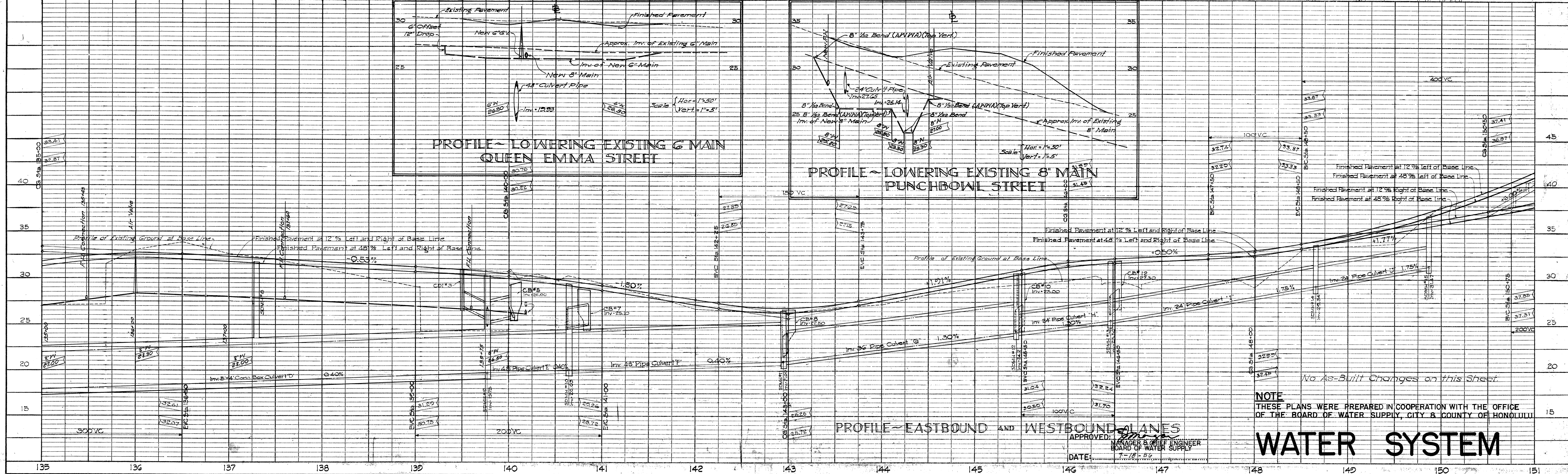
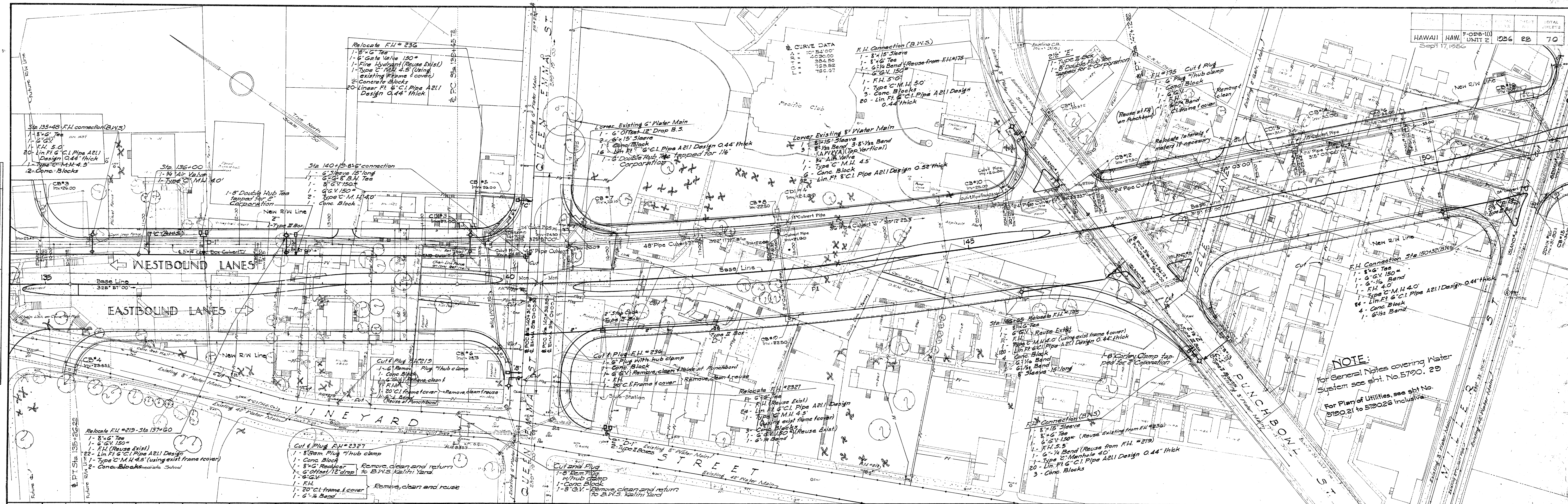


PLAN	DATE	BY
SURVEYED		
NOTED		
ALIGNED		
CHECKED		
NO.		

PROFILE	DATE	BY
SURVEYED		
NOTED		
GRADES CHECKED		
B.M. NOTED		
STRUCTURE NOTATIONS CHMD.		
NO.		



NOTE: THESE PLANS WERE PREPARED IN COOPERATION WITH THE OFFICE OF THE BOARD OF WATER SUPPLY, CITY & COUNTY OF HONOLULU.

WATER SYSTEM

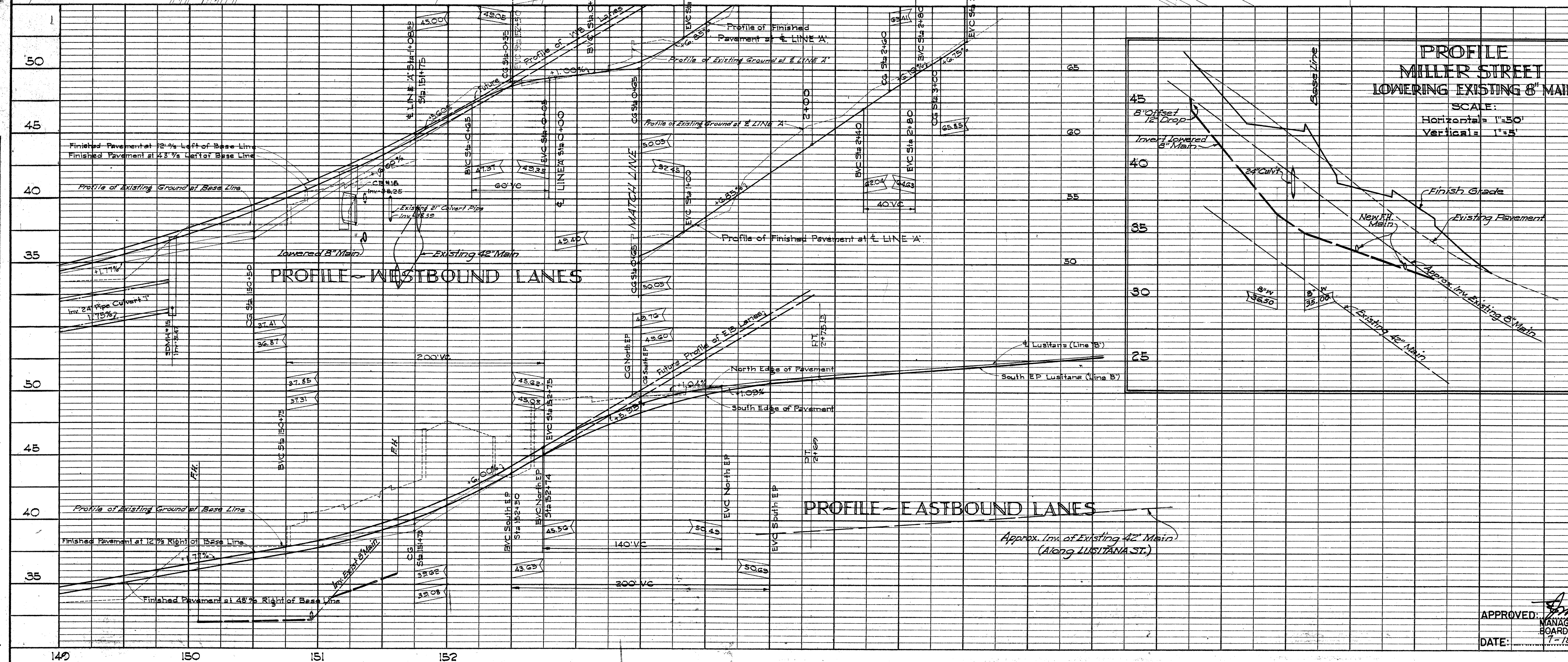
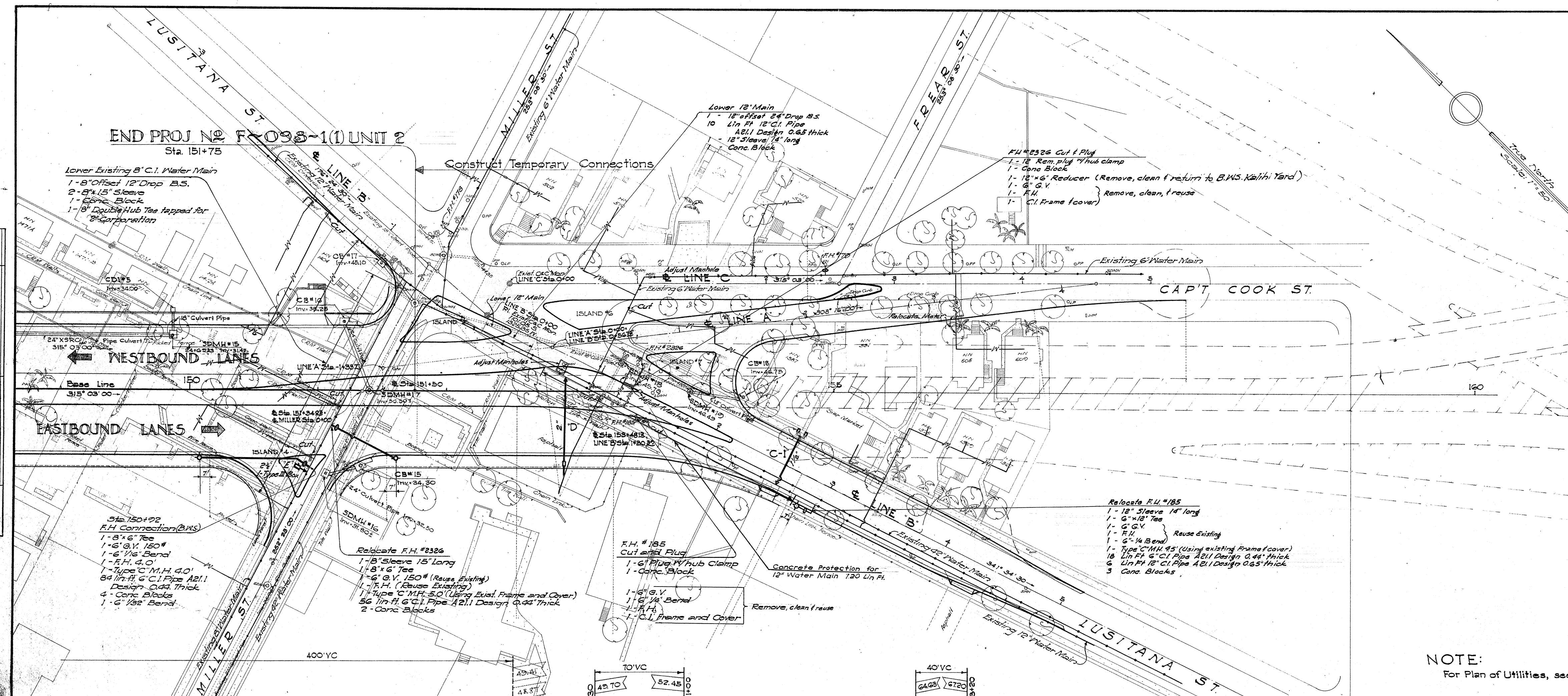
GENERAL NOTES

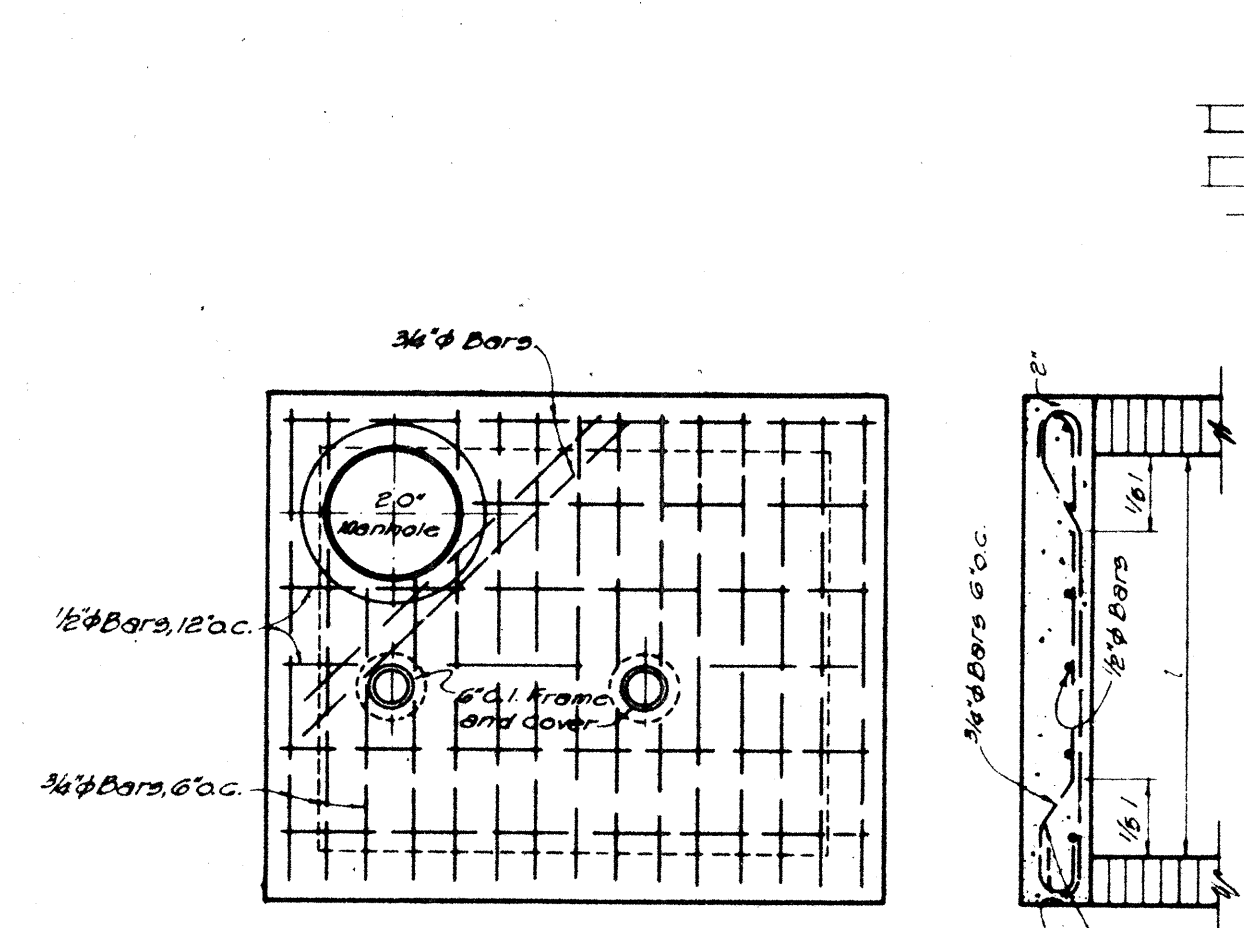
- Where existing pipes and appurtenances are mentioned to be cleaned and reused by the contractor and these materials are not available when required due to the necessity of keeping existing main in service or the materials being inadequate, the contractor shall obtain replacements from the B.W.S. Kalih'i Yard and haul them to job site at no extra cost to project. The contractor shall replenish B.W.S. stock for any materials shown out either from existing system or by new materials and deliver such replacement to B.W.S. Kalih'i Yard at no cost to project. All pipes and appurtenances salvaged and not used shall be cleaned and returned to Board of Water Supply, Kalih'i Yard.
- The contractor shall be responsible for all damages to existing water system within construction area.
- All existing water manhole frames and covers shall be adjusted to new grade.
- All relocation of existing services will be done by B.W.S. and paid for by Contractor. All excavation and backfill to be done by Contractor.
- Locations of existing mains are approximate only. Contractor shall expose existing main at any portion as requested by engineer prior to start of trench excavation and the cost thereof shall be included in the cost of the various items.
- Salvaging of existing fittings and appurtenances so indicated shall be performed by the Contractor.
- The B.W.S. will cut and plug existing mains where indicated.
- Contractor shall provide necessary pipe sleeve in any R.M. wall or concrete wall to be constructed on right of way line. The sleeves to be located at points designated by B.W.S. engineer for water pipe entry into the property indicated. Sleeves shall be large enough for loose insertion of water pipe.
- All meter boxes shall be Type II unless noted otherwise.
- The Board of Water Supply shall make all connections to lower, install fire hydrants off and make all service lateral taps off existing mains, and bill contractor for same. The contractor shall provide all necessary materials and do the necessary excavation & backfill.
- Continuous water services to present consumers shall be maintained at all times during construction of this project.
- All trenches excavated in existing streets shall be repaved and restored in their original conditions. The quantities of Base Course and Asphalt Concrete shall be measured and paid for under the appropriate contract items.
- Items marked (B.W.S.) denote Board of Water Supply share of cost of project.

NOTE:
For Plan of Utilities, see sht. No. 5790.21 to 5790.26 inclusive.

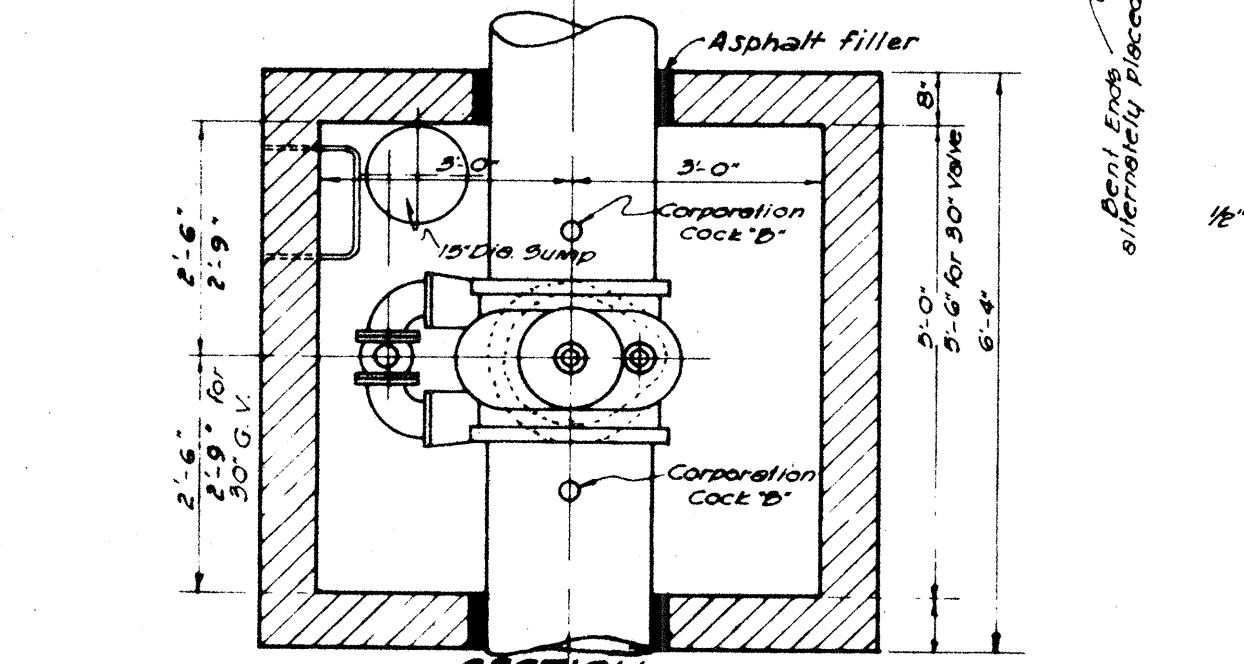
PLAN	DATE	BY	DATE	BY
SURVEYED				
PLOTTED				
NOTE BOOK				
NO.				
RT. OF WAY CHECKED				

PROFILE	DATE	BY	DATE	BY
SURVEYED				
PLOTTED				
NOTE BOOK				
NO.				
STRUCTURE NOTATION CH'KD.				

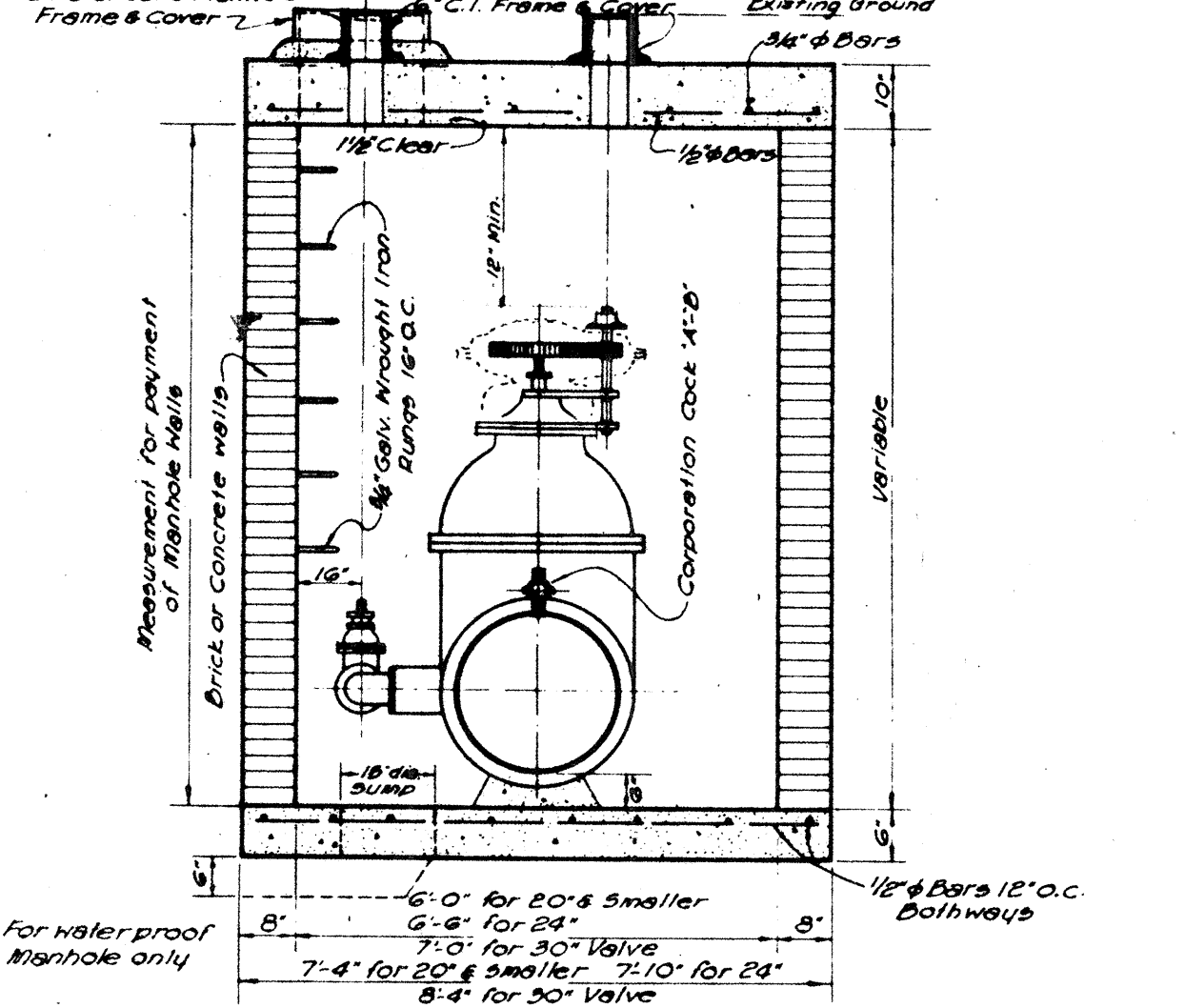




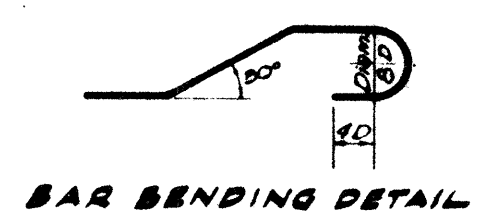
PLAN OF TOP



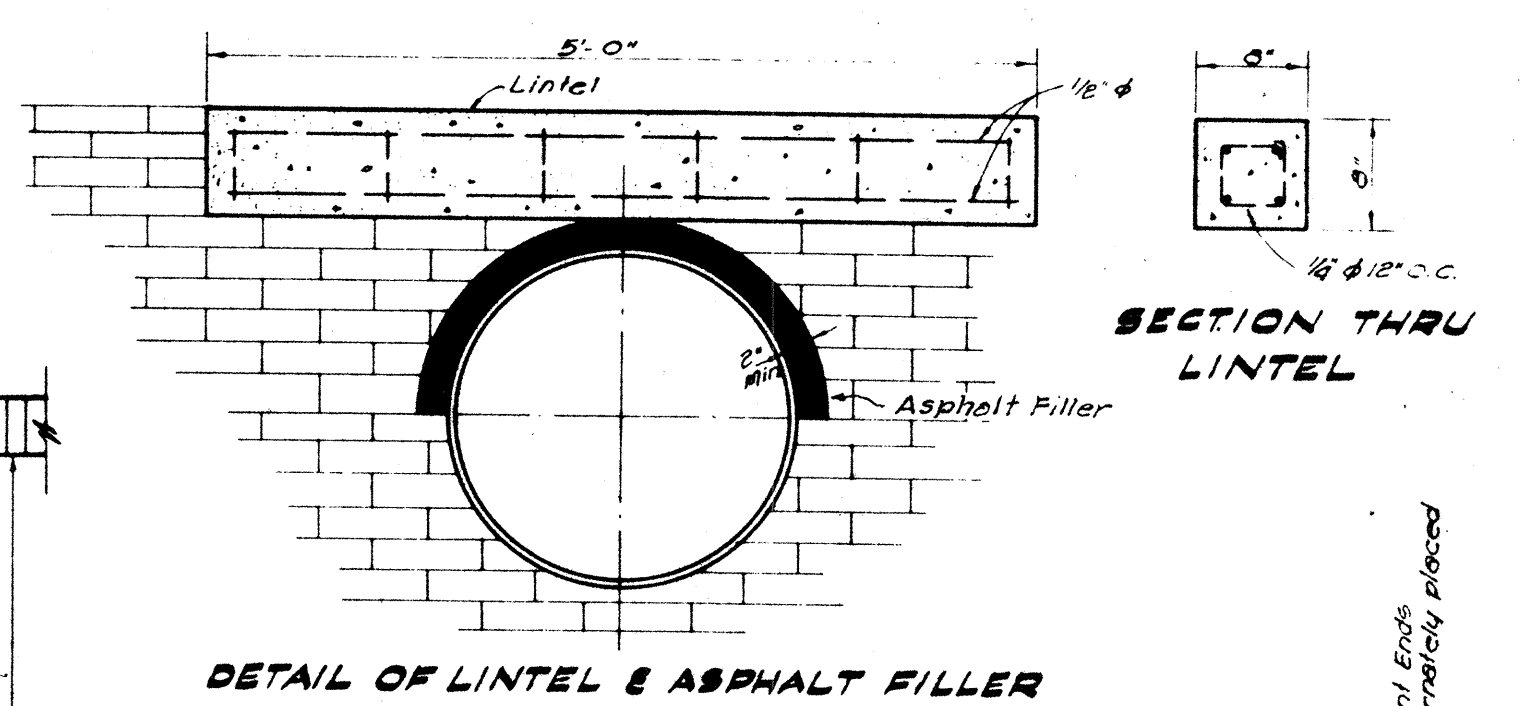
SECTION



SECTION

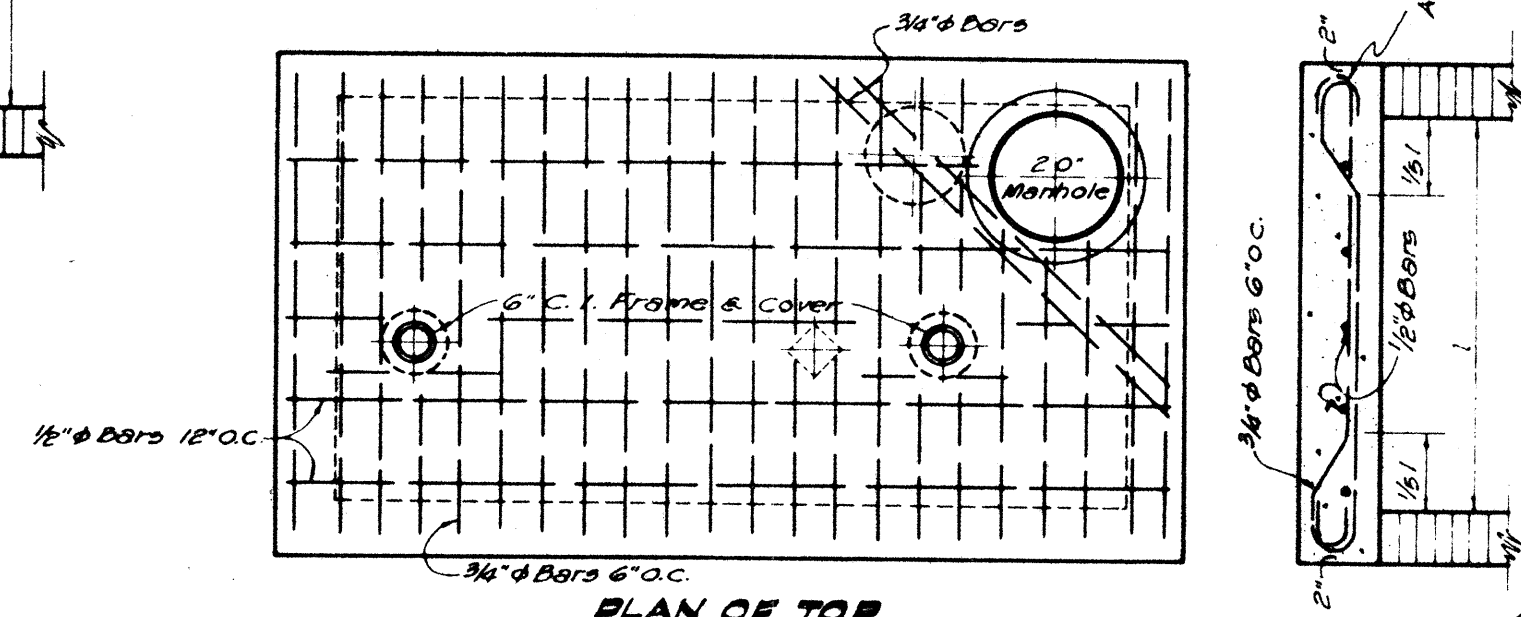


TYPE "A" MANHOLE
FOR SPUR-GEARED GATE VALVES

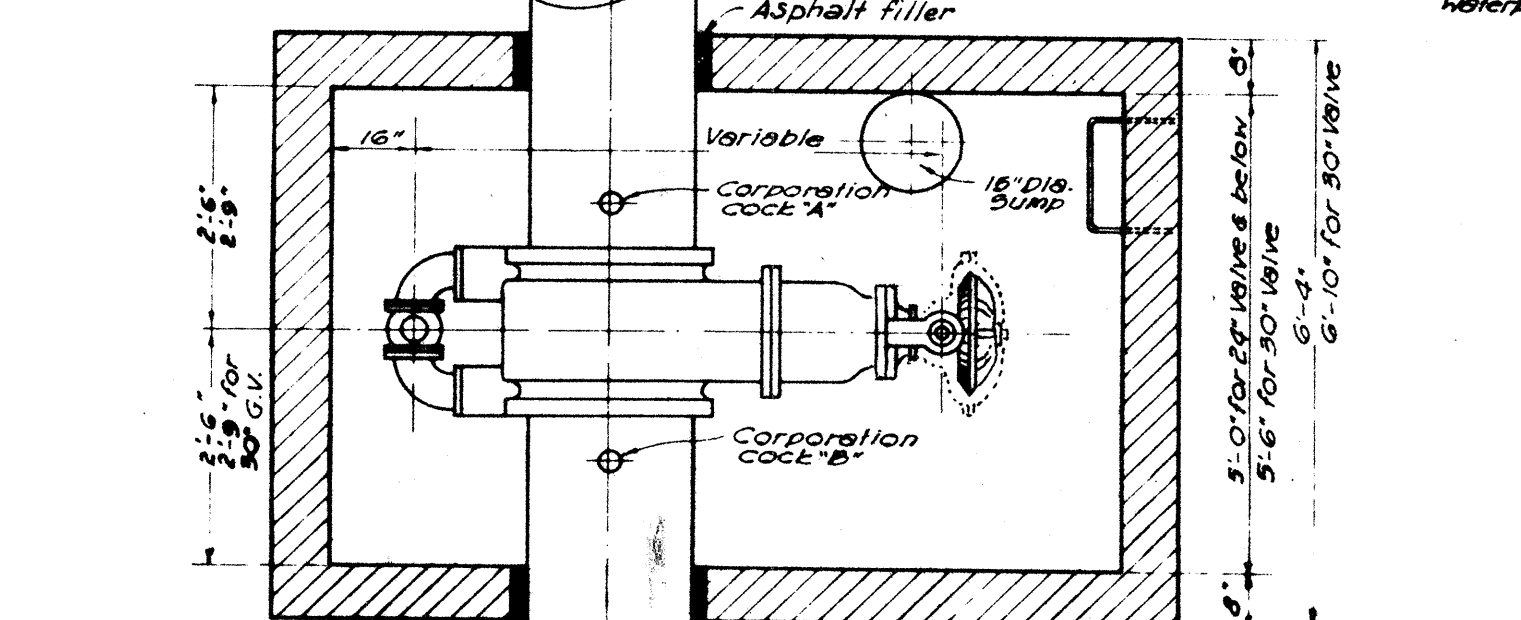


SECTION THRU LINTEL

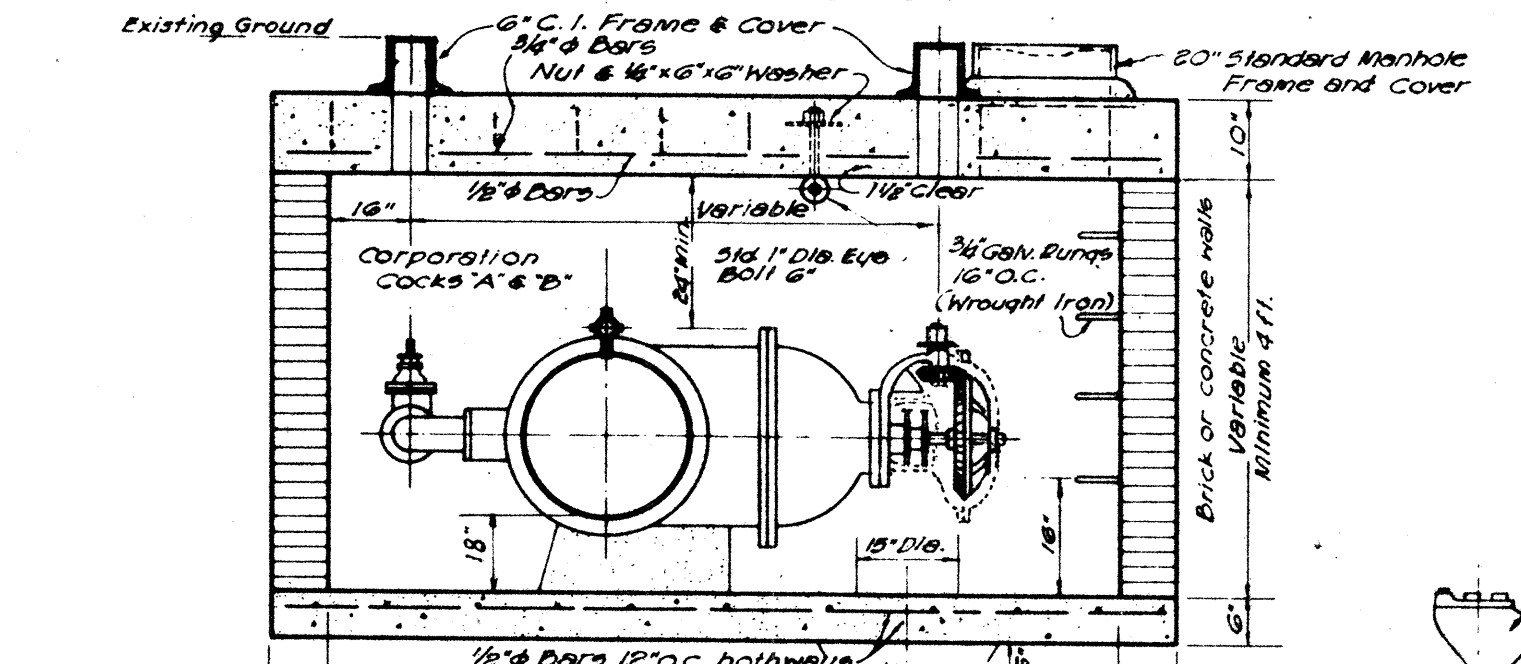
DETAIL OF LINTEL & ASPHALT FILLER



PLAN OF TOP

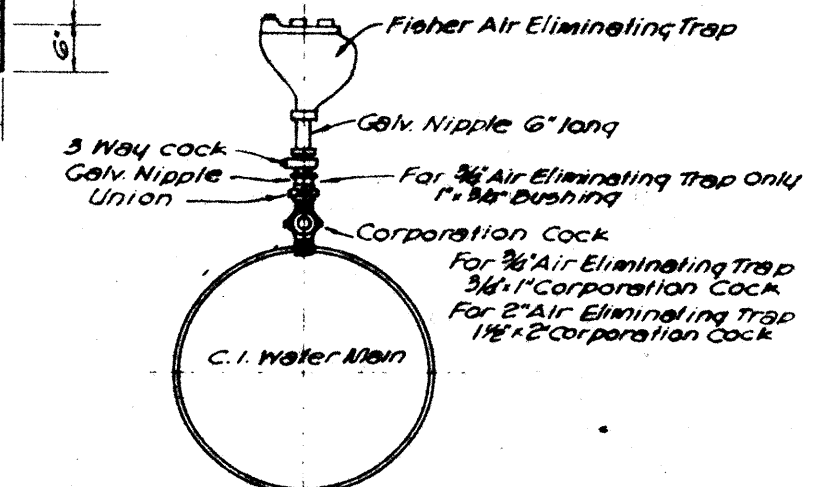


SECTION

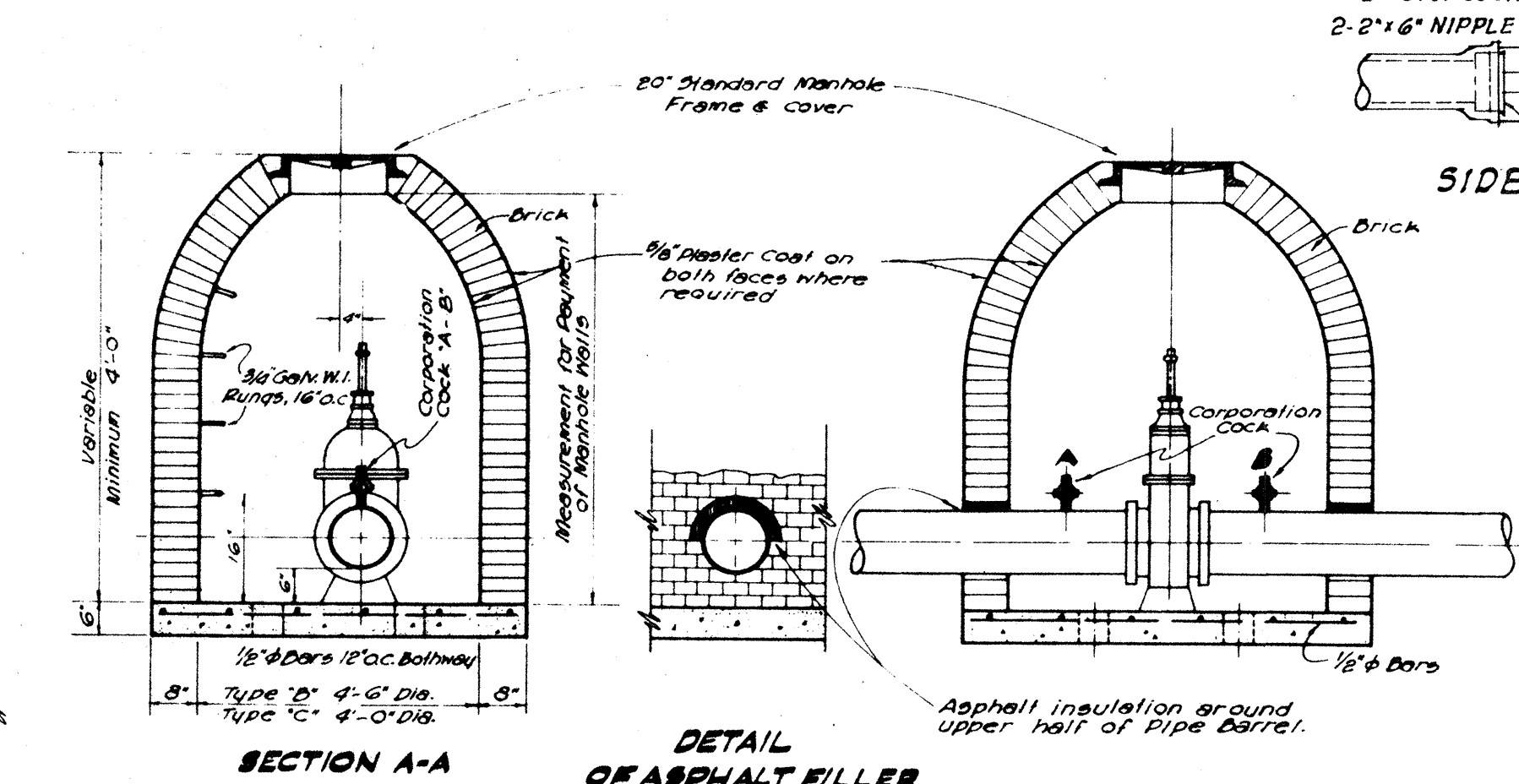


SECTION

TYPE "A" MANHOLE
FOR BEVEL GEARED GATE VALVES

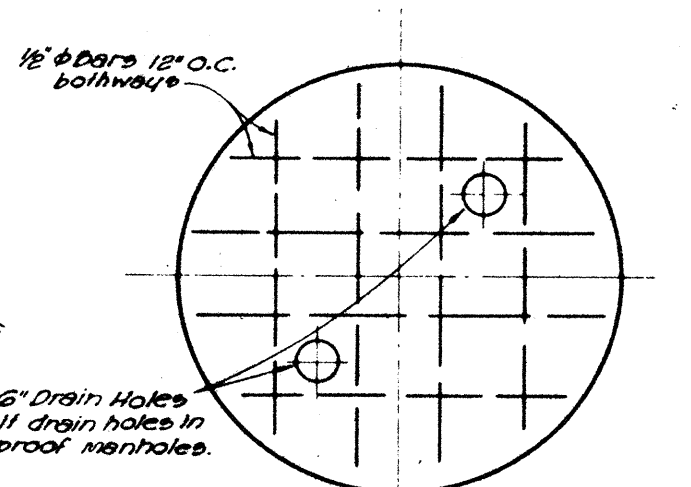


DETAIL OF CONNECTION FOR
FISHER AIR ELIMINATING TRAP

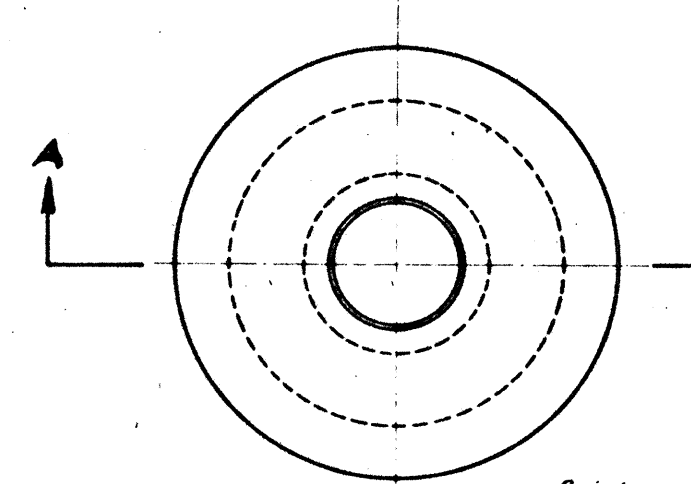


SECTION A-A

DETAIL
OF ASPHALT FILLER



STEEL DETAIL IN BOTTOM SLAB

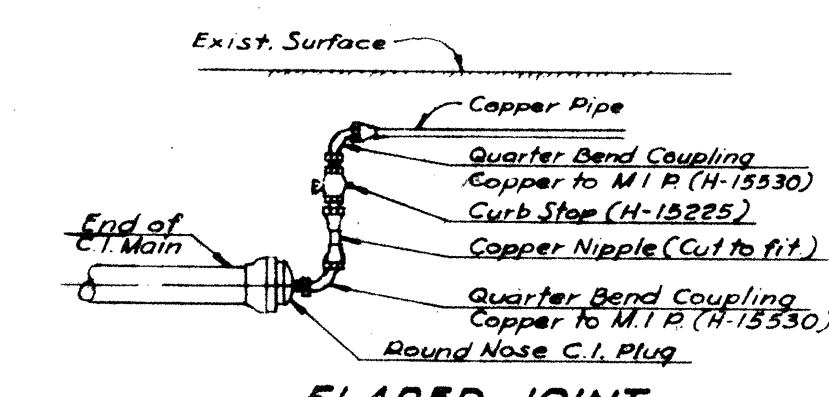


PLAN
TYPES "B" AND "C" MANHOLES
TYPE "B" 4'-6" DIA. (FOR 12" VALVE)
TYPE "C" 4'-0" DIA. (FOR 6" & 8" VALVES)

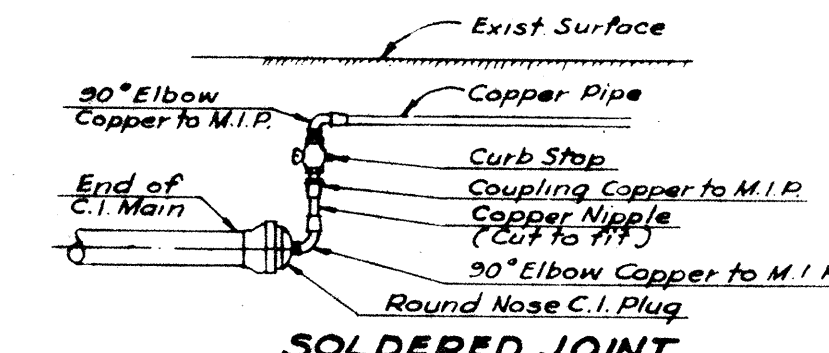
TABLE "A"
REQUIRED CORPORATION COCK SIZES

DIA. OF MAIN INCHES	INLET SIZE CORPORATION 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"

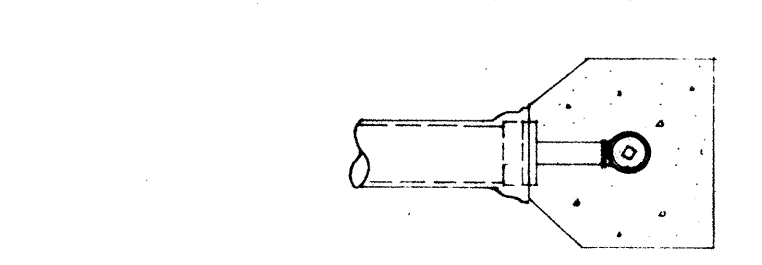
DETAIL OF RUNG



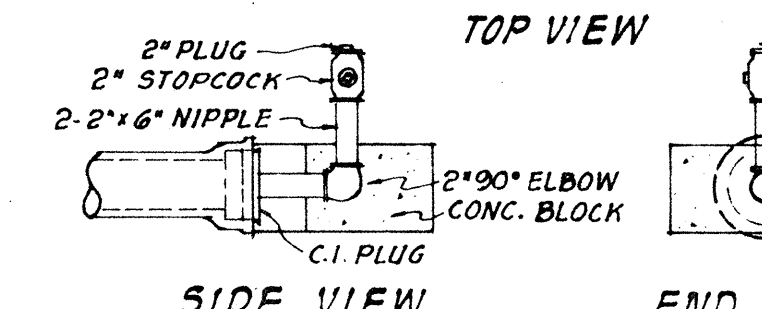
FLARED JOINT



SOLDERED JOINT
SERVICE LATERAL CONNECTION
AT END OF LINE



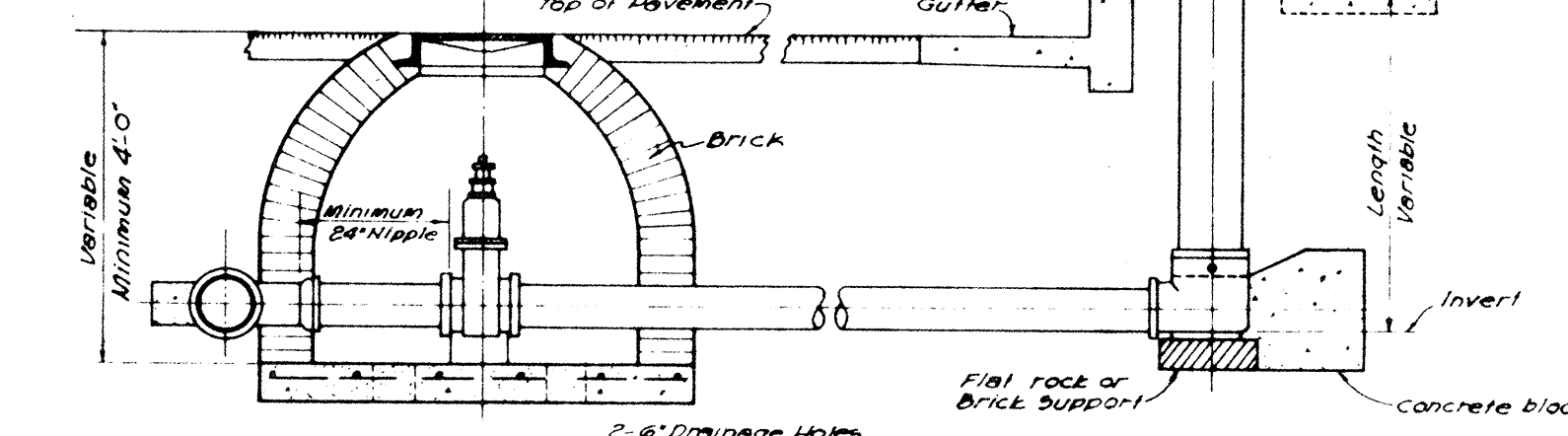
TOP VIEW



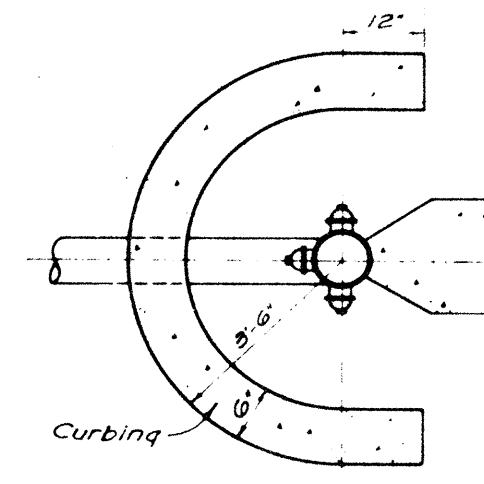
SIDE VIEW

END VIEW

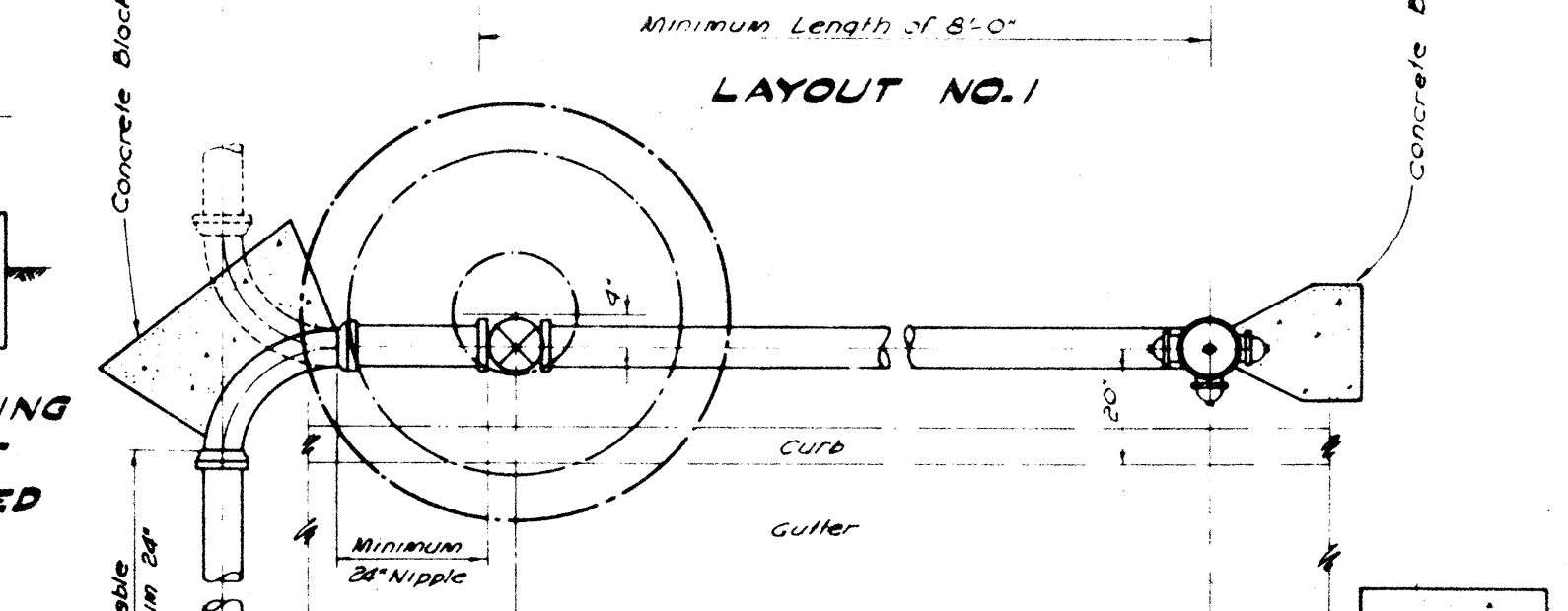
DETAIL OF CLEANOUT



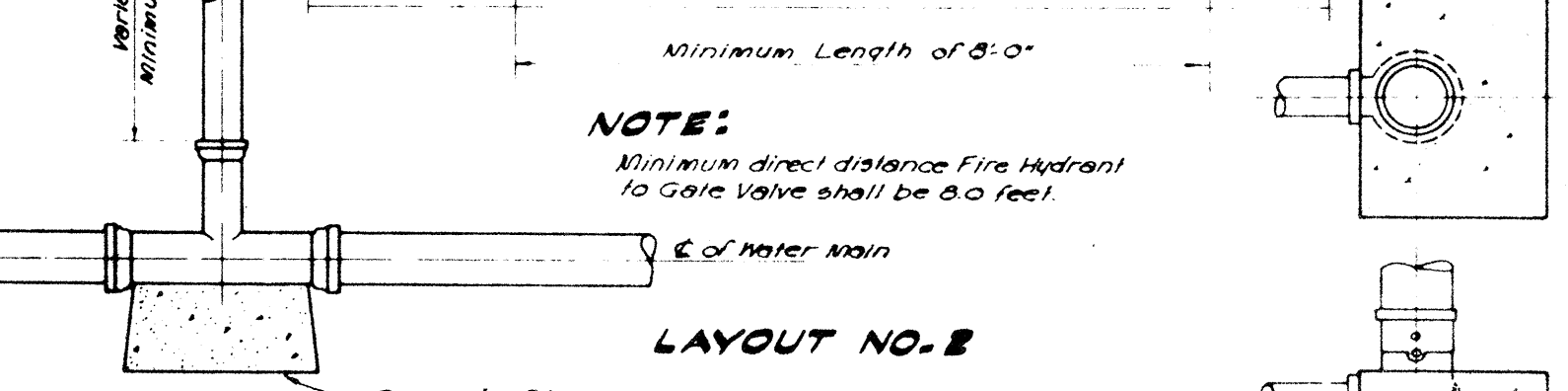
TYPE "C" MANHOLE



DETAIL OF CURBING
AT HYDRANT
WHERE REQUIRED



LAYOUT NO. 1

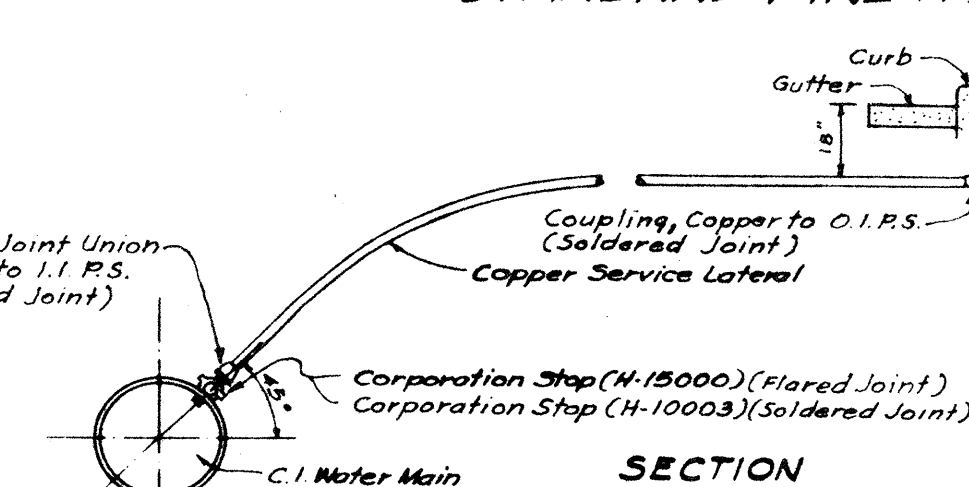


LAYOUT NO. 2

NOTE:
Minimum direct distance Fire Hydrant
to Gate Valve shall be 5.0 feet.

STANDARD FIRE HYDRANT LAYOUT

CONCRETE BLOCK
FOR
MATHews HYDRANT ONLY



TYPICAL CONNECTION FOR
COPPER SERVICE LATERALS

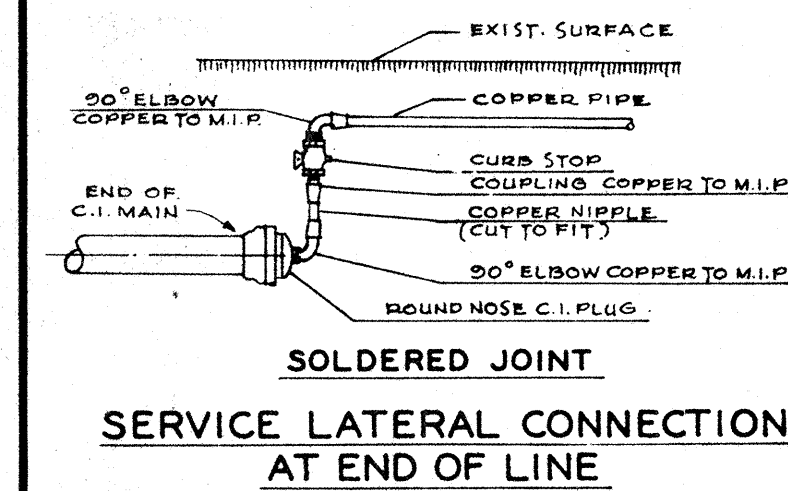
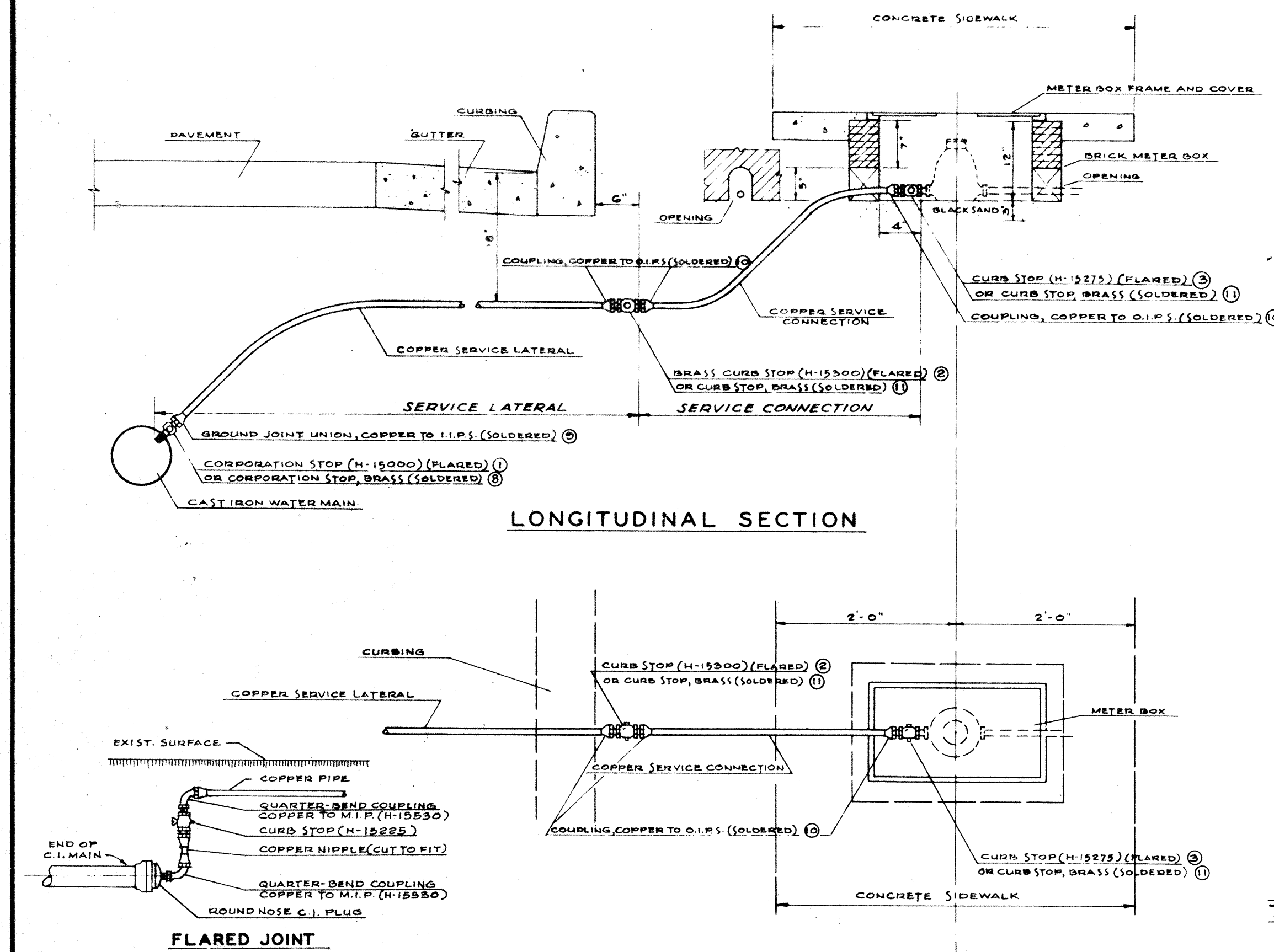
APPROVED: [Signature]
SCALE: 1/8" = 1'-0"
DATE: OCT. 31, 1952
FILE NO. 10-2-10

BOARD OF WATER SUPPLY
HONOLULU, T.H.
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

VINEYARD THOROUGHFARE
PROJECT NO. F-098-1(1) UNIT 2

REVISIONS:
June 7, 1955

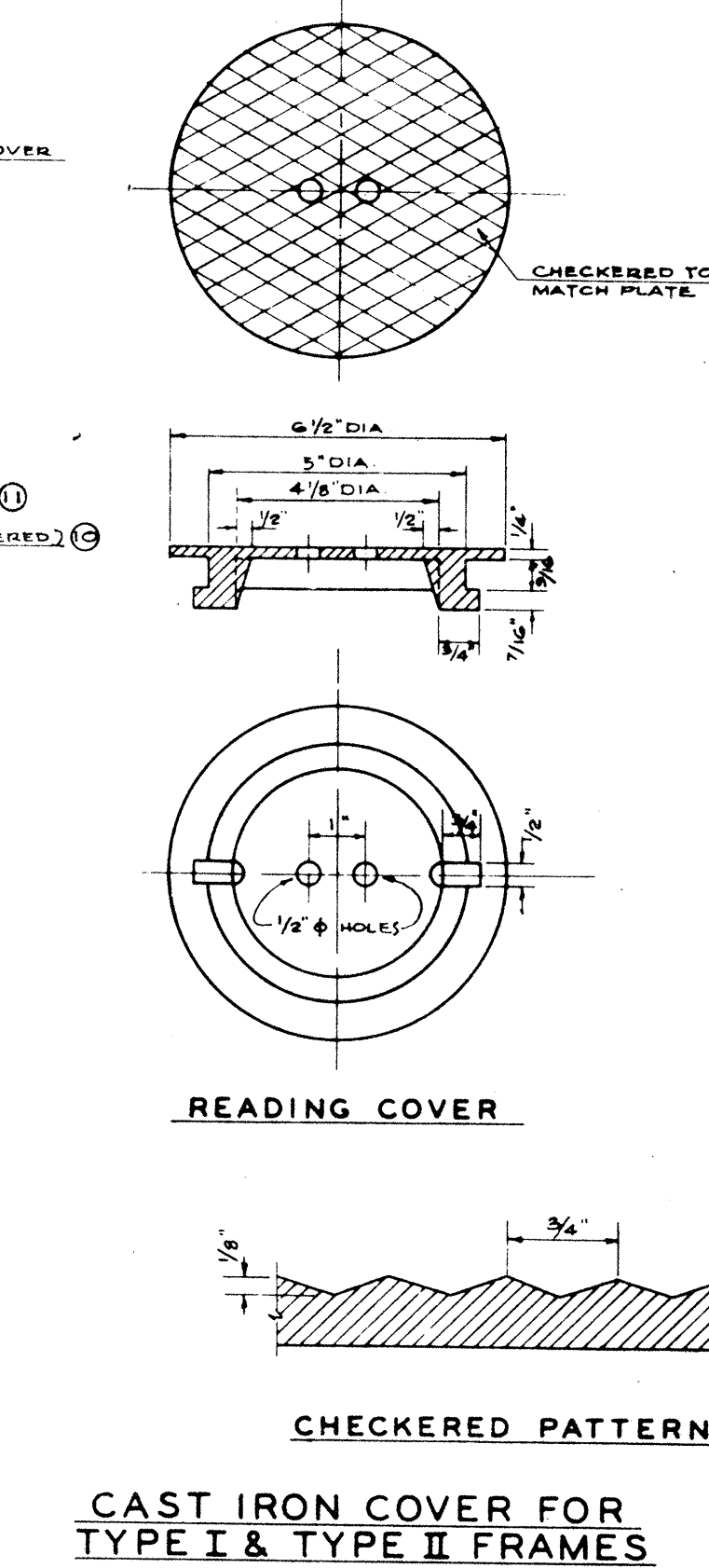
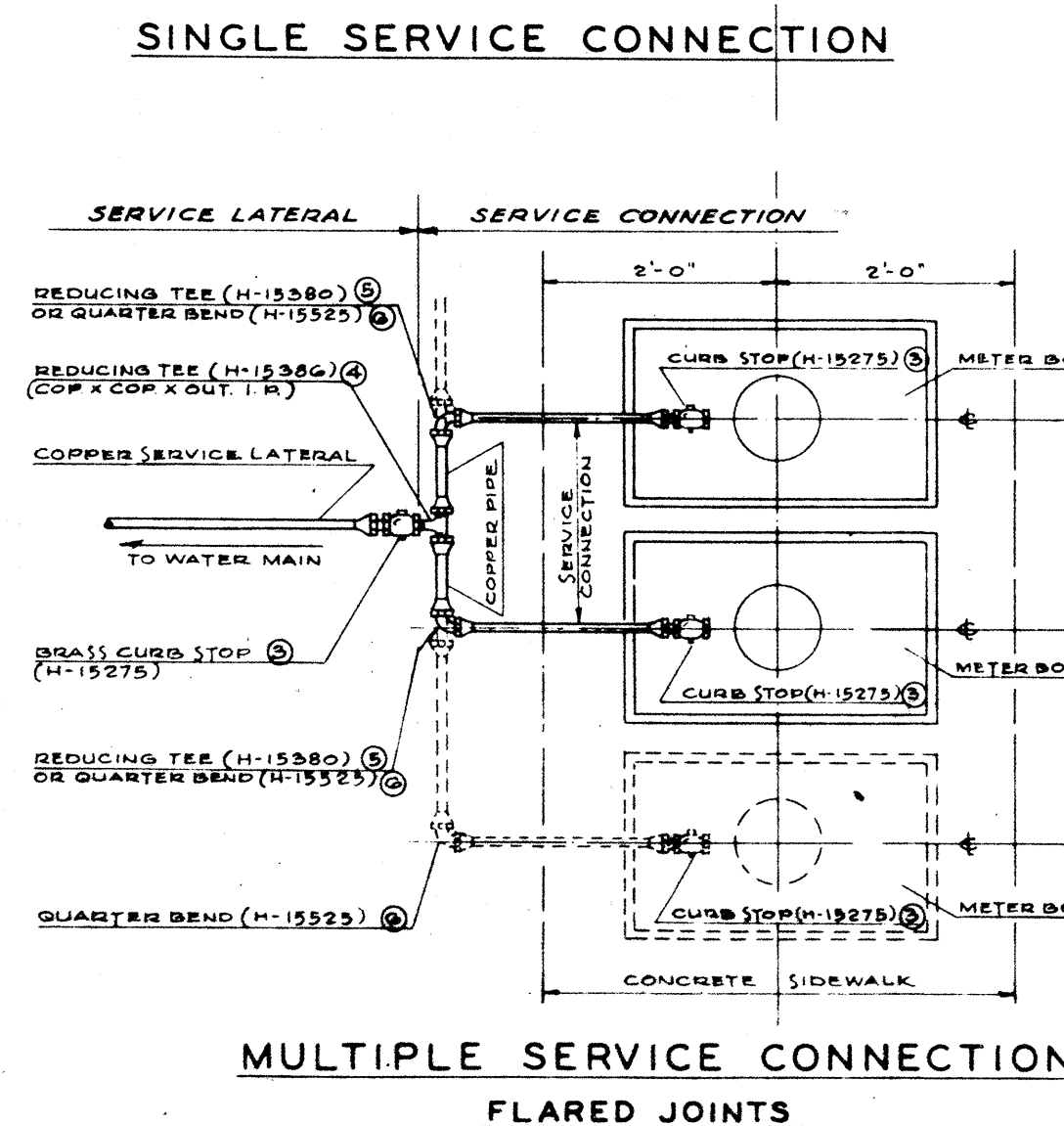
No As-Built Changes on this Sheet.



SCHEDULE OF COPPER FITTINGS (FLARED JOINT)

ITEM NO.	DESCRIPTION	SINGLE SERVICE CONN.	TWO SERVICES	THREE SERVICES
1	CORPORATION STOP WITH STRAIGHT COUPLING NUT (H-15000)	1	1	1
2	BRASS CURB STOP (H-15300)	1	-	-
3	CURB 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 TEES WITH TUBE NUTS COPPER TO COPPER TO COPPER (H-15380)	-	-	1
6	1/2 BEND UNION COUPLING WITH TUBE NUTS COPPER TO COPPER (H-15525)	-	2	2
7	THREE PART UNION COUPLING (H-15400) OR SOLDER COUPLING	-	-	-

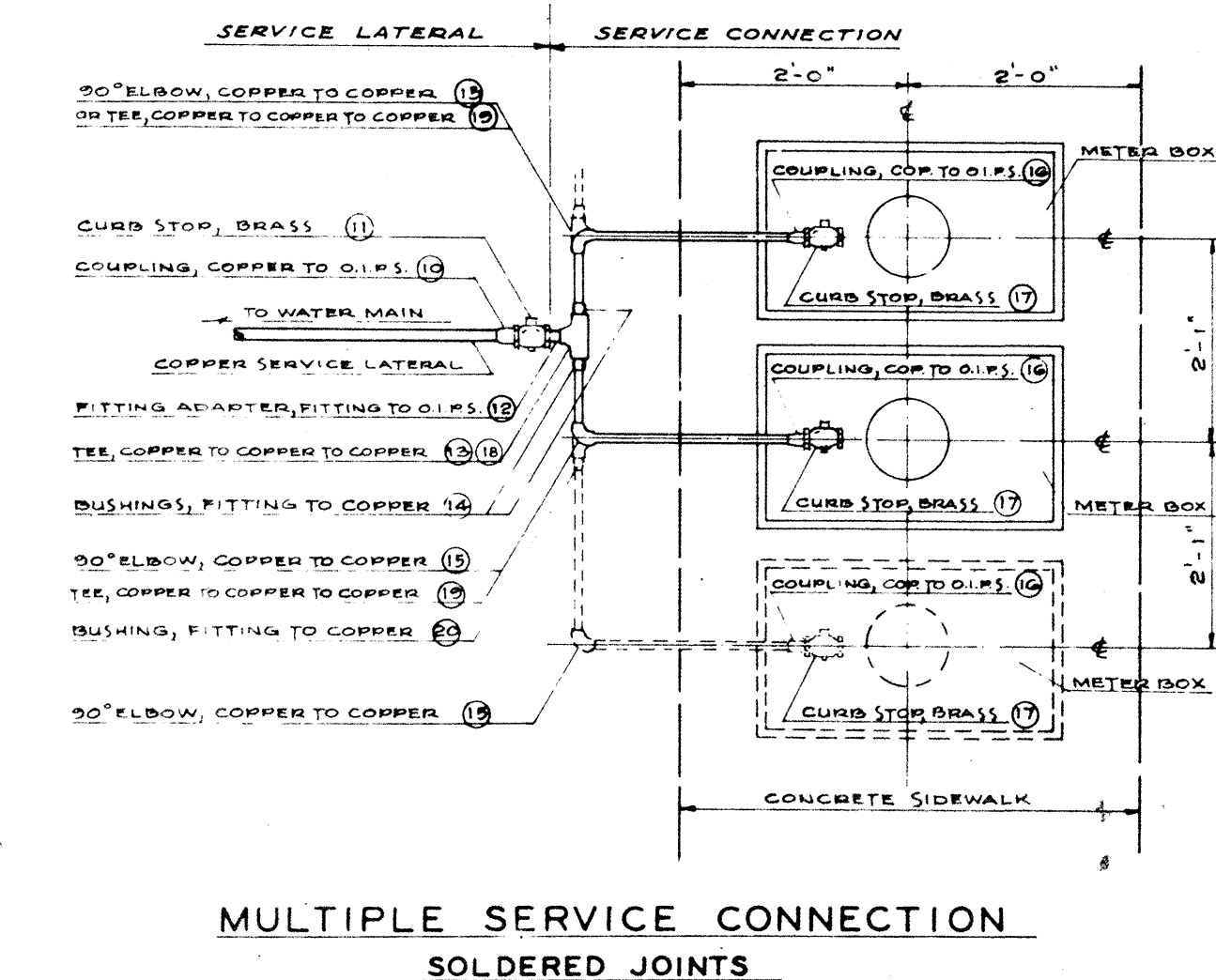
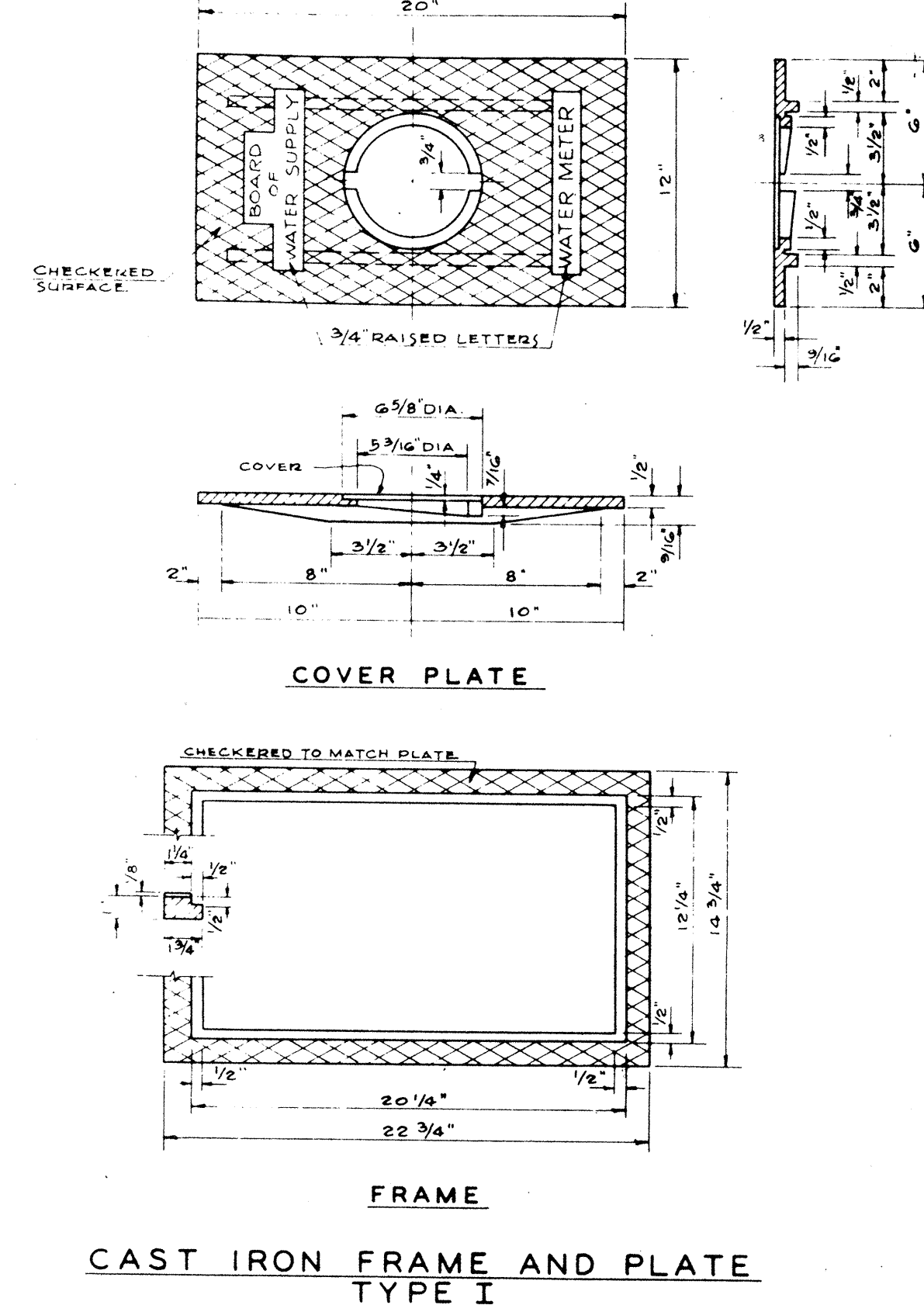
NOTE: TO BE USED IN SPLICING ODD LENGTHS OF COPPER PIPE



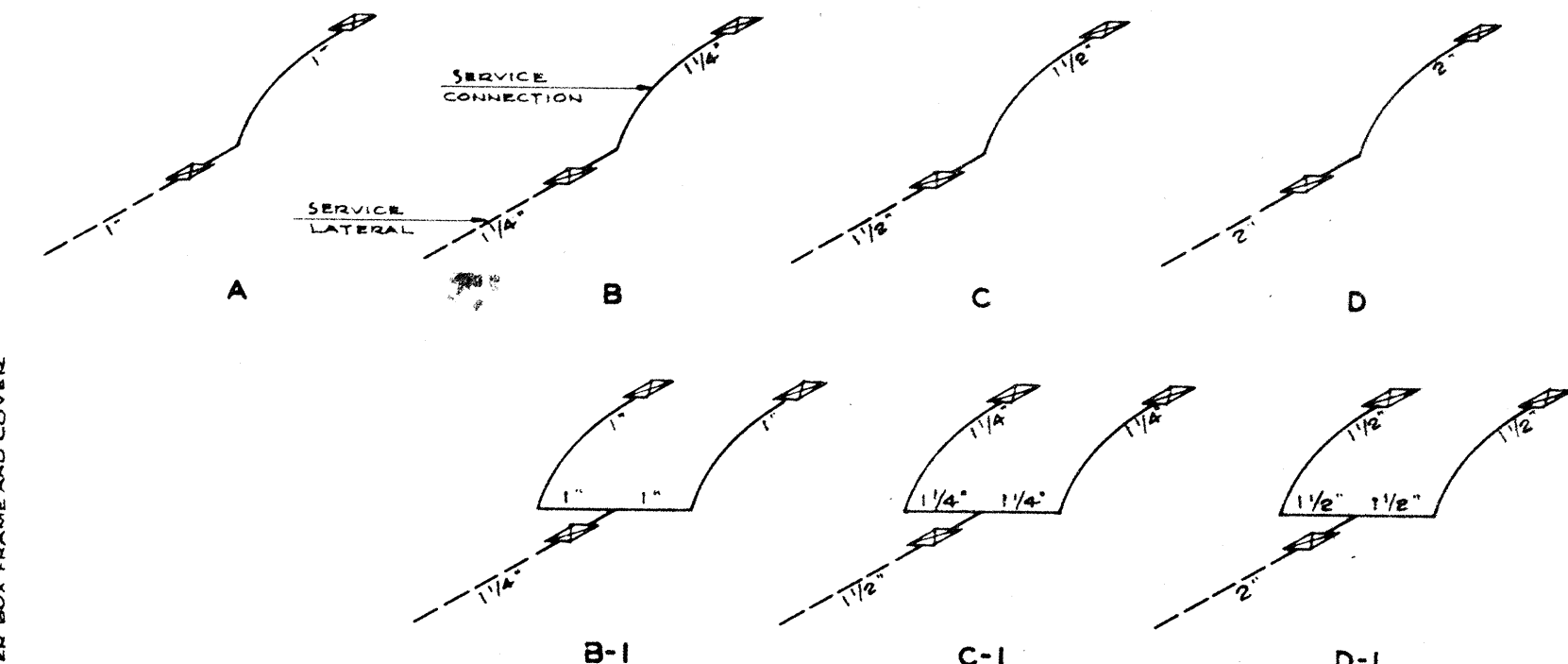
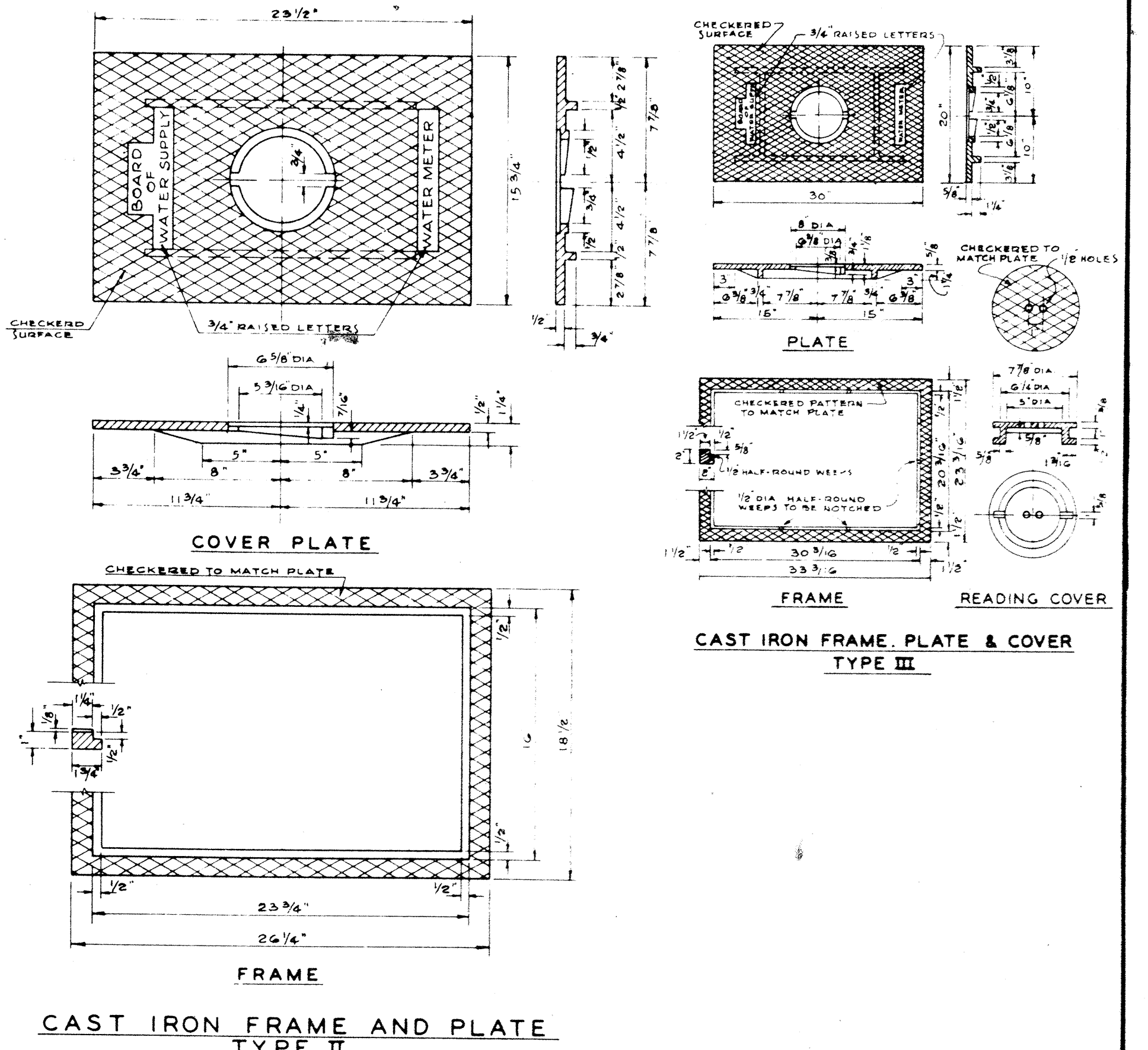
SCHEDULE OF COPPER FITTINGS (SOLDERED JOINT)

ITEM NO.	DESCRIPTION	SINGLE SERVICE CONN.	TWO SERVICES	THREE SERVICES
8	CORPORATION STOP, BRASS (H-10000)	1	1	1
9	GROUND JOINT UNION (H-15000) COPPER TO I.P.S. (A-1427)	1	1	1
10	COUPLING, COPPER TO O.I.P.S. (A-1553 TO A-1678)	2	1	1
11	CURB STOP, BRASS (STANDARD)	1	1	1
12	FITTING ADAPTER, (A-1553 TO A-1678)	-	1	1
13	TEE, COPPER TO COPPER TO COPPER (A-1566 TO A-2710)	-	1	1
14	BUSHINGS, FITTING TO COPPER (W-1343 TO W-1362)	-	2	2
15	90° ELBOW, COPPER TO COPPER (A-1557 TO A-2724)	-	2	2
16	COUPLING, COPPER TO O.I.P.S. (A-1553 TO A-1672)	1	2	3
17	CURB STOP, BRASS (STANDARD)	1	2	3
18	REDUCING TEE, COPPER TO COPPER TO COPPER (SUBSTITUTE FOR ITEM NUMBER 13 & 14) (A-1566 TO A-2710)	-	1	1
19	TEE, COPPER TO COPPER TO COPPER (A-1566 TO A-2710)	-	-	1
20	BUSHING, FITTING TO COPPER (W-1343 TO W-1362)	-	-	1
21	REDUCING TEE, COPPER TO COPPER TO COPPER (SUBSTITUTE FOR ITEM NUMBER 13 & 14) (A-1566 TO A-2710)	-	-	1

NOTE: REFERENCE NUMBERS SHOWN ARE FROM MUELLER CATALOG "H" 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: JAN. 27, 1953
SCALE: 1" = 1'-0" POCKET FOLDER NO. 24 b

BOARD OF WATER SUPPLY
HONOLULU, T. H.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

VINEYARD THOROUGHFARE
PROJECT NO. F-098-1(1) UNIT 2

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

No As-Built Changes on this Sheet.