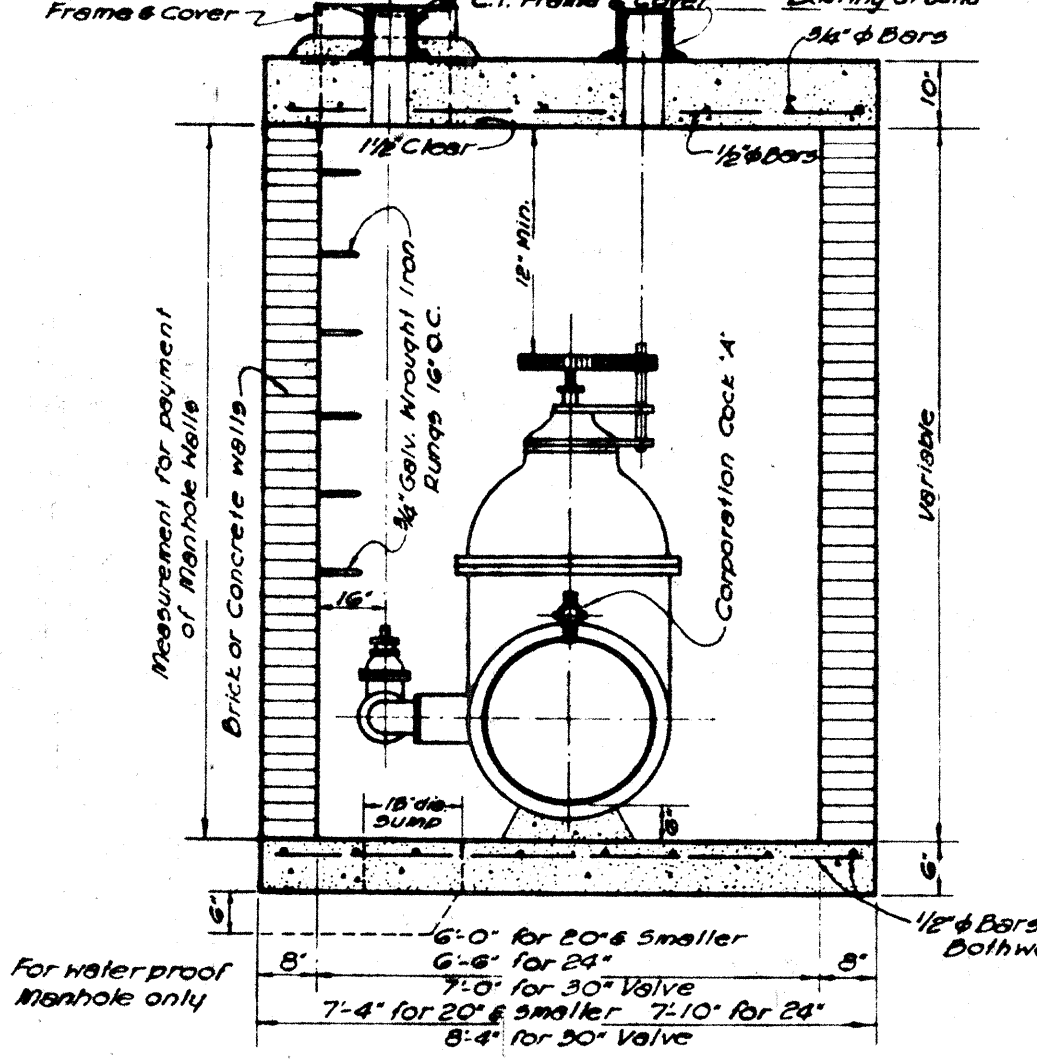
SHEET No. 6 OF 8 SHEETS



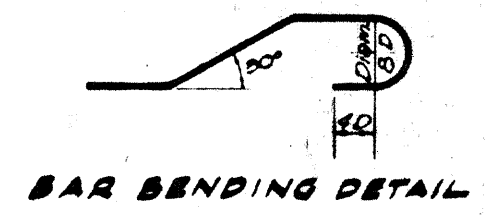
PLAN OF TOP



SECTION

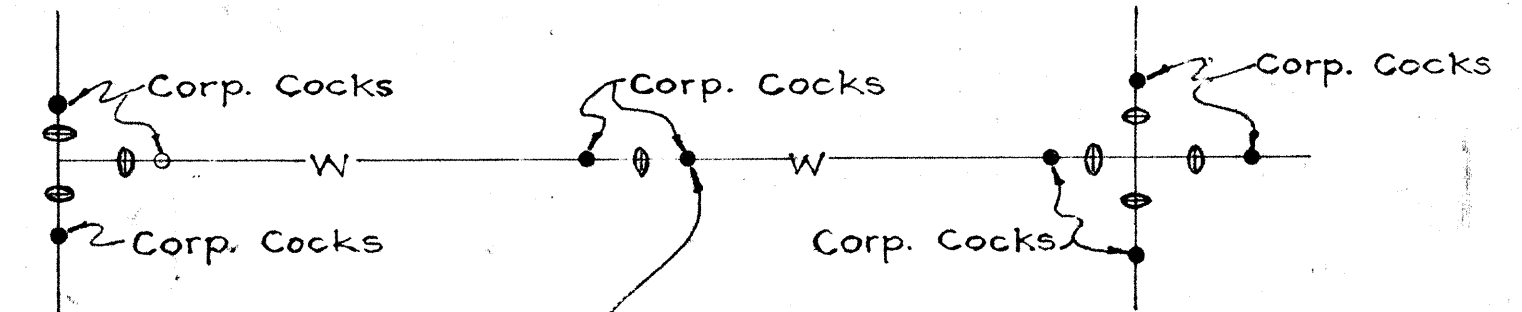


SECTION



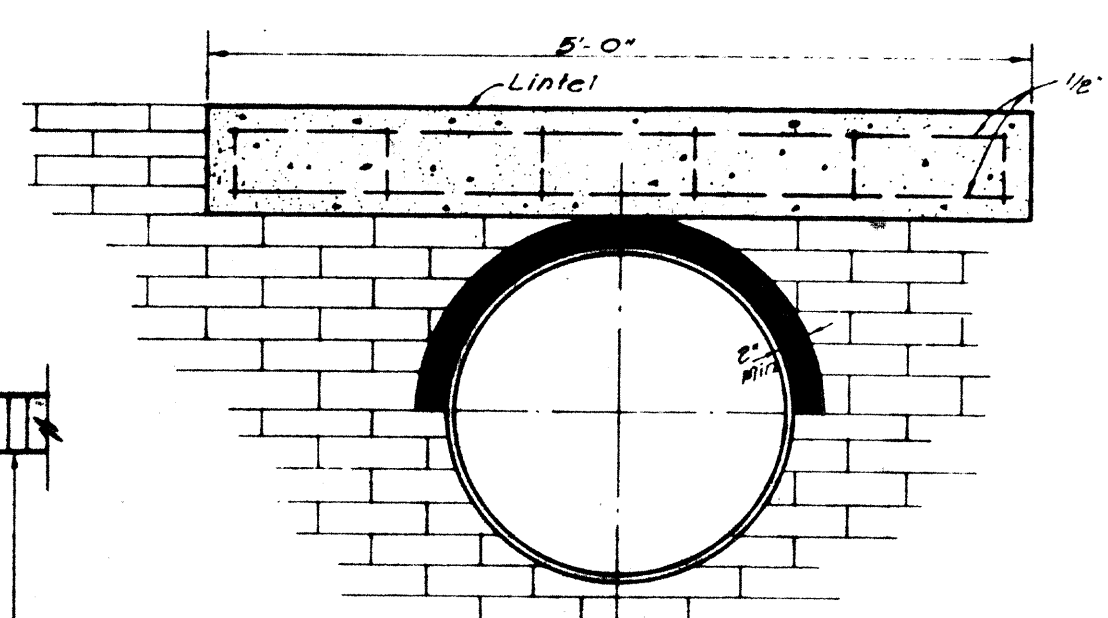
BAR BENDING DETAIL

TYPE "A" MANHOLE FOR SPUR GEARED GATE VALVES



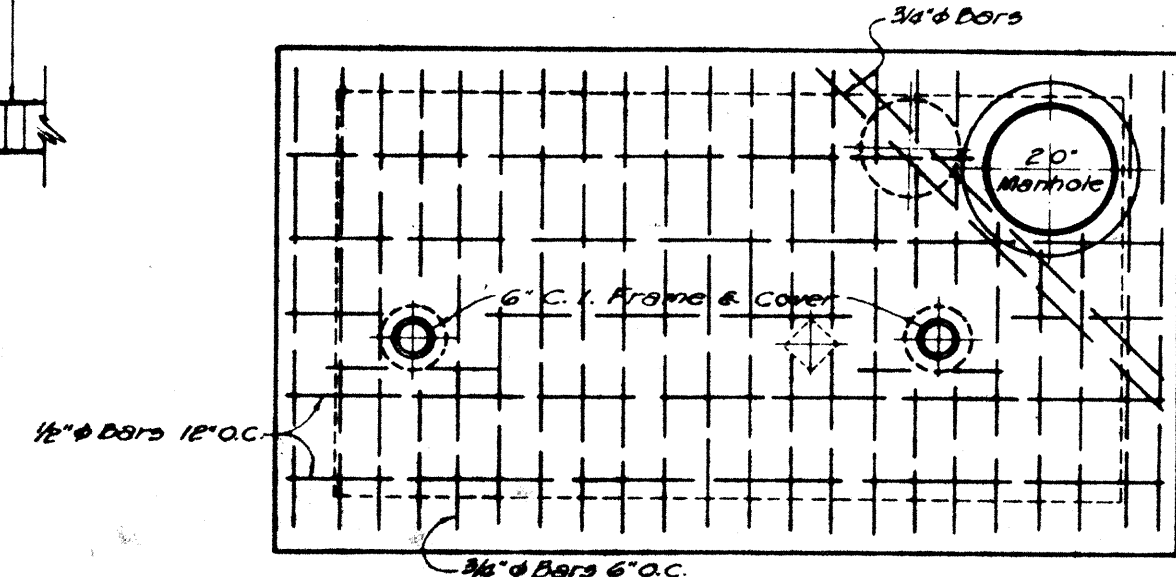
Extra corp. stop for gate valves located on the "run" of a water main shall be 1" x 1 1/4" for all sizes of pipe 4" and larger.

TYPICAL LAYOUT OF CORPORATION COCKS

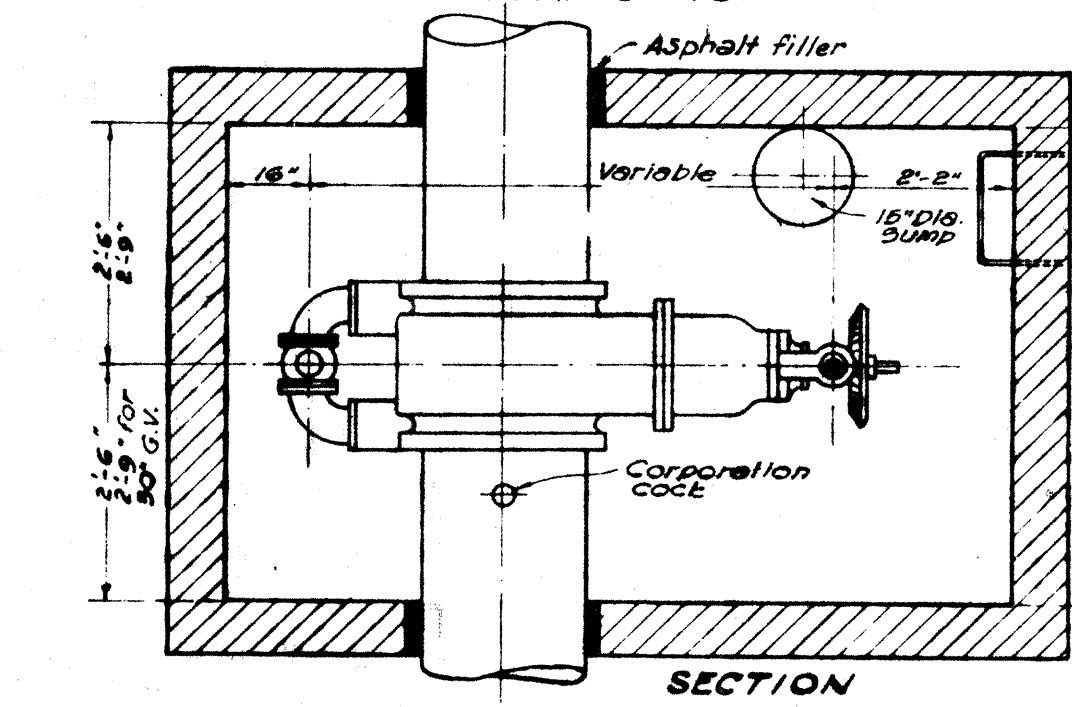


SECTION THRU LINTEL

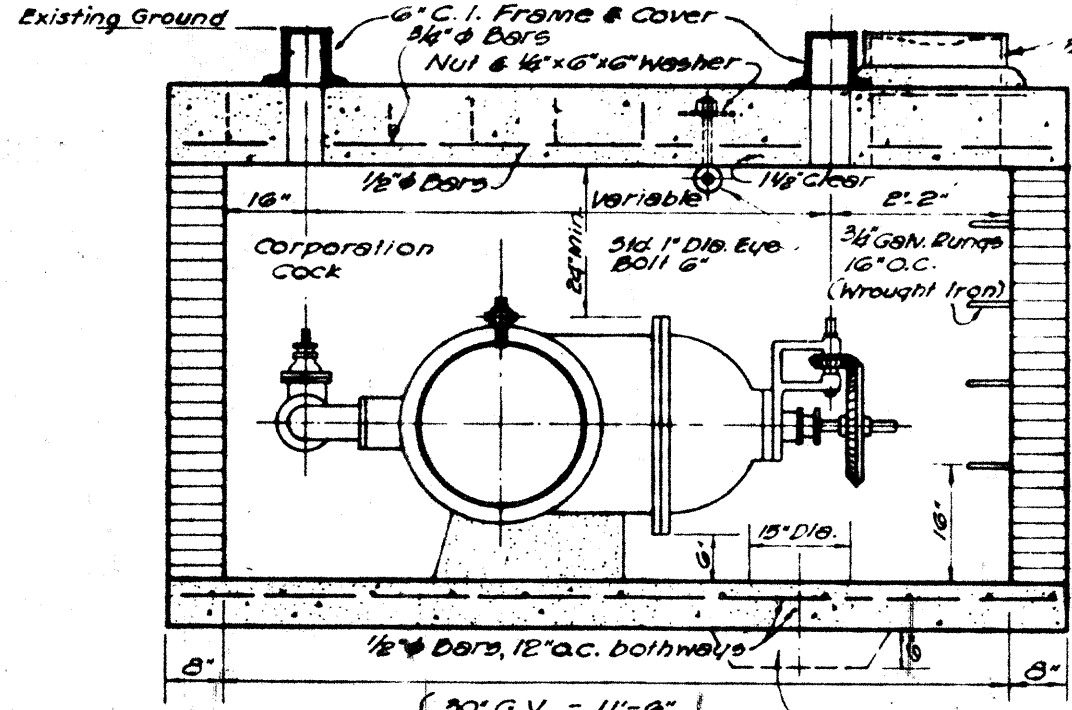
DETAIL OF LINTEL & ASPHALT FILLER



PLAN OF TOP

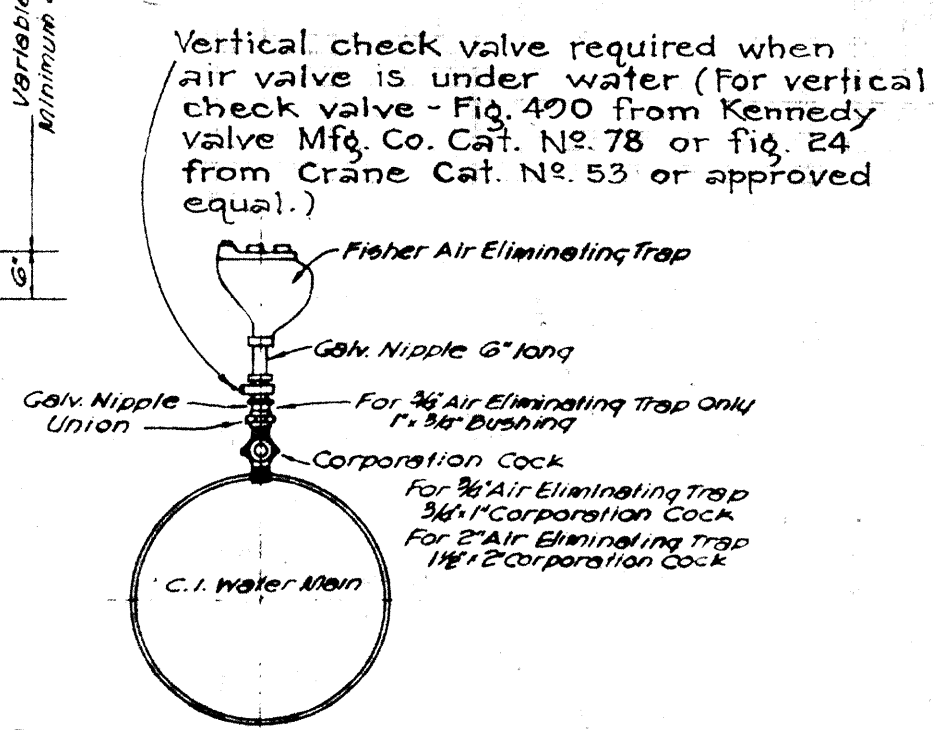


SECTION



SECTION

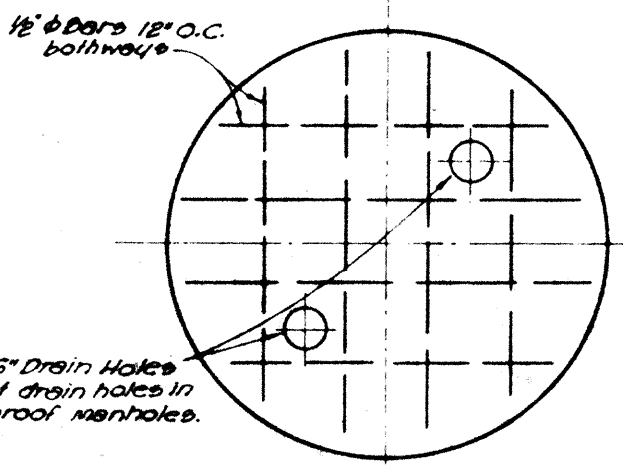
TYPE "A" MANHOLE FOR BEVEL GEARED GATE VALVES



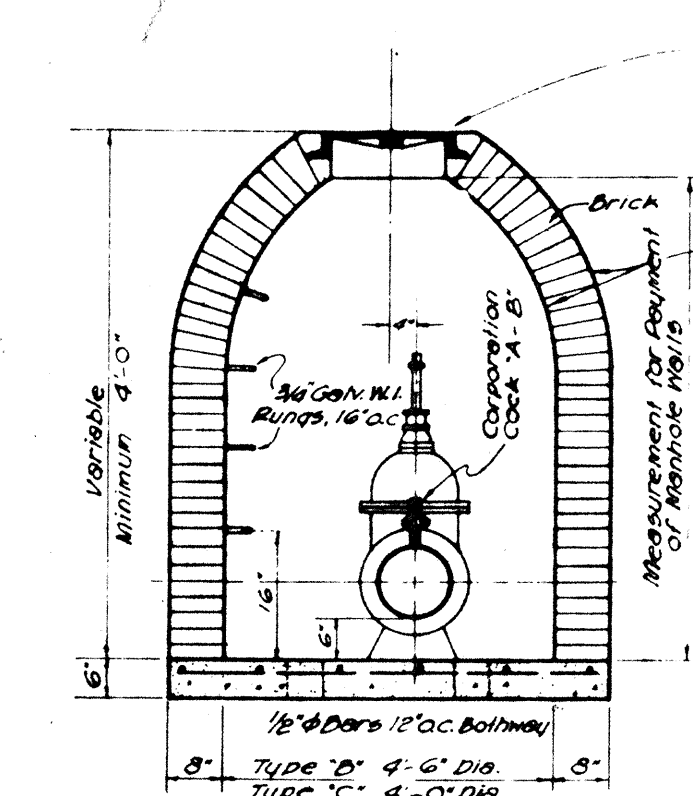
DETAIL OF CONNECTION FOR FISHER AIR ELIMINATING TRAP

PLAN TYPES "B" AND "C" MANHOLES
TYPE "B" 4'-6" DIA. (FOR 18" VALVE)
TYPE "C" 4'-0" DIA. (FOR 6" & 8" VALVES)

STEEL DETAIL IN BOTTOM SLAB



SECTION A-A



DETAIL OF ASPHALT FILLER

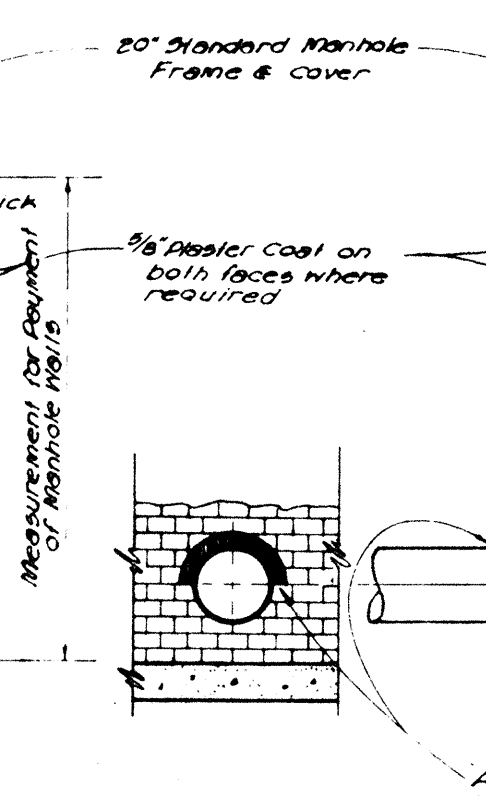
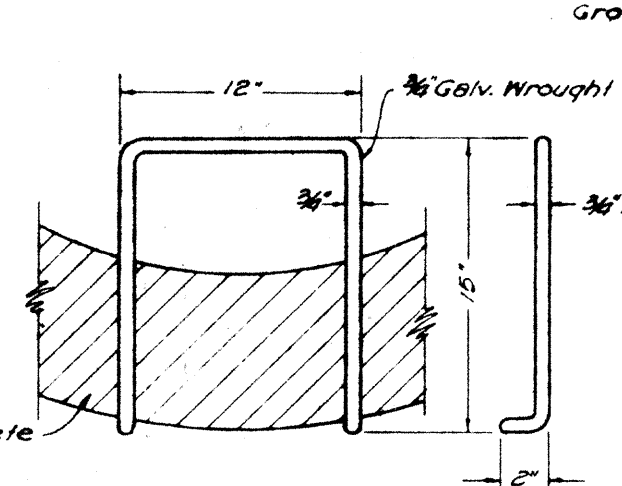


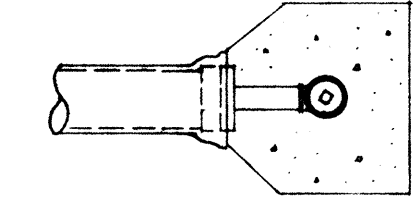
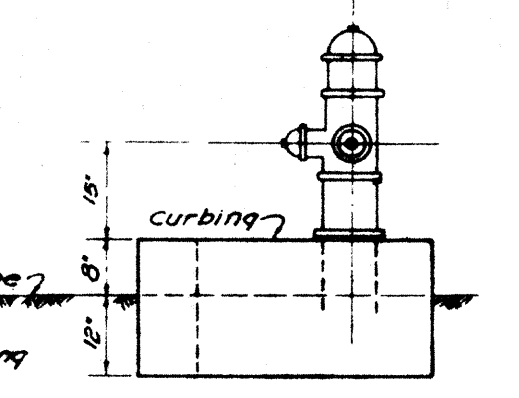
TABLE "A"
REQUIRED CORPORATION COCK SIZES

DIA. OF MAIN INCHES	INLET SIZE CORP. COCK
4	1"
6	1"
8	1"
12	1"
16	1"
20	1"
24	1 1/2"
36	1 1/2"
42	1 1/2"

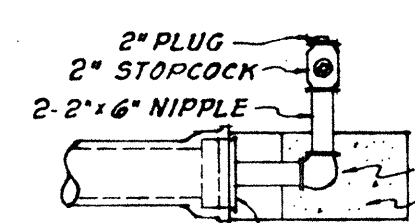
DETAIL OF RUNG



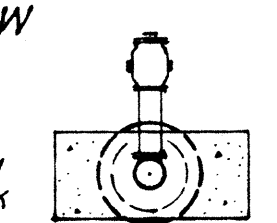
DETAIL OF CURBING AT HYDRANT WHERE REQUIRED



TOP VIEW

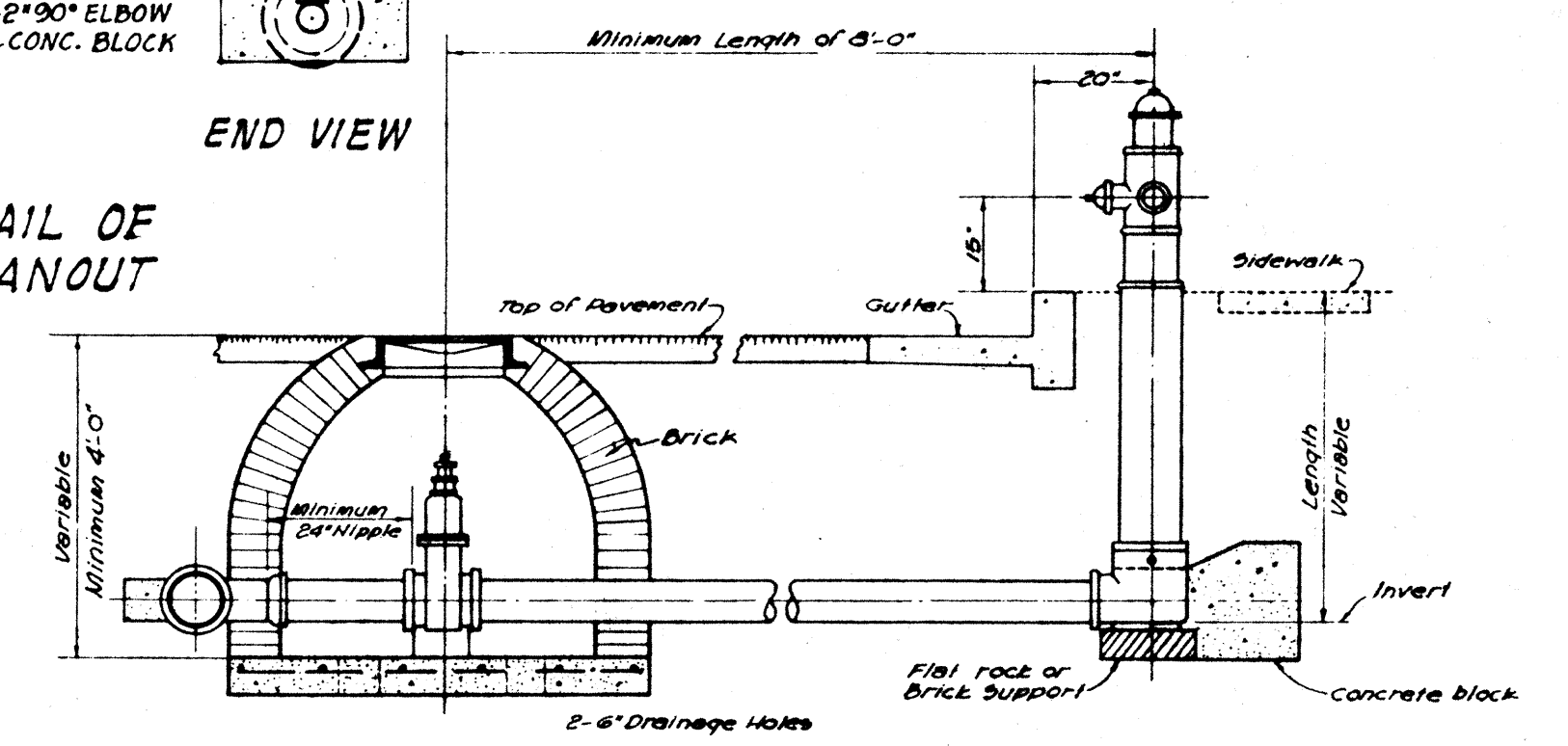


SIDE VIEW

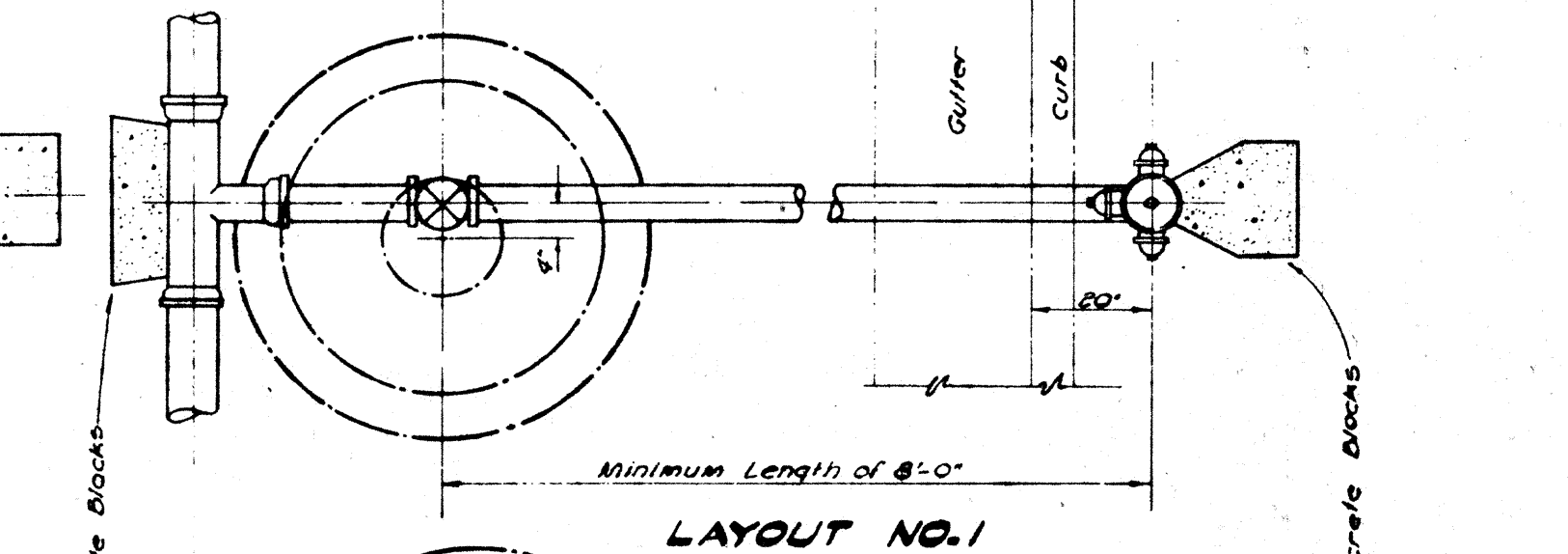


END VIEW

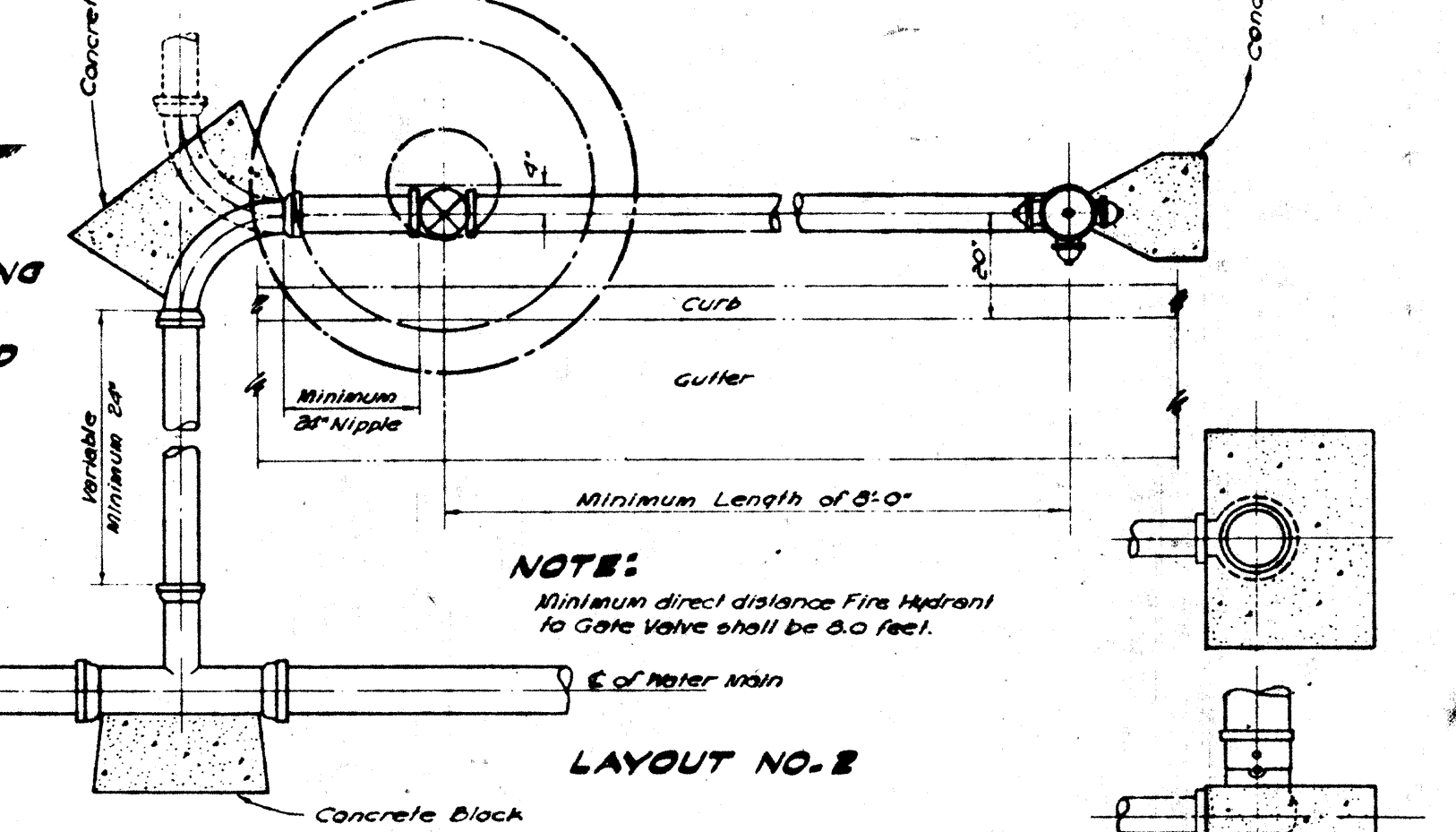
DETAIL OF CLEANOUT



TYPE "C" MANHOLE



LAYOUT NO. 1



LAYOUT NO. 2

STANDARD FIRE HYDRANT LAYOUT

CONCRETE BLOCK FOR MATHEWS HYDRANT ONLY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FARRINGTON HIGHWAY
PROJECT NO. F-090-1(7)

DESIGNED BY: D.A.A.
TRACED BY: R.H.
CHECKED BY: S.K.
ENGINEER: W.B.F.
DRAWING NO. 1367

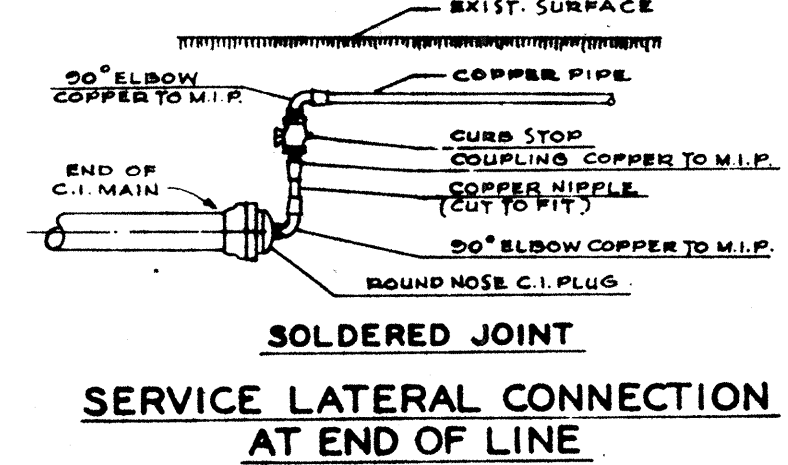
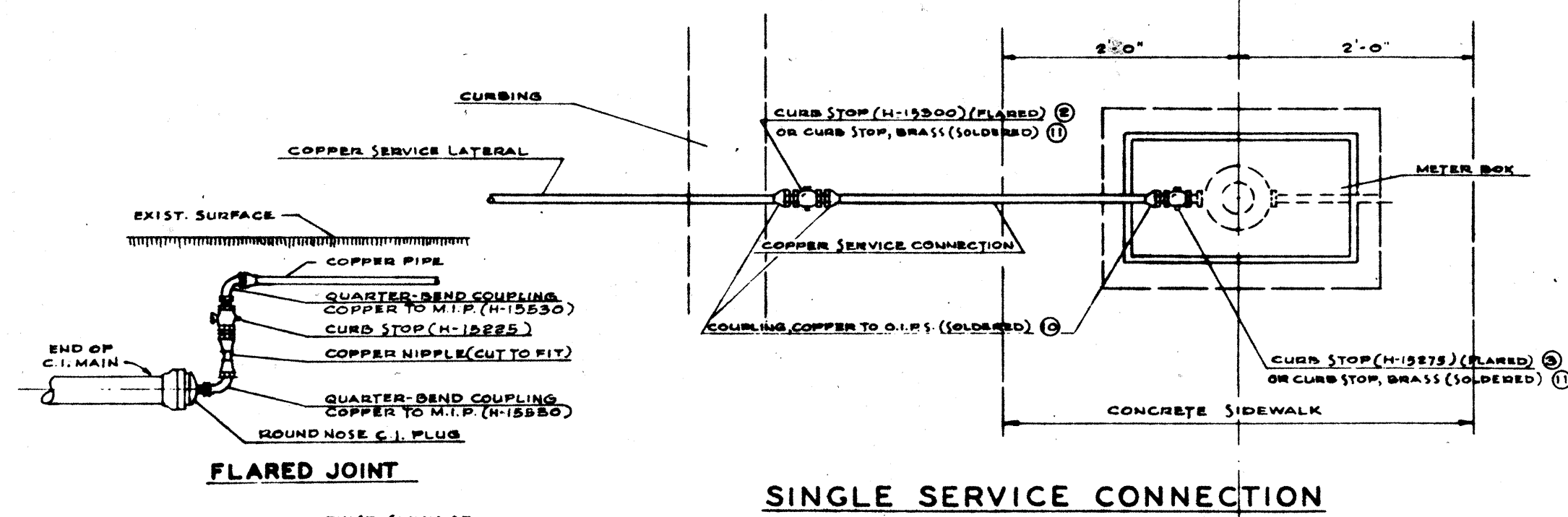
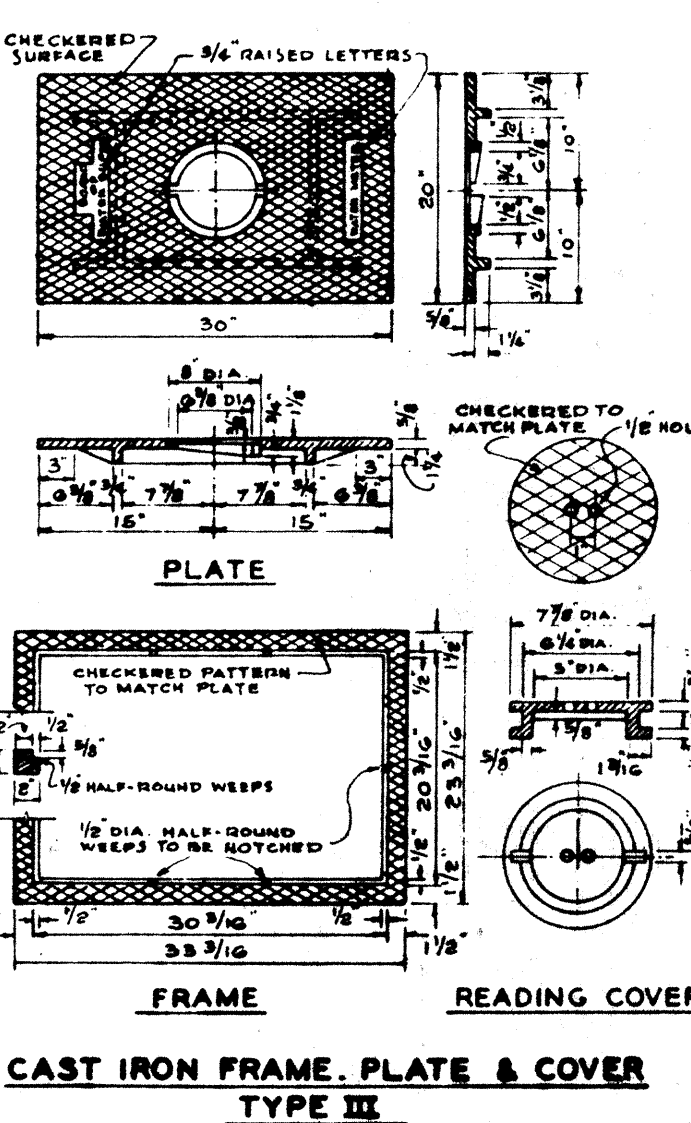
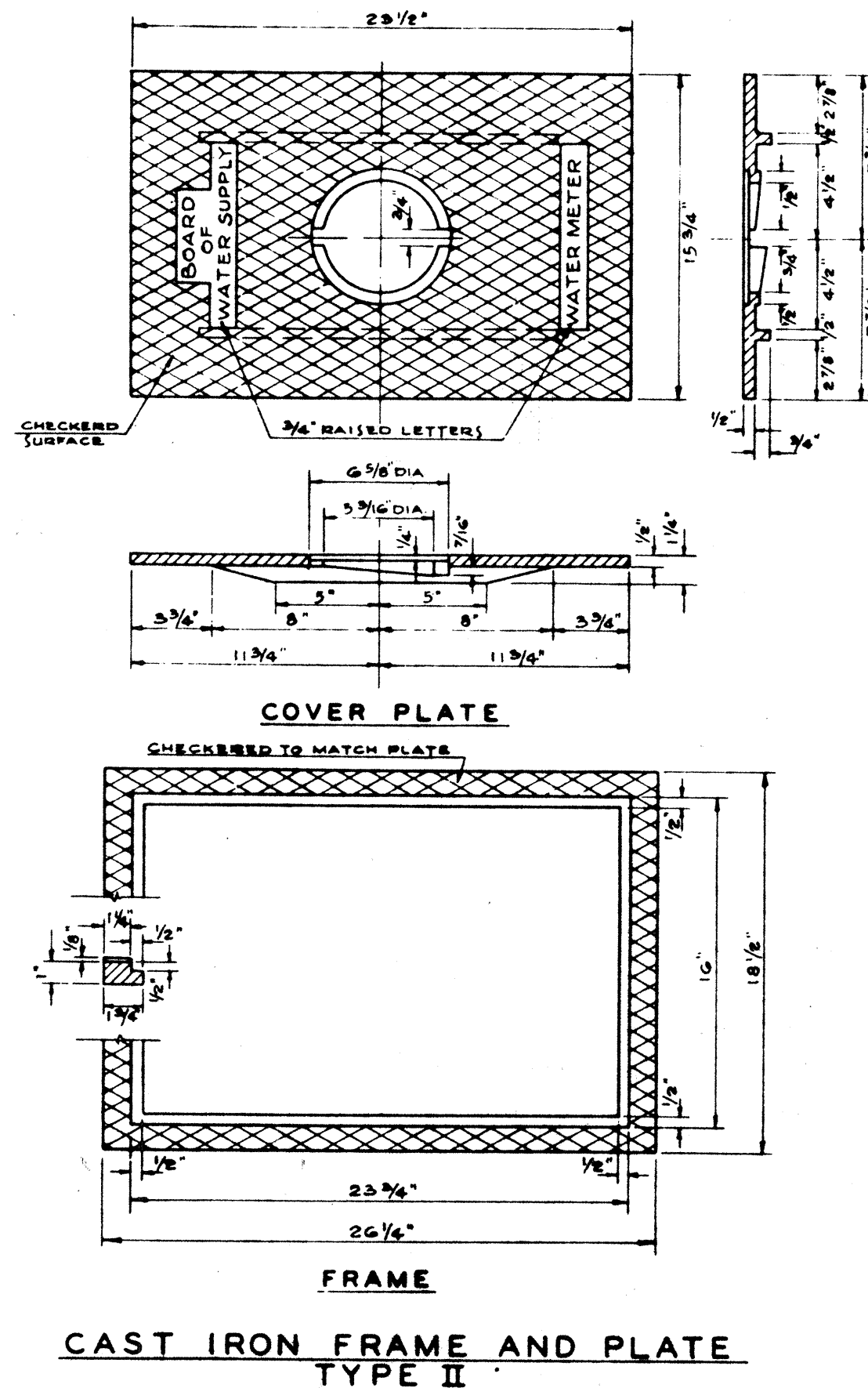
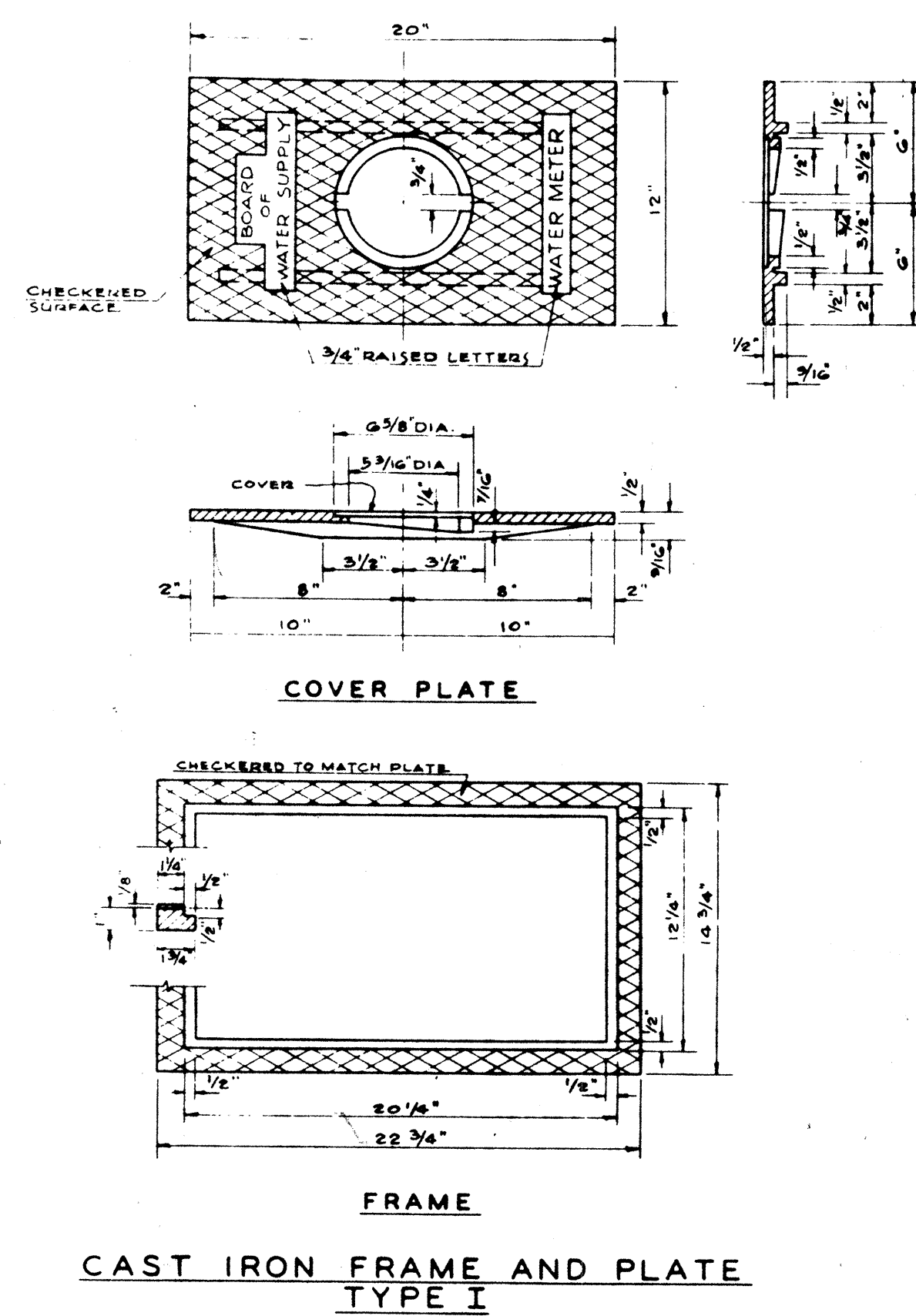
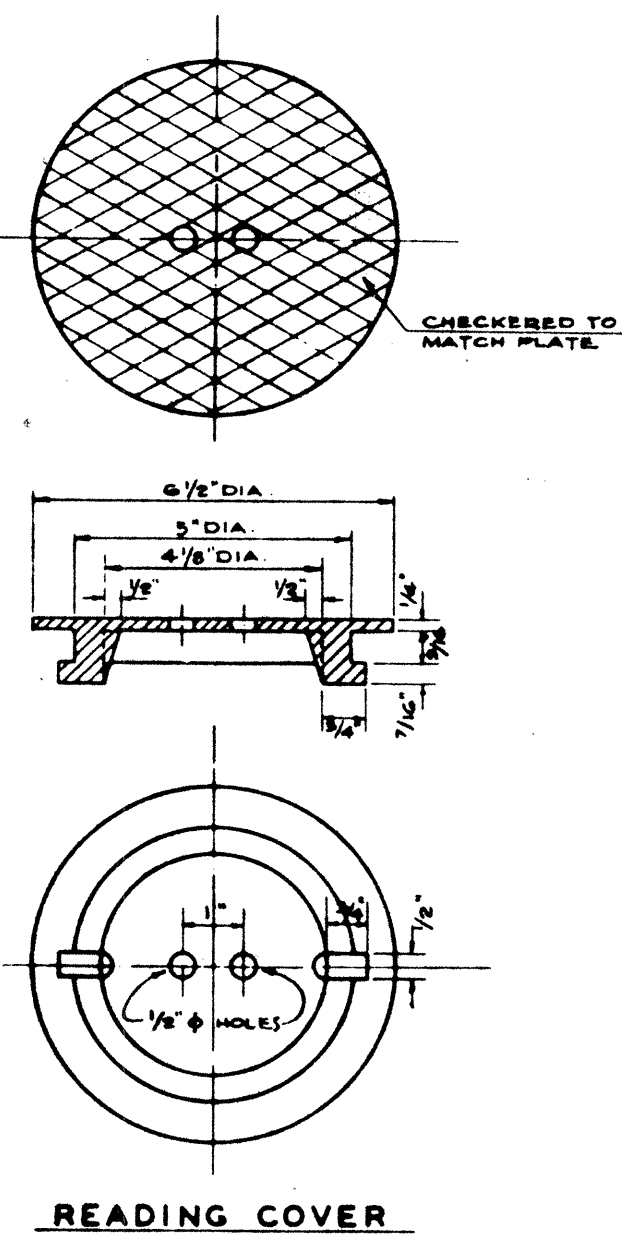
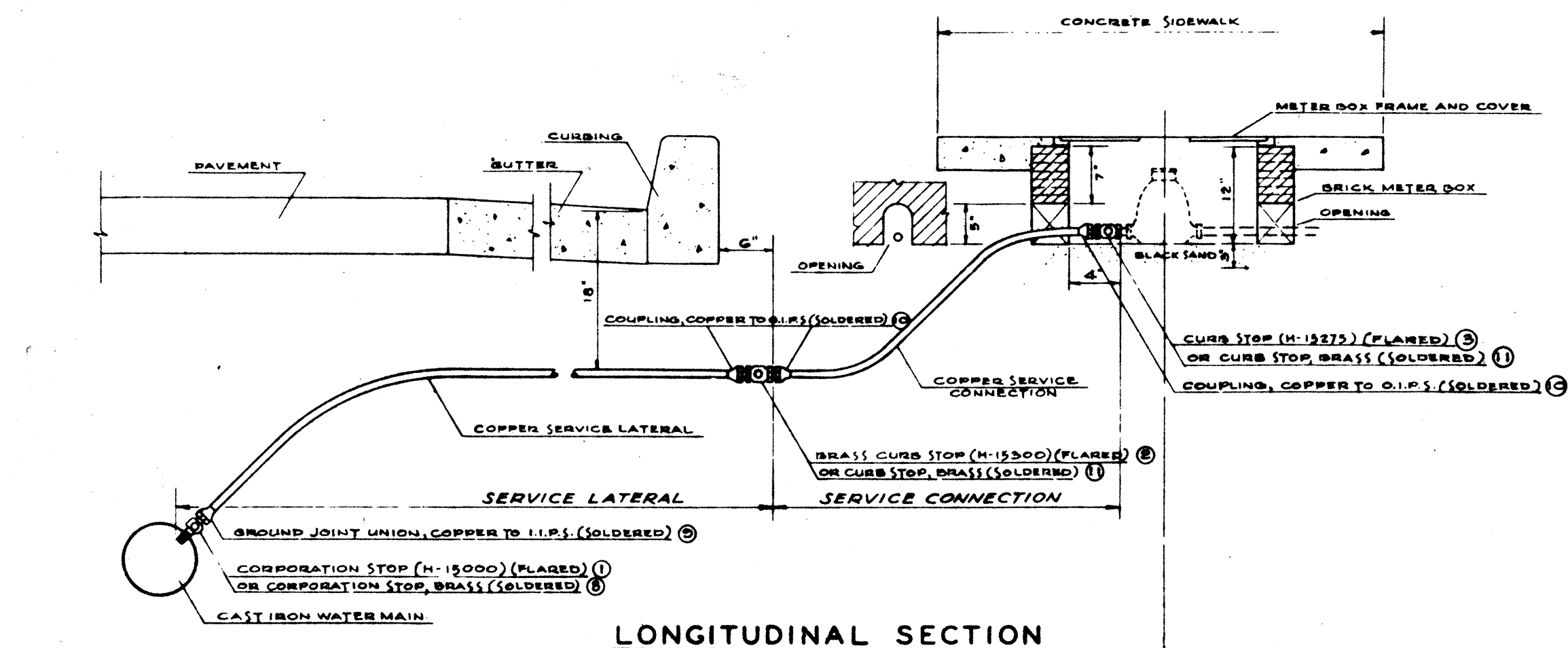
APPROVED: [Signature]
DATE: OCT. 31, 1962
SCALE: 1/8" = 1'-0"

BOARD OF WATER SUPPLY
HONOLULU, T.H.

FILE 1
ACCENT FOLDER NO. 10 2 10

No.	Date	Description	Approved
1	1/9/62	Elimination of one corp. cock from each valve, revision of Table "A". Vertical check valve installed in place of 3 way cocks for air valve connection. Valve box details and details of F.H.'s layout in utility area added.	BWS State

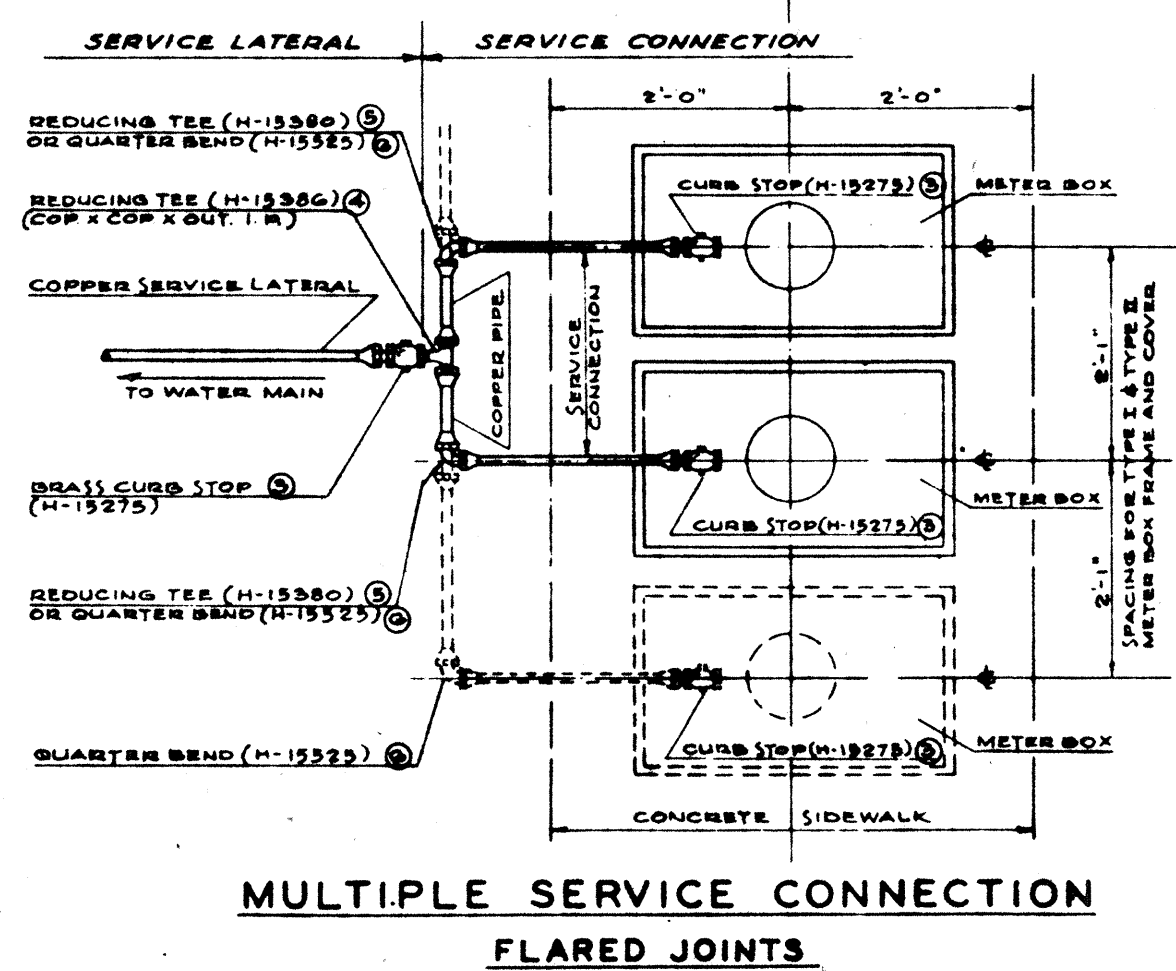
[Signature]
Division Engineer



SCHEDULE OF COPPER FITTINGS (FLARED JOINT)

ITEM NO.	DESCRIPTION	SINGLE SERVICE CONN.	MULTIPLE SERV. CONN. TWO SERVICES	MULTIPLE SERV. CONN. THREE SERVICES
1	CORPORATION STOP WITH STRAIGHT COUPLING NUT (H-15000)	1	1	1
2	BRASS CURB STOP (H-15200)	1	-	-
3	CURE STOP WITH TUBE NUT COPPER TO INSIDE I.P. (H-15275)	1	3	4
4	REDUCING TEE WITH TUBE NUTS - COPPER TO COPPER TO OUTSIDE I.P. (H-15386)	-	1	1
5	REDUCING TEE WITH TUBE NUTS - COPPER TO COPPER TO COPPER (H-15380)	-	-	1
6	1/4 BEND UNION COUPLING WITH TUBE NUTS - COPPER TO COPPER (H-15323)	-	2	2
7	THREE PART UNION COUPLING (H-15400) OR SOLDER COUPLING.	-	-	-

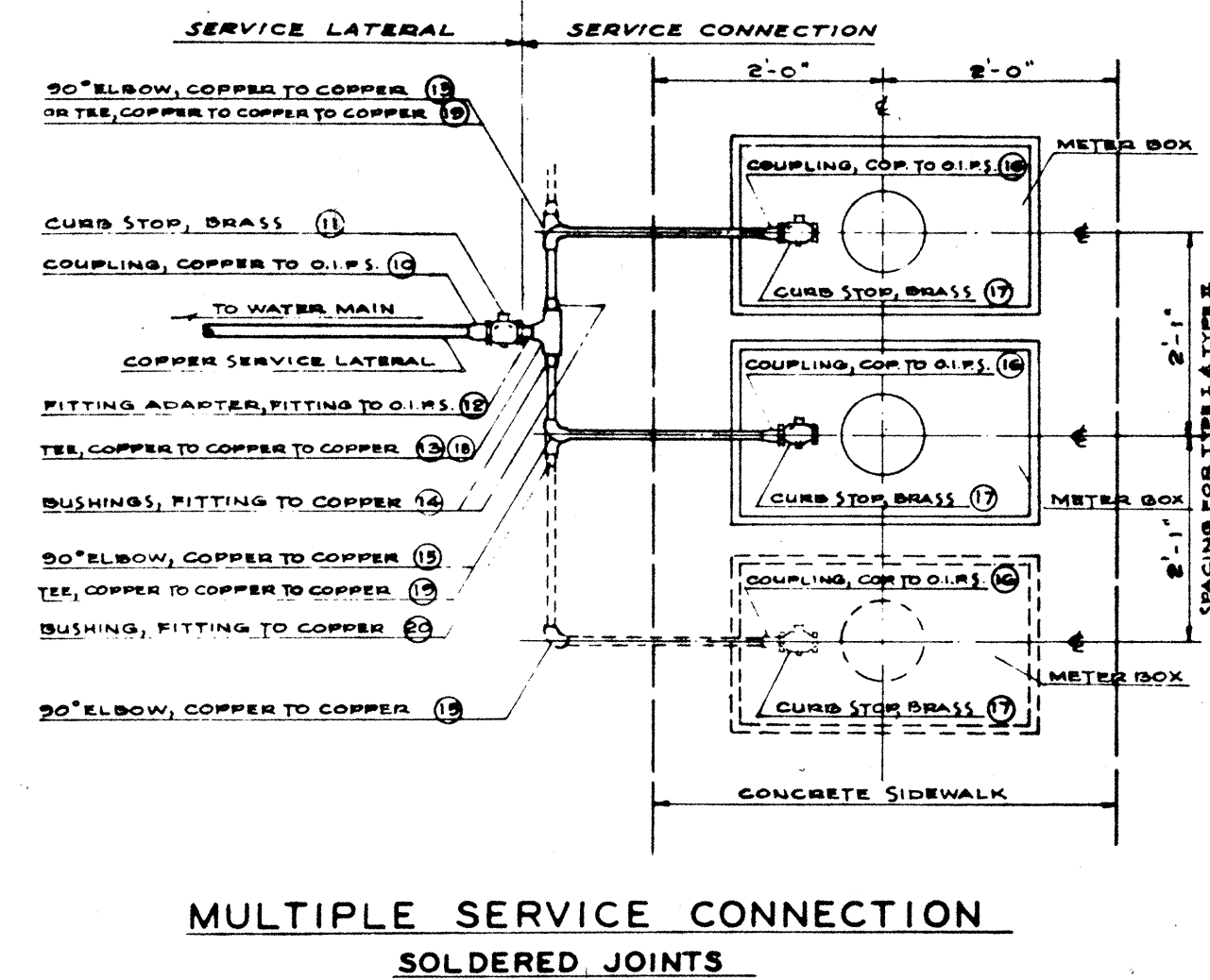
NOTE: TO BE USED IN SPACING ODD LENGTHS OF COPPER PIPE.



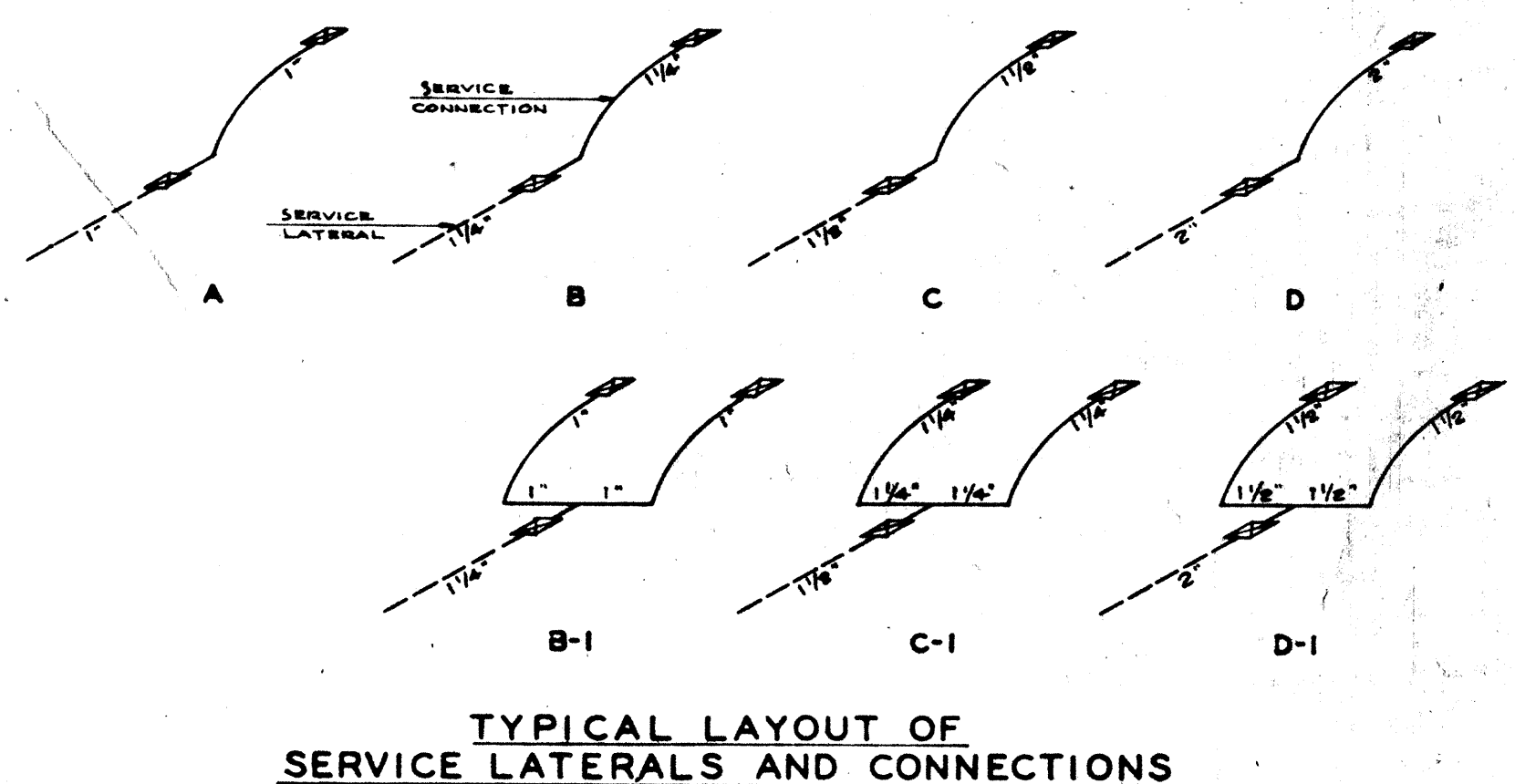
SCHEDULE OF COPPER FITTINGS (SOLDERED JOINT)

ITEM NO.	DESCRIPTION	SINGLE SERVICE CONN.	MULTIPLE SERV. CONN. TWO SERVICES	MULTIPLE SERV. CONN. THREE SERVICES
8	CORPORATION STOP, BRASS (H-10000)	1	1	1
9	GROUND JOINT UNION (A-11424) COPPER TO I.I.P.S. (A-11427)	1	1	1
10	COUPLING, COPPER TO O.I.P.S. (A-1553 TO A-1678)	2	1	1
11	CURE STOP, BRASS (R.W.S. (A-1553 TO A-1678))	1	1	1
12	FITTING ADAPTER, (A-1555 TO FITTING TO O.I.P.S. (A-1674))	-	1	1
13	TEE, COPPER TO COPPER TO COPPER (A-1564 TO A-2710)	-	1	1
14	BUSHINGS, FITTING TO COPPER (W-1543 TO W-1562)	-	2	2
15	90° ELBOW, COPPER TO COPPER (A-1557 TO A-2784)	-	2	2
16	COUPLING, COPPER TO O.I.P.S. (A-1553 TO A-1672)	1	2	3
17	CURE STOP, BRASS (R.W.S. (A-1557 TO A-2784))	1	2	3
18	REDUCING TEE, COPPER TO COPPER TO COPPER (SUBSTITUTE FOR ITEM NUMBER 12 & 14). (A-1564 TO A-2710)	-	1	1
19	TEE, COPPER TO COPPER TO COPPER (SUBSTITUTE FOR ITEM NUMBER 12 & 14). (A-1564 TO A-2710)	-	-	1
20	BUSHING, FITTING TO COPPER (W-1543 TO W-1562)	-	-	1
21	REDUCING TEE, COPPER TO COPPER TO COPPER (SUBSTITUTE FOR ITEM NUMBER 12 & 14). (A-1564 TO A-2710)	-	-	1

NOTE: REFERENCE NUMBERS SHOWN ARE FROM MUELLER CATALOG "M" FOR PURPOSES OF IDENTIFYING FITTINGS. APPROVED EQUAL MAY BE USED.



NOTE: USE OF COPPER PIPE AND FITTINGS WITH "SOLDERED" JOINTS OPTIONAL UNTIL FURTHER NOTICE.



STANDARD DETAILS
COPPER SERVICE LATERALS AND CONNECTIONS
C.I. METER BOX FRAME AND COVER

APPROVED: *[Signature]* DATE: JUN. 27, 1953
SCALE: 6
FILE 2
POCKET FOLDER NO. 24 b

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FARRINGTON HIGHWAY
PROJECT NO. F-090-1(7)

DRAWN BY: R.O.
TRACED BY: R.O.
CHECKED BY: T.I.
ENGINEER: T.I.
DRAWING NO.