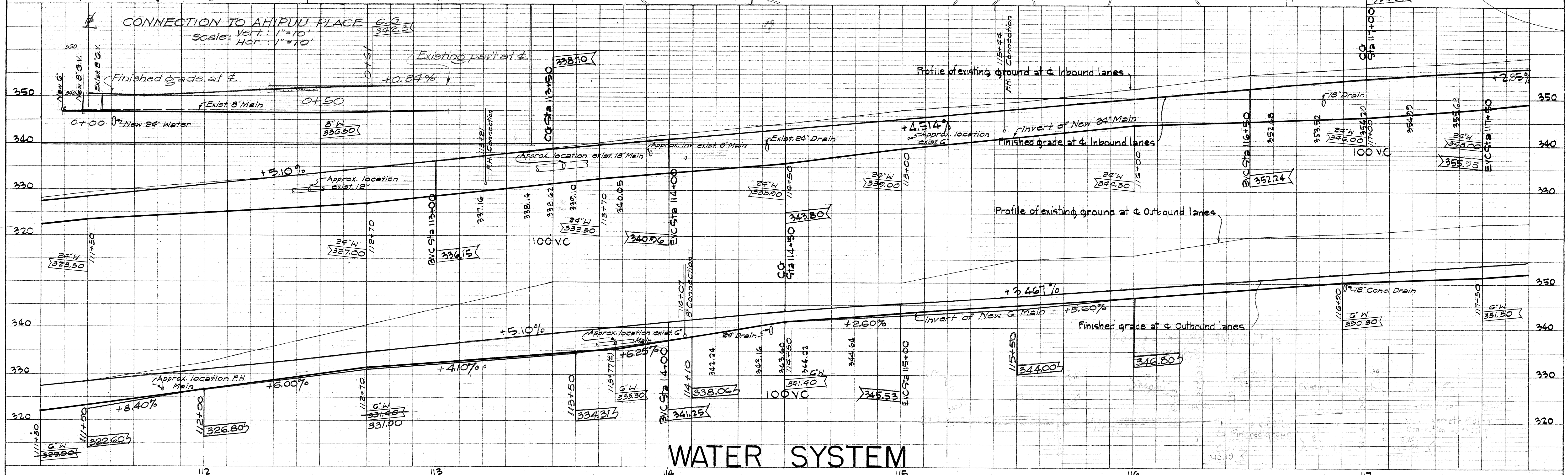
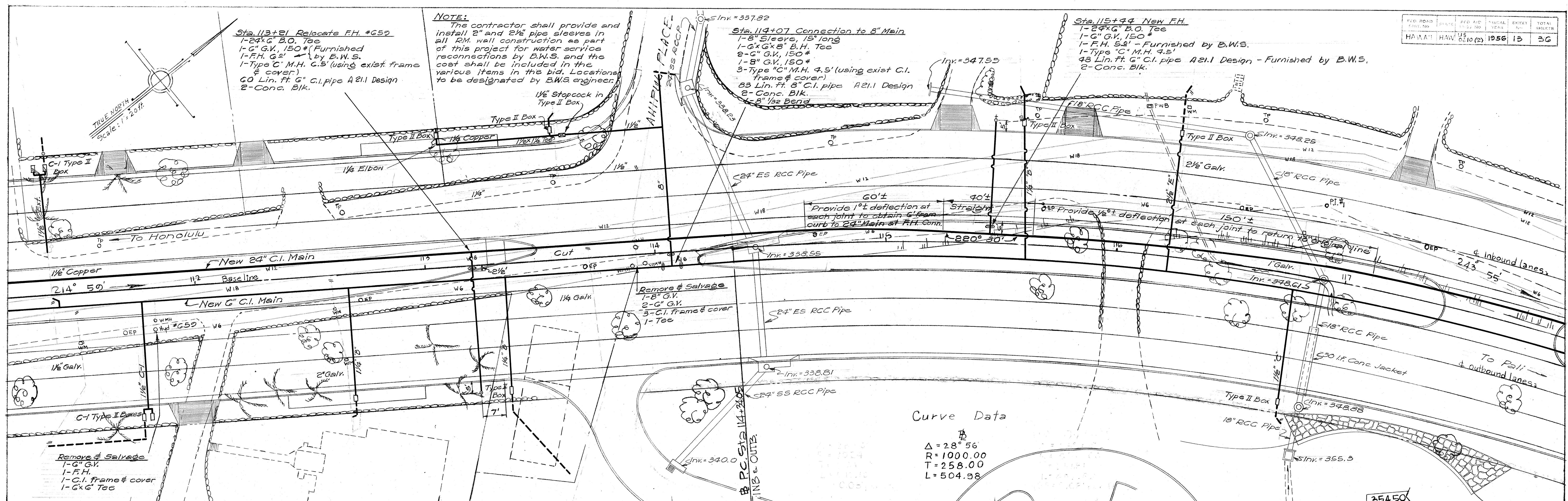
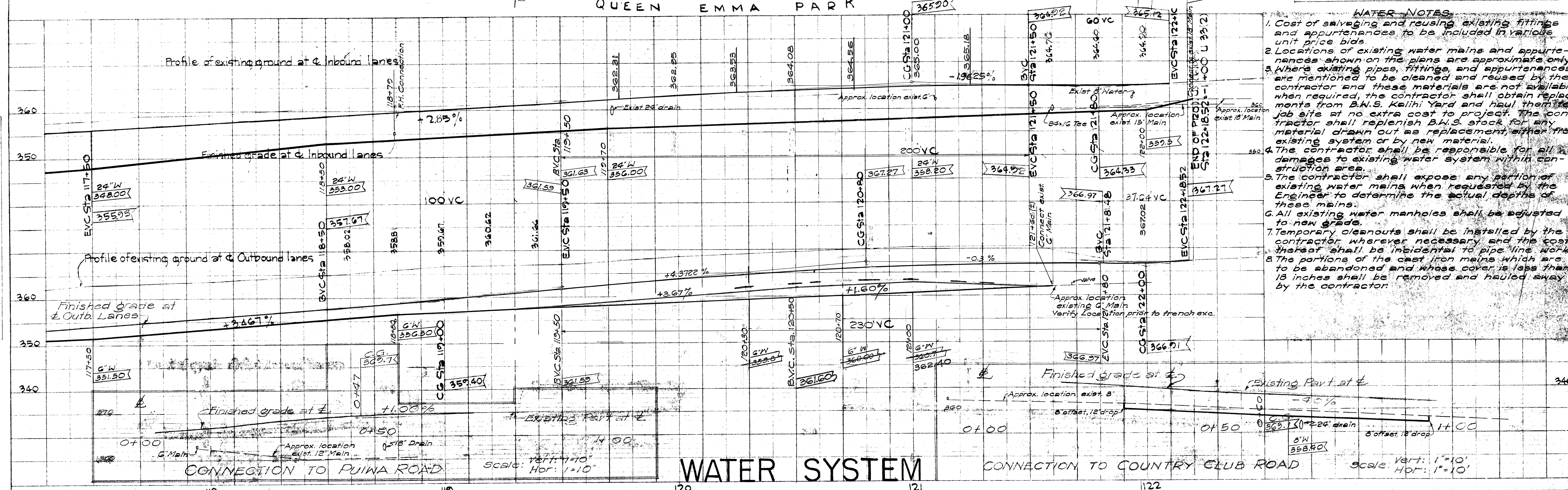
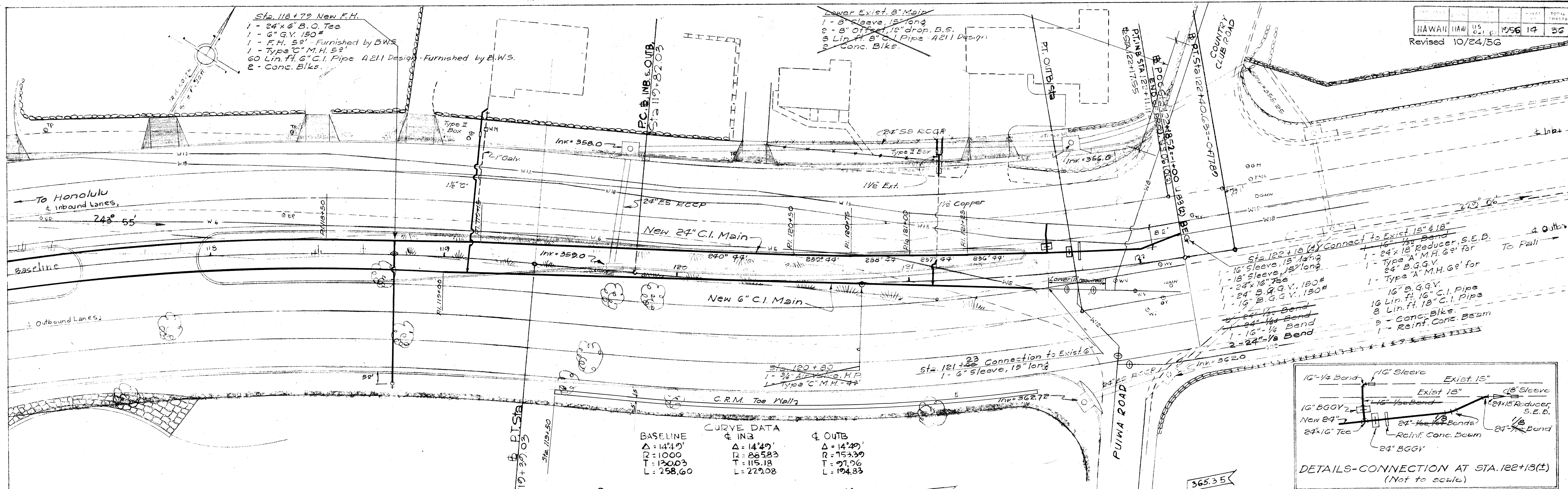


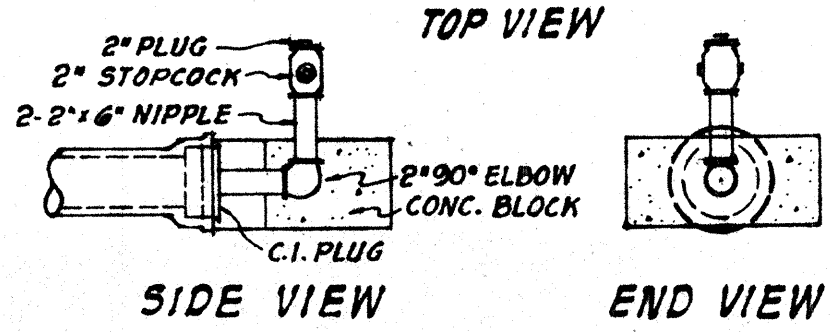
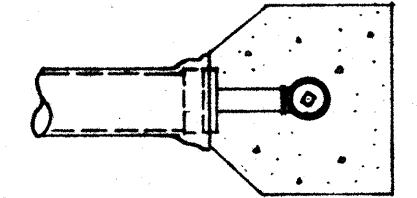


| REV. | DATE     | BY   | CHKD. | REASON | SHEET NO. | TOTAL SHEETS |
|------|----------|------|-------|--------|-----------|--------------|
| 1    | 02/10/20 | 1956 | 13    | 36     |           |              |

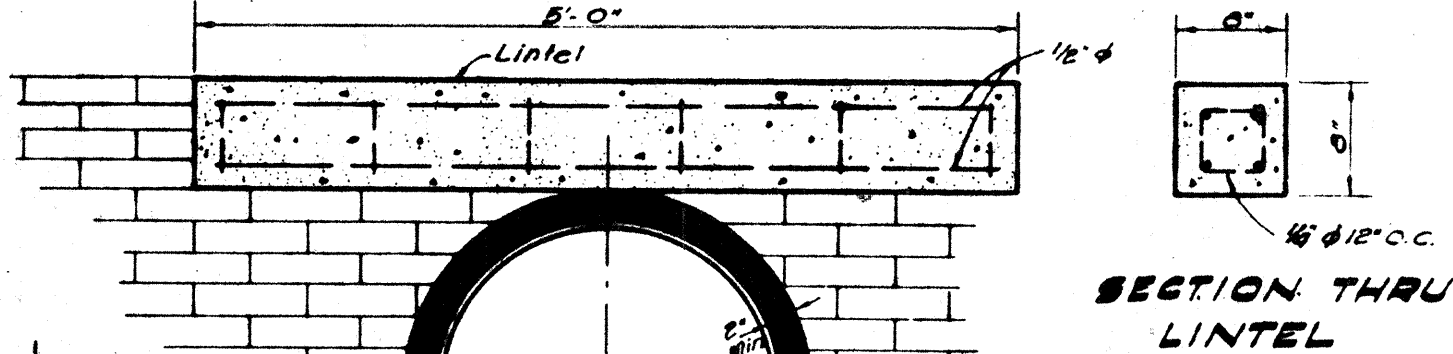


# WATER SYSTEM



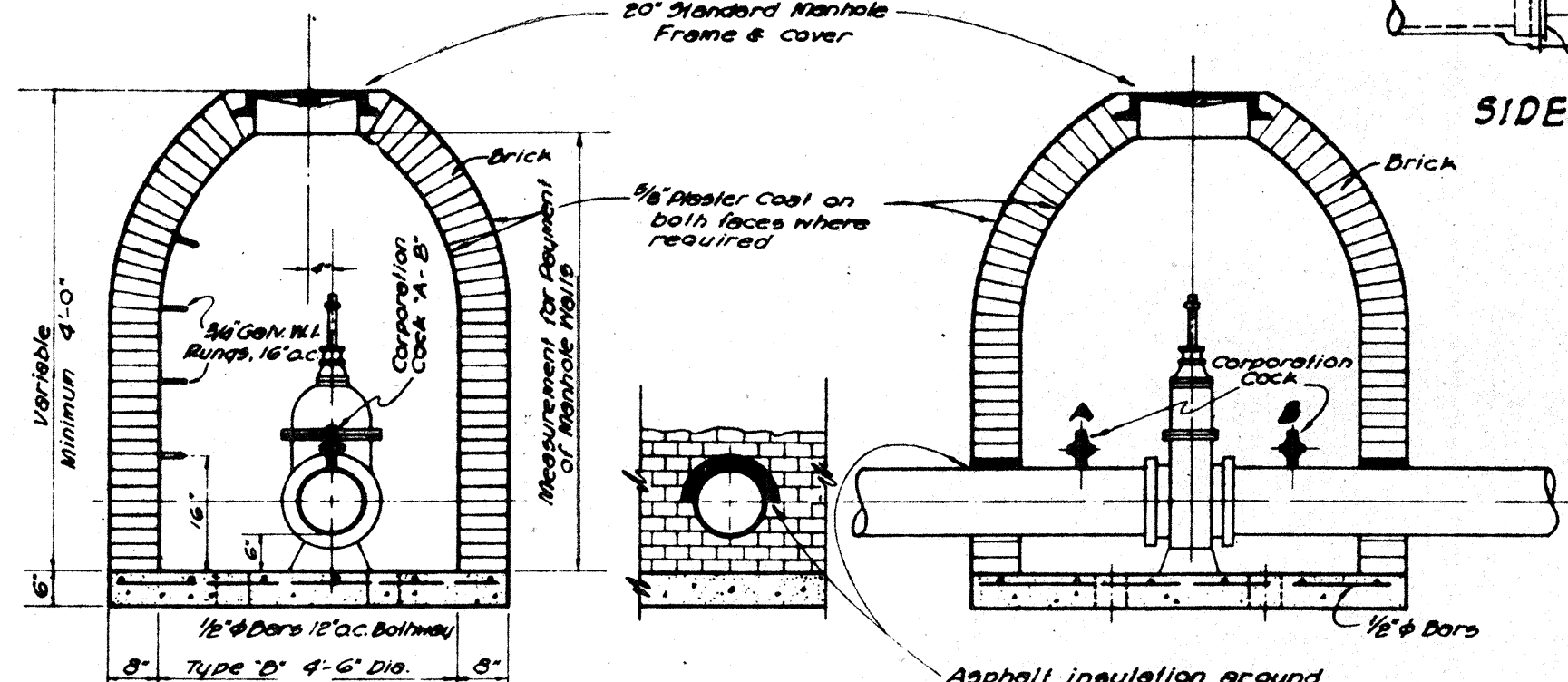


DETAIL OF CLEANOUT



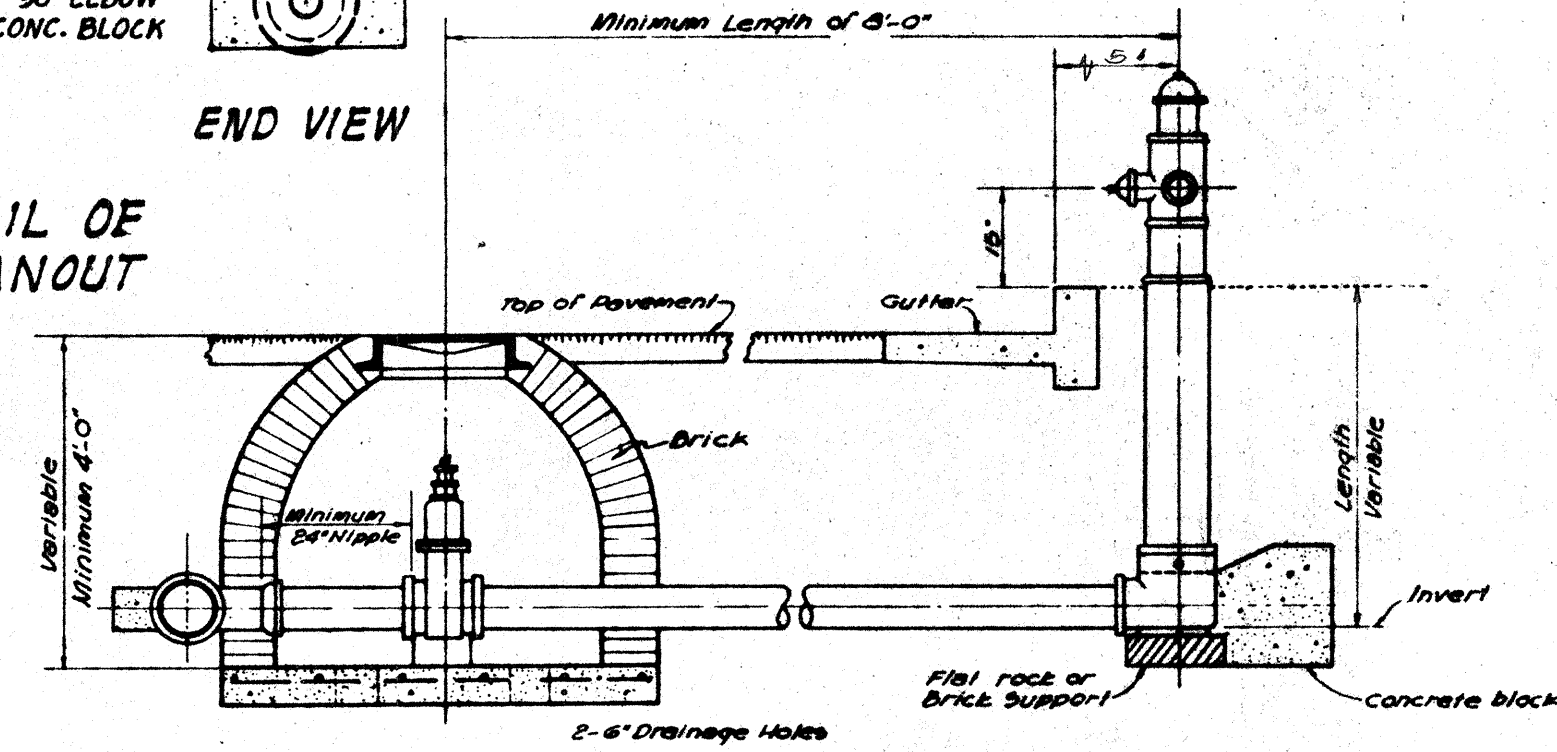
SECTION THRU LINTEL

DETAIL OF LINTEL & ASPHALT FILLER

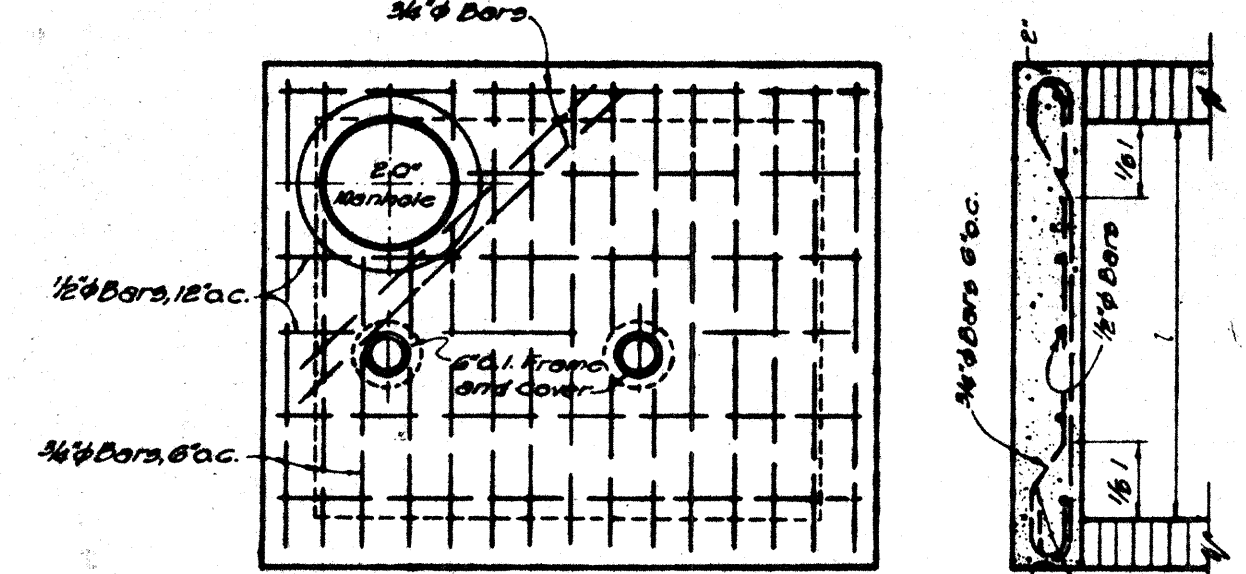


SECTION A-A

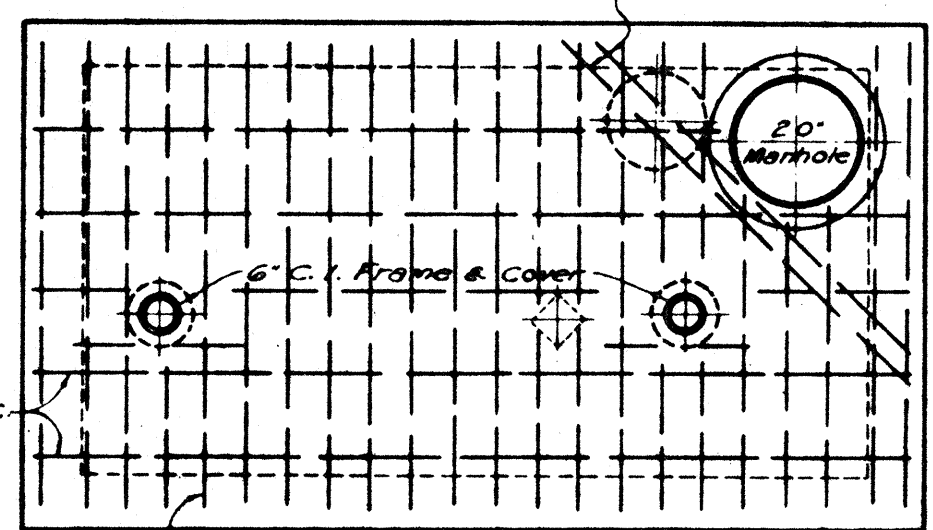
DETAIL OF ASPHALT FILLER



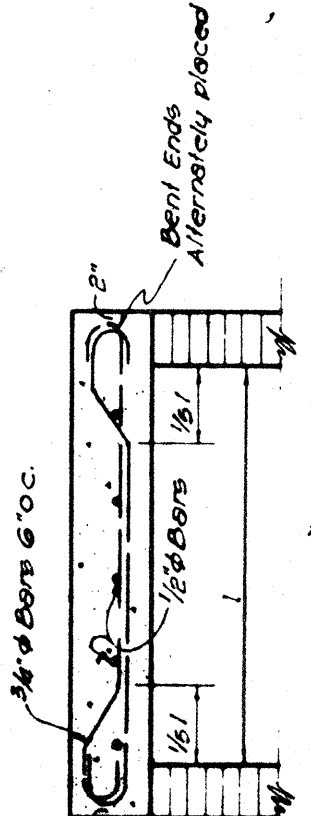
TYPE 'C' MANHOLE



PLAN OF TOP



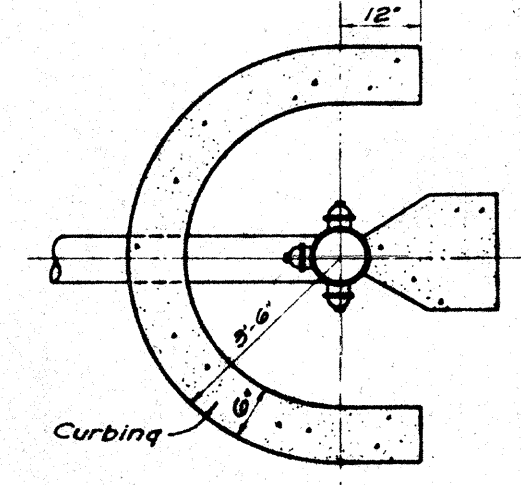
PLAN OF TOP



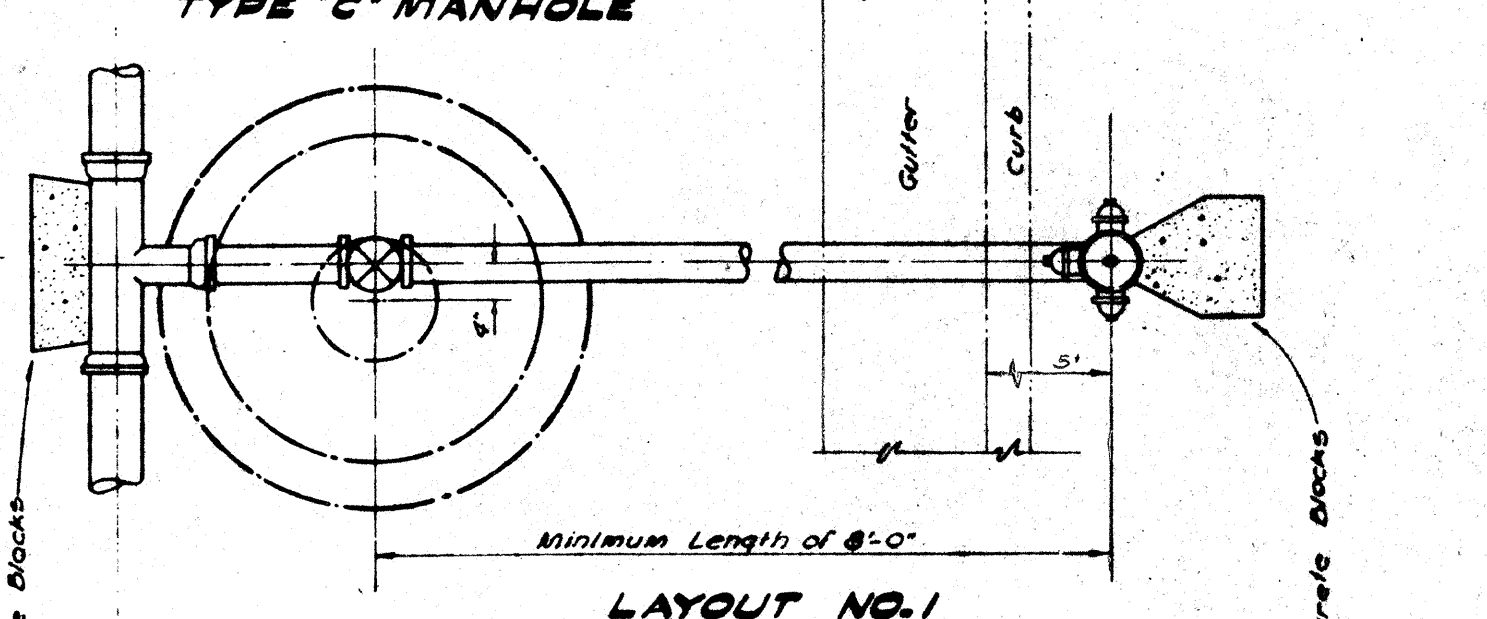
STEEL DETAIL IN BOTTOM SLAB

TABLE "A"  
REQUIRED CORPORATION COCK SIZES

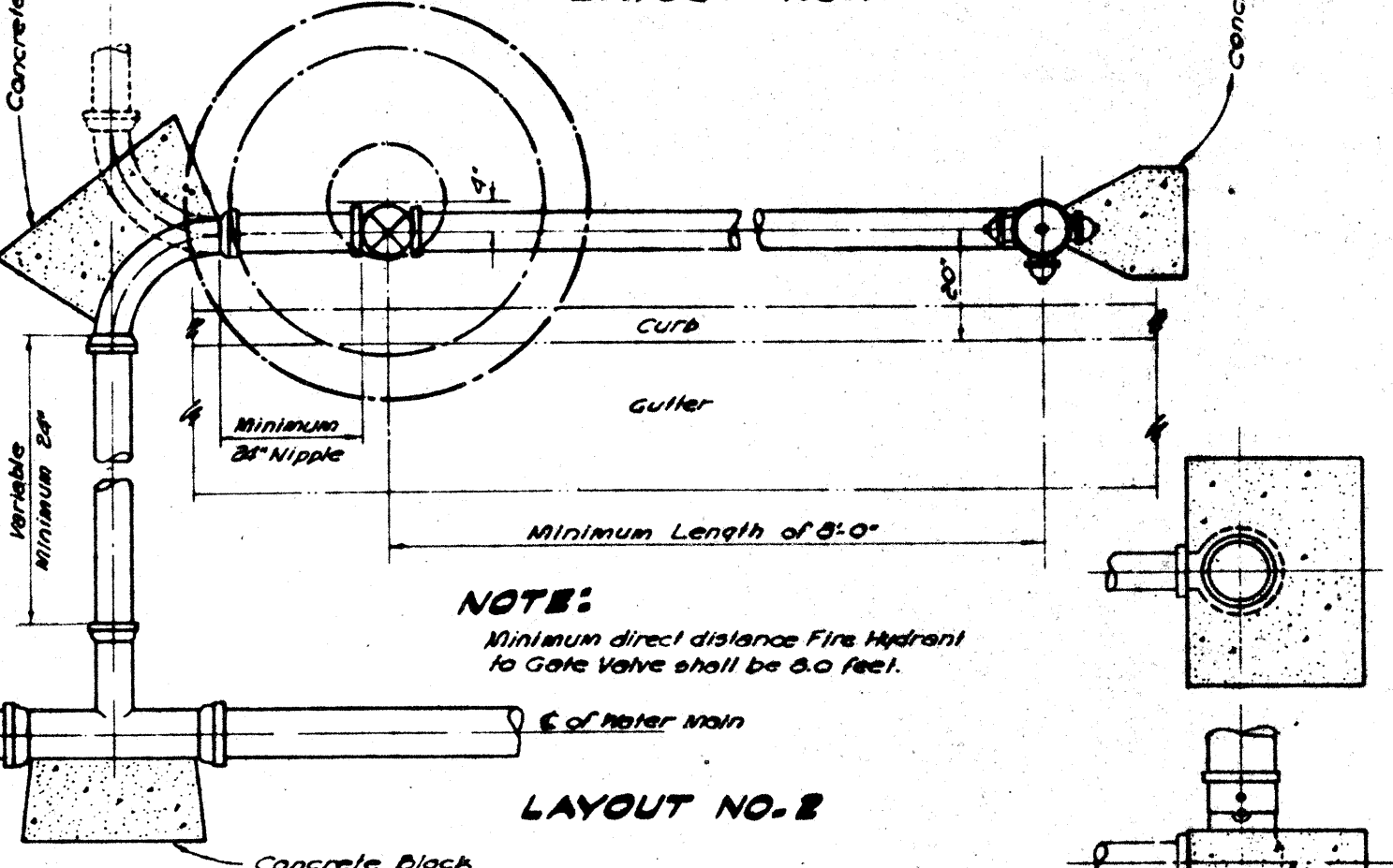
| DIA. OF MAIN INCHES | INLET SIZE CORPORATION COCK |
|---------------------|-----------------------------|
| 4                   | 1"                          |
| 6                   | 1"                          |
| 8                   | 1"                          |
| 12                  | 1"    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



DETAIL OF CURBING AT HYDRANT WHERE REQUIRED



LAYOUT NO. 1

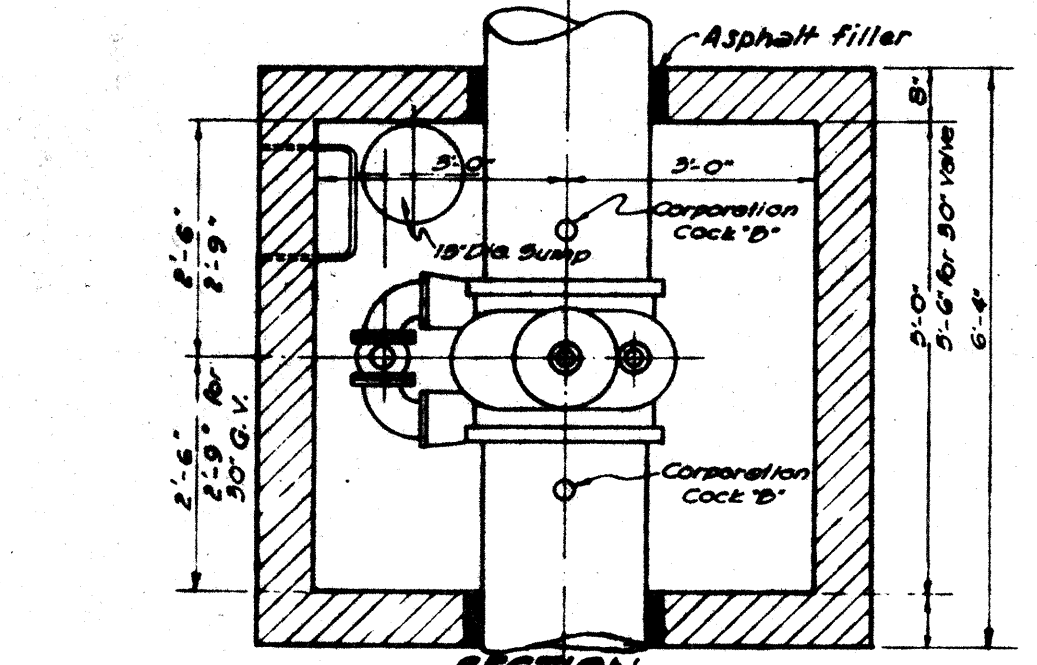


LAYOUT NO. 2

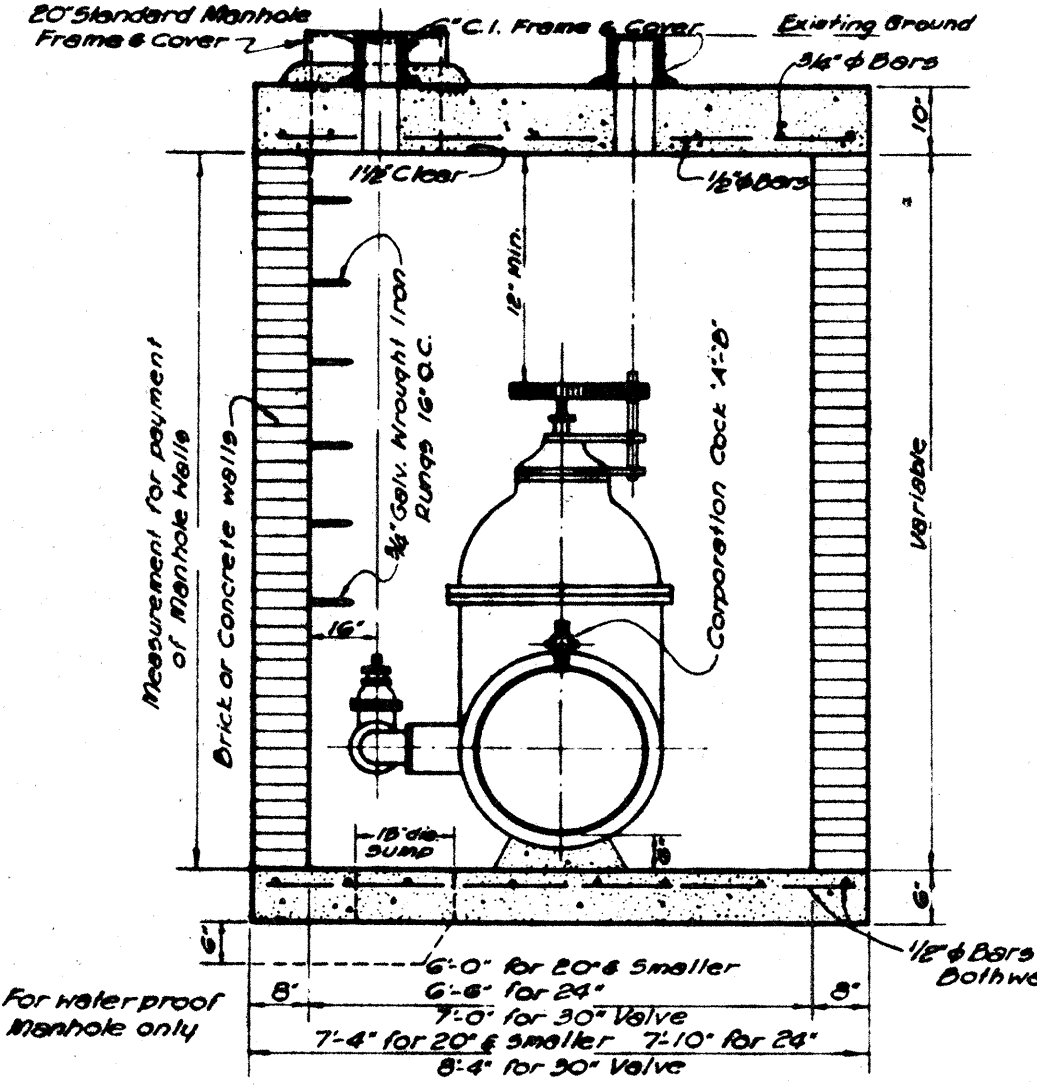
NOTE:  
Minimum direct distance Fire Hydrant to Gate Valve shall be 5.0 feet.

CONCRETE BLOCK FOR MATHEWS HYDRANT ONLY

STANDARD FIRE HYDRANT LAYOUT

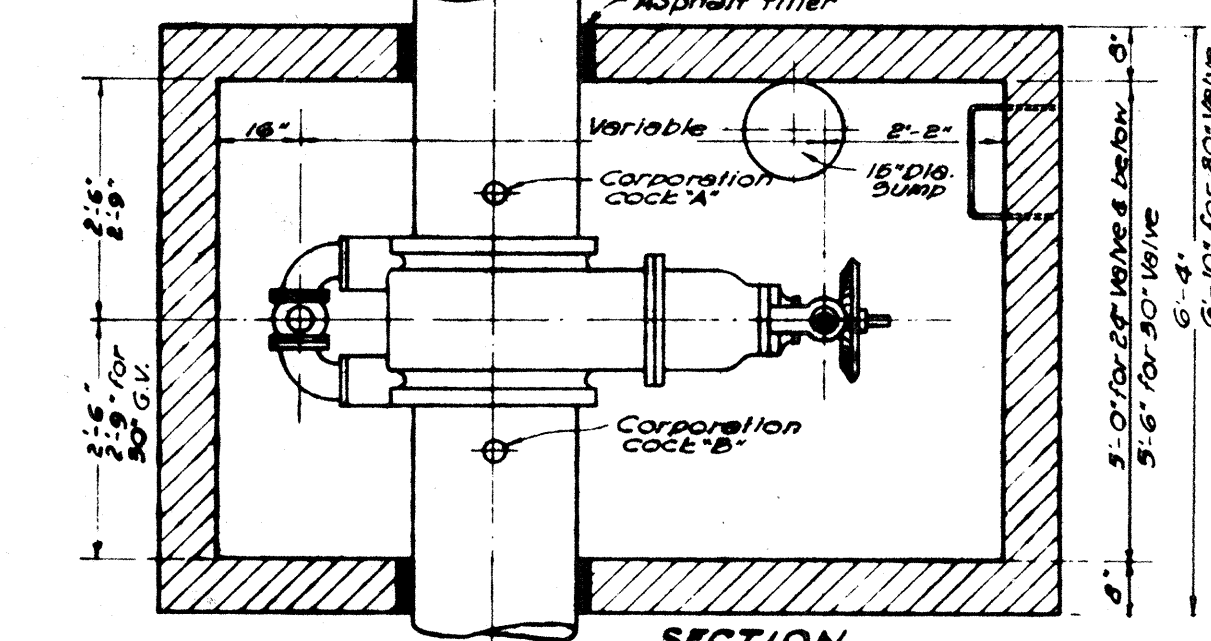


SECTION

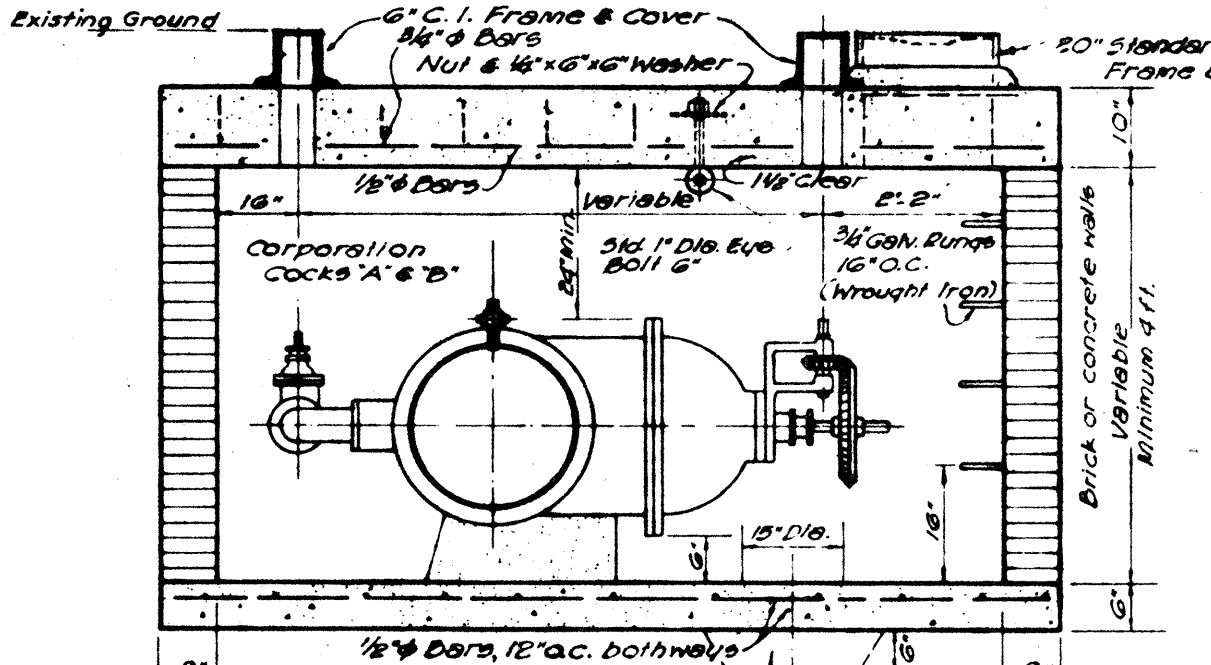


SECTION

TYPE "A" MANHOLE FOR SPUR-GATED GATE VALVES

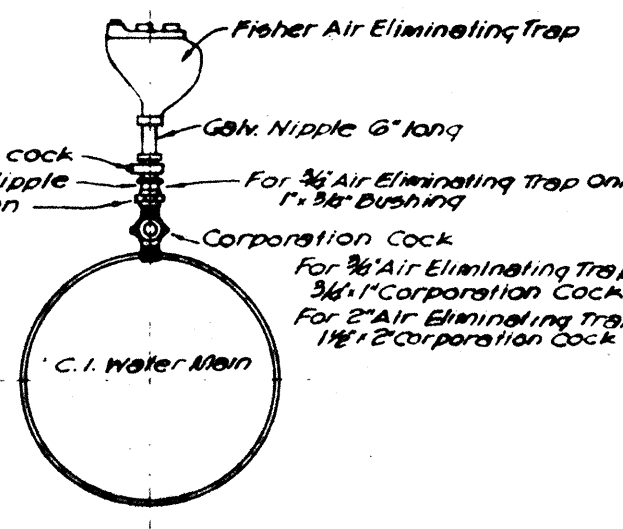


SECTION

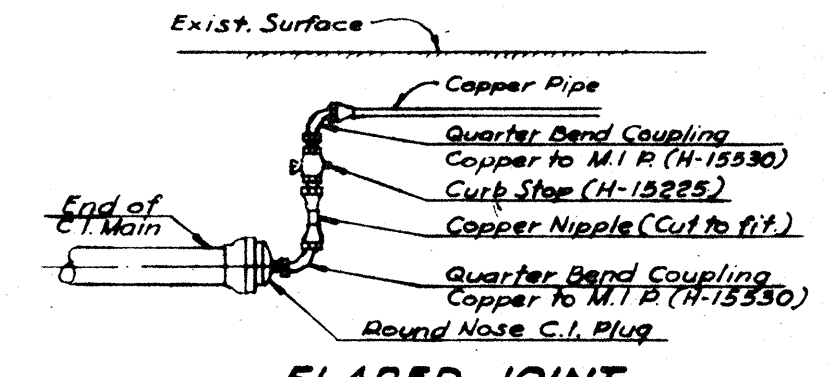


SECTION

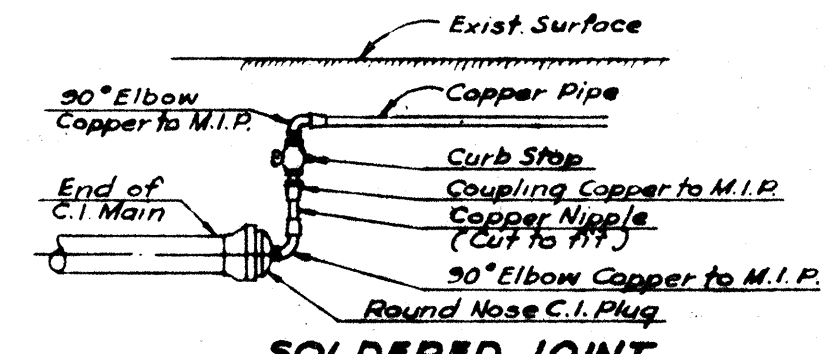
TYPE "A" MANHOLE FOR BEVEL GEARED GATE VALVES



DETAIL OF CONNECTION FOR FISHER AIR ELIMINATING TRAP

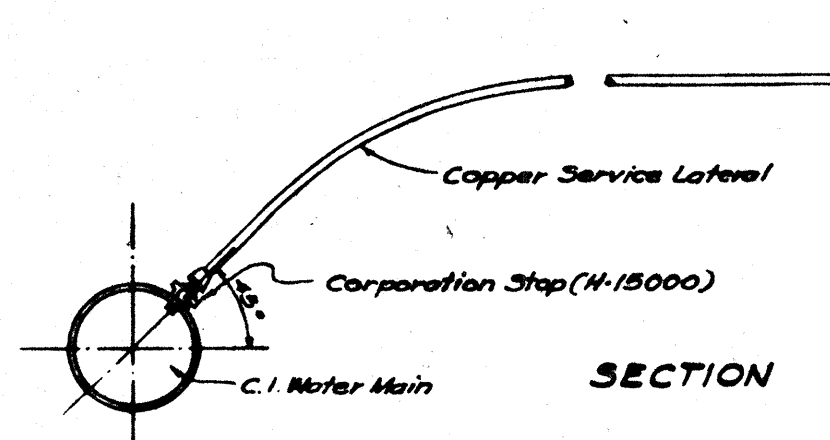


FLARED JOINT



SOLDERED JOINT

SERVICE LATERAL CONNECTION AT END OF LINE



SECTION

TYPICAL CONNECTION FOR COPPER SERVICE LATERALS

Division Engineer

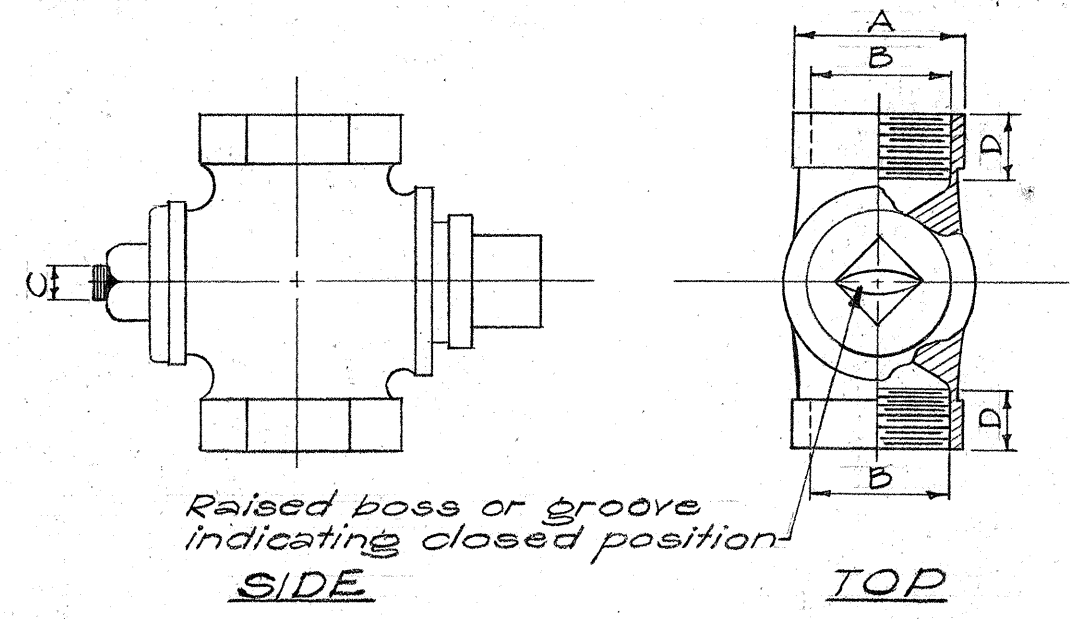
# STANDARD DETAILS

APPROVED: [Signature]  
DATE: OCT. 31, 1956

BOARD OF WATER SUPPLY  
HONOLULU, T.H.

NUUANU AVENUE  
PROJ. NO. US-0610(2)

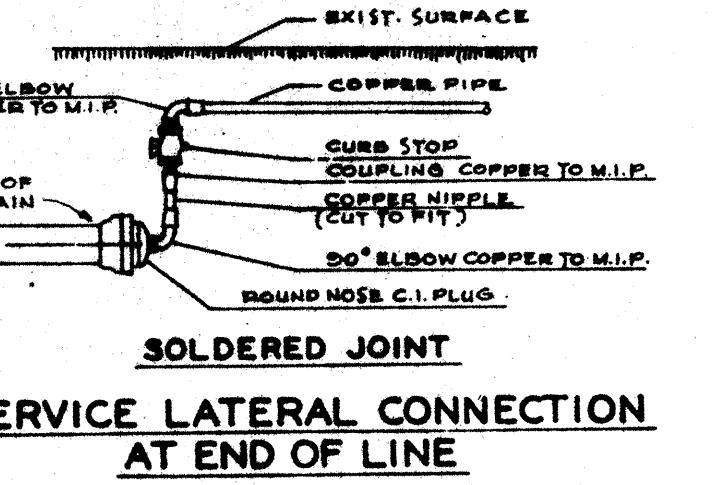
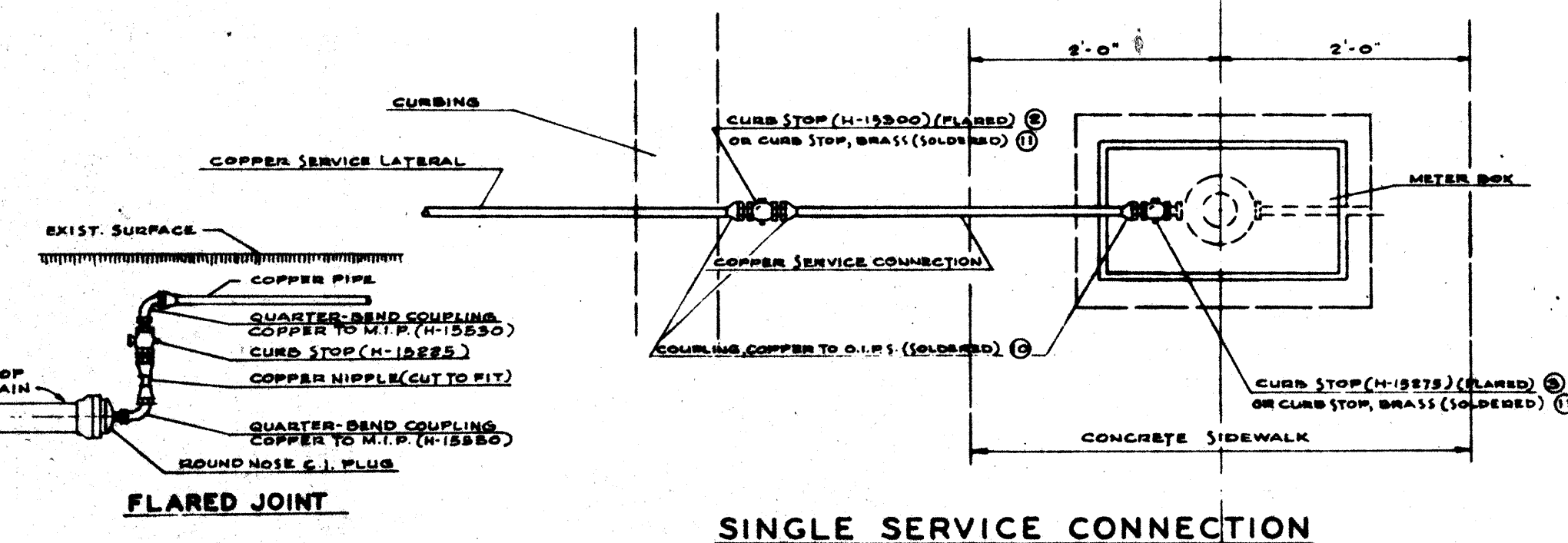
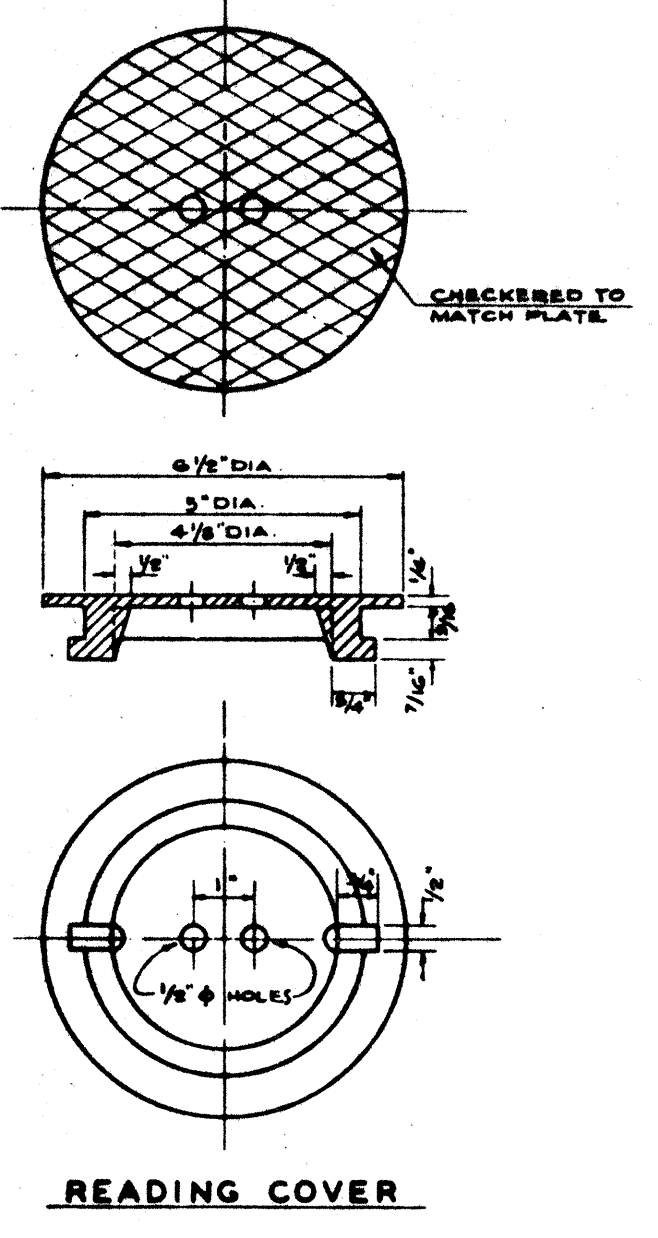
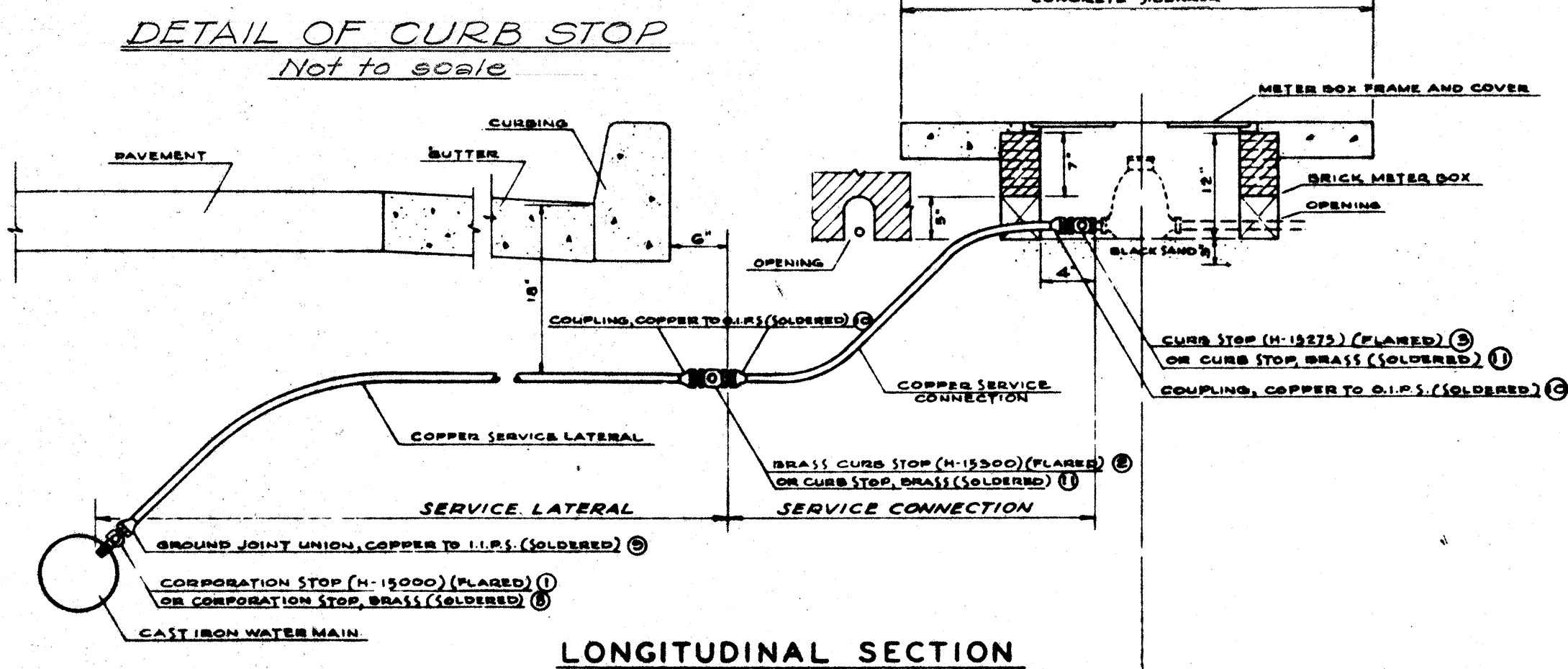
Scale: As Noted April 1956



| SIZE   | Min. A | Ripe Thread B | Min. C | Min. D | Ave. wt. of complete fitting lbs. oz. | Min. E |
|--------|--------|---------------|--------|--------|---------------------------------------|--------|
| 1/2"   | 1 1/8" | 1/2"          | 3/8"   | 5/8"   | 0 0                                   | 0.190  |
| 3/4"   | 1 3/8" | 3/4"          | 1/2"   | 5/8"   | 1 2                                   | 0.428  |
| 1"     | 1 5/8" | 1"            | 5/8"   | 5/8"   | 1 10                                  | 0.746  |
| 1 1/4" | 2"     | 1 1/4"        | 3/4"   | 5/8"   | 2 12                                  | 1.166  |
| 1 1/2" | 2 3/8" | 1 1/2"        | 3/4"   | 5/8"   | 4 0                                   | 1.676  |
| 2"     | 2 7/8" | 2"            | 7/8"   | 5/8"   | 6 11                                  | 2.222  |

NOTE:  
"E" = Net area (sq. inches) of opening through curb stop.

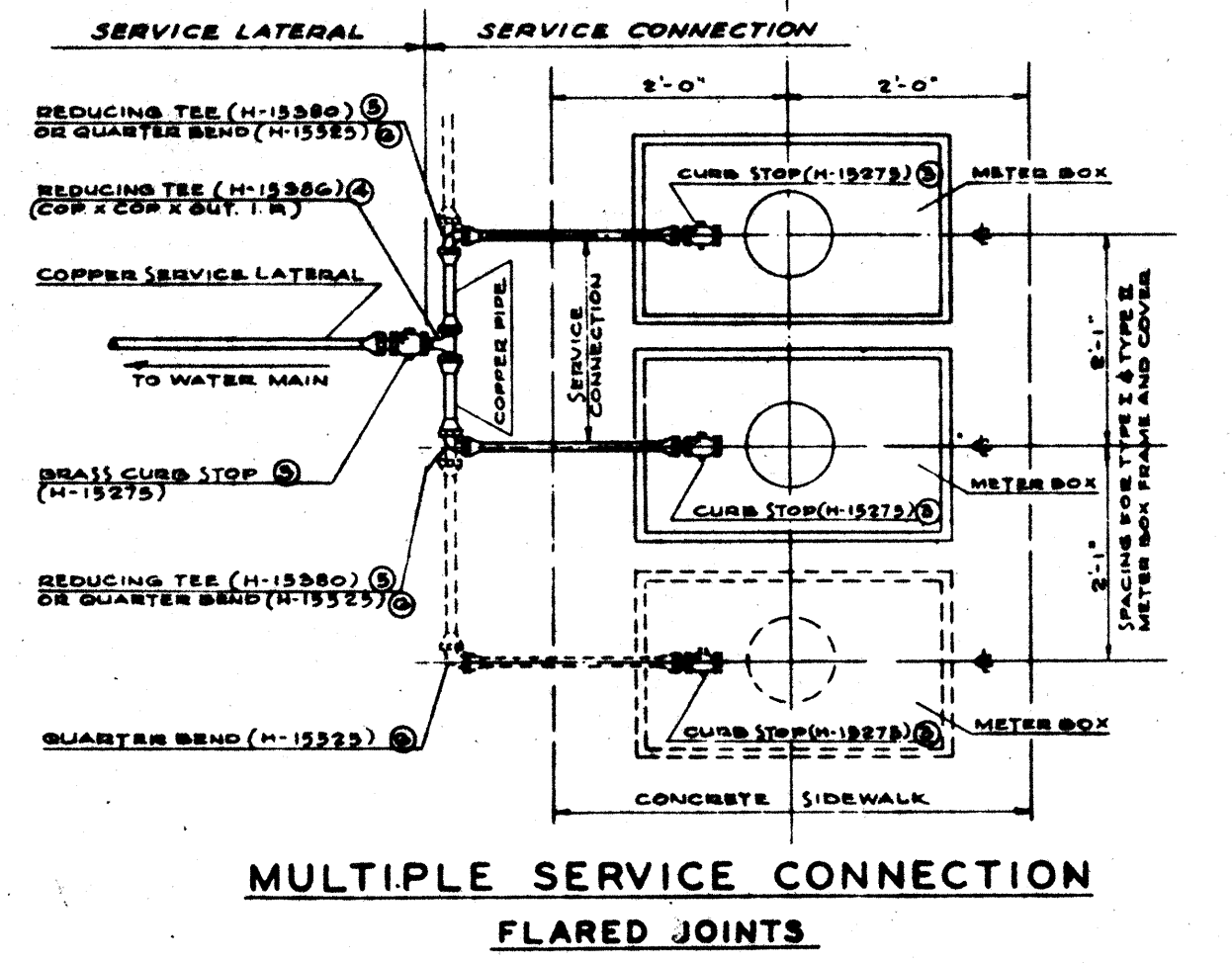
Metal composition shall conform to A.S.T.M. Designation B62.



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-15200)                                                | 1                    | 1            | 1              |
| 3        | CURB STOP WITH TUBE NUT COUPLER TO INSIDE I.P. (H-15275)                 | 1                    | 3            | 4              |
| 4        | REDUCING TEE WITH TUBE NUTS - COPPER TO COPPER TO OUTSIDE I.P. (H-15286) | -                    | 1            | 1              |
| 5        | REDUCING TEE WITH TUBE NUTS - COPPER TO COPPER (H-15280)                 | -                    | -            | 1              |
| 6        | 1/4 BEND UNION COUPLING WITH TUBE NUTS - COPPER TO COPPER (H-15225)      | -                    | 2            | 2              |
| 7        | THREE PART UNION COUPLING (H-15400) OR SOLDER COUPLING                   | -                    | -            | -              |

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

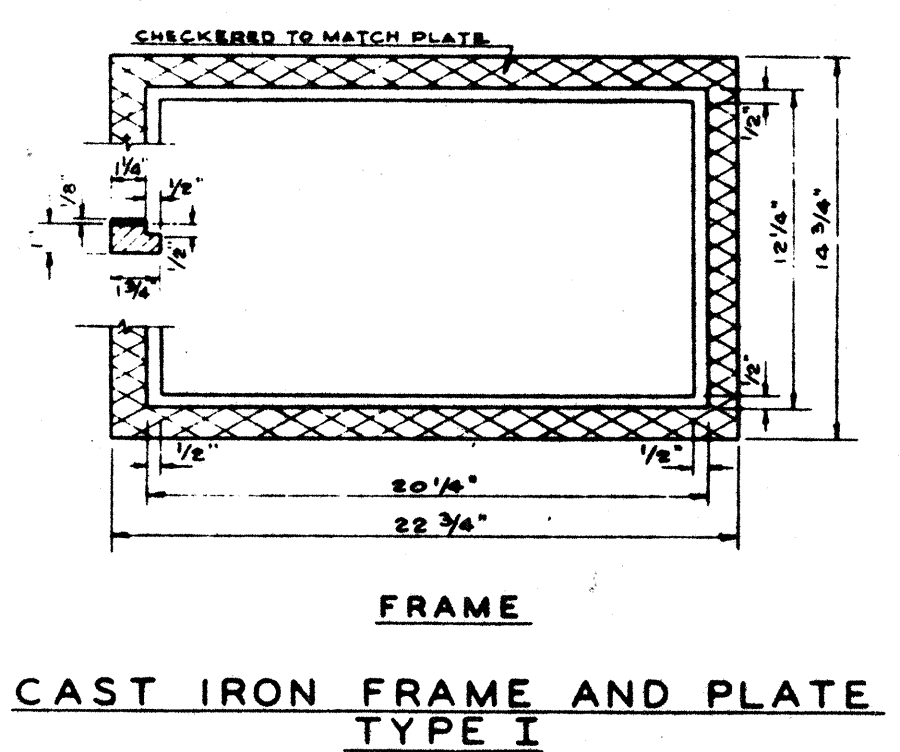
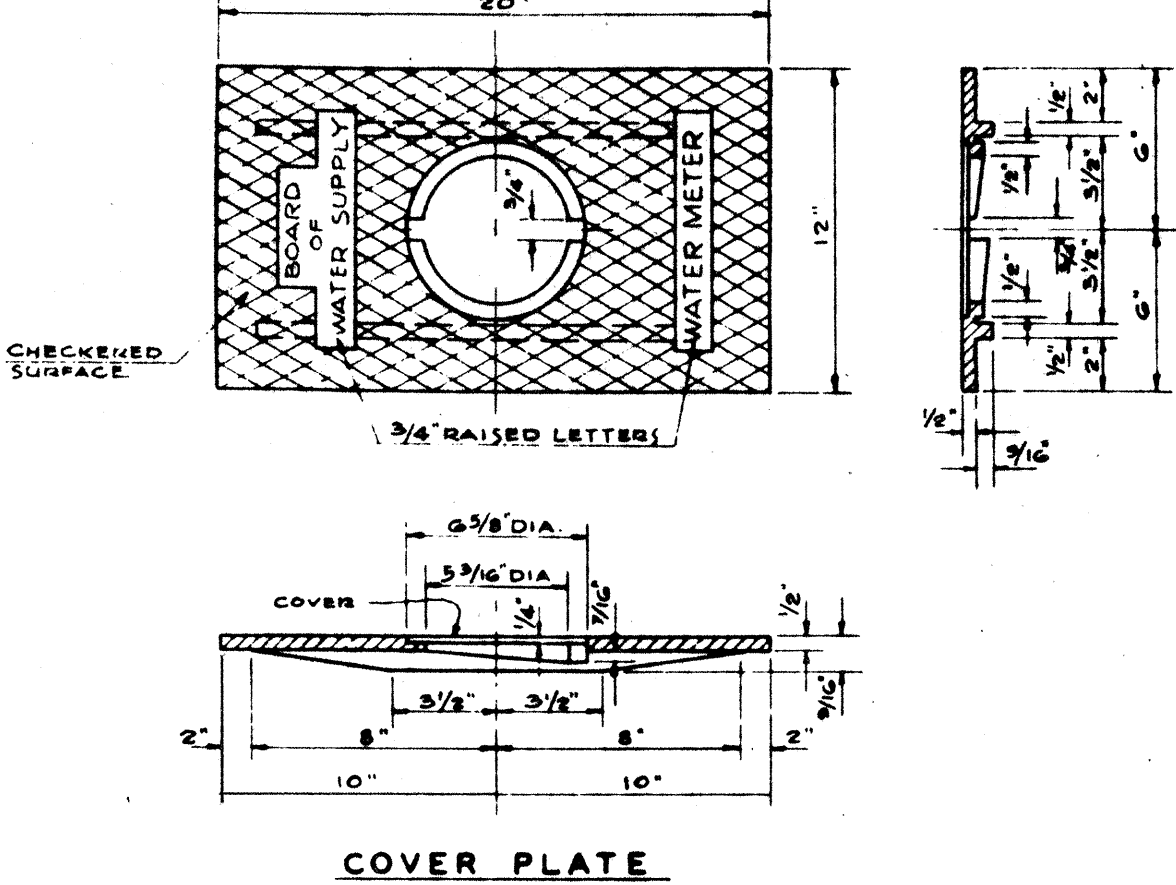


MULTIPLE SERVICE CONNECTION FLARED JOINTS

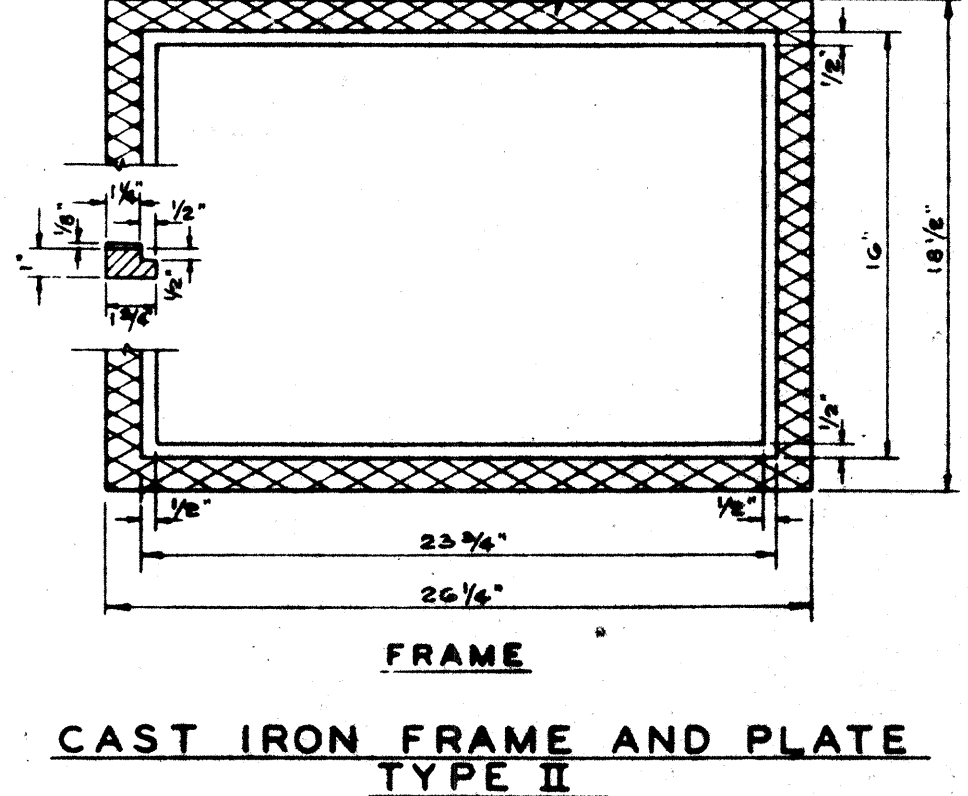
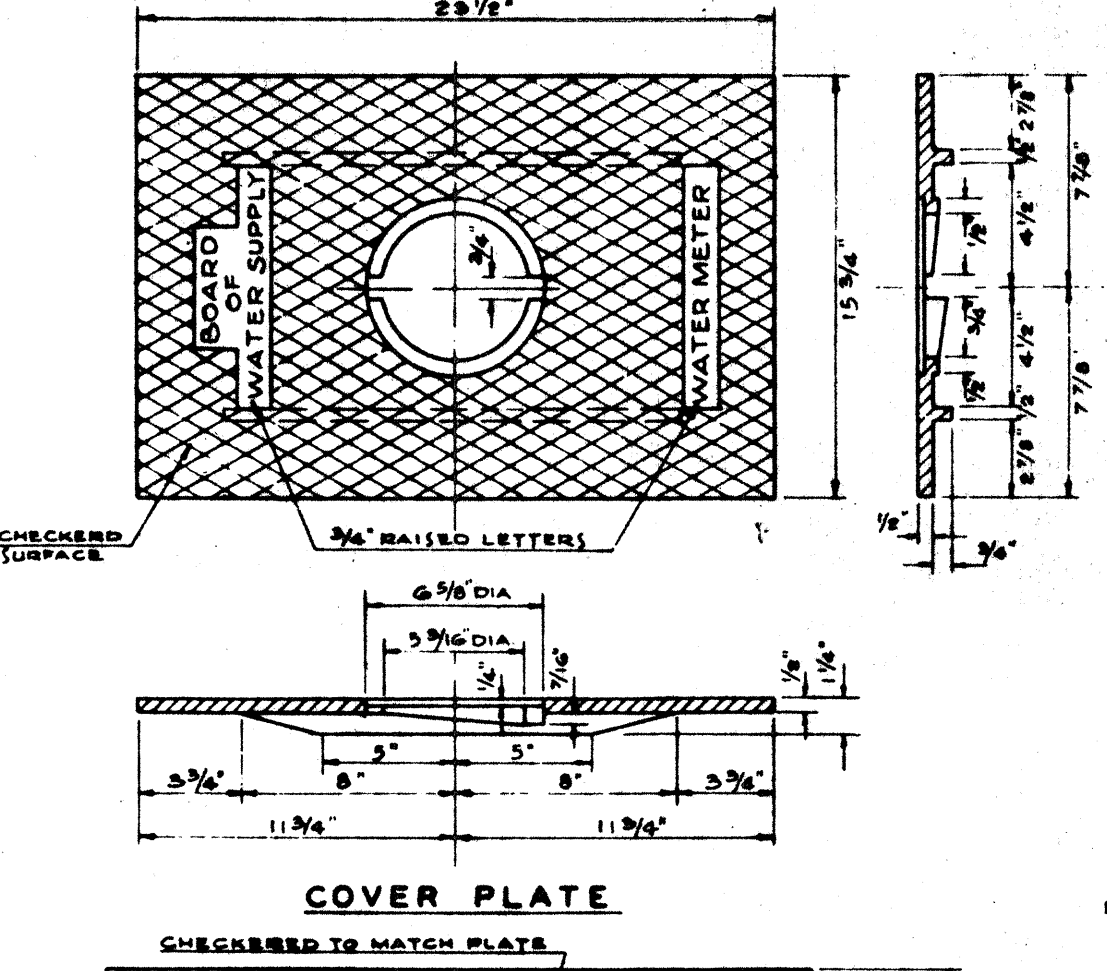
SCHEDULE OF COPPER FITTINGS (SOLDERED JOINT)

| ITEM NO. | DESCRIPTION                                                                                      | SINGLE SERVICE CONN. | TWO SERVICES | THREE SERVICES |
|----------|--------------------------------------------------------------------------------------------------|----------------------|--------------|----------------|
| 8        | CORPORATION STOP, BRASS (H-10000)                                                                | 1                    | 1            | 1              |
| 9        | GROUND JOINT UNION - BRASS COPPER TO I.P.S. (A-11427)                                            | 1                    | 1            | 1              |
| 10       | COUPLING, COPPER TO O.I.P.S. (A-11428 TO A-11478)                                                | 2                    | 1            | 1              |
| 11       | CURB STOP, BRASS (B.W.S. STANDARD)                                                               | 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-1566 TO A-2710)                                               | -                    | 1            | 1              |
| 14       | BUSHING, FITTING TO COPPER (W-1345 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-1566 TO A-2710)                                                  | 1                    | 2            | 2              |
| 17       | CURB STOP, BRASS (B.W.S. STANDARD)                                                               | 1                    | 2            | 2              |
| 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-1345 TO W-1562)                                                    | -                    | -            | 1              |
| 21       | REDUCING TEE, COPPER TO COPPER TO COPPER (SUBSTITUTE FOR ITEM NUMBER 13 & 14) (A-1566 TO A-2710) | -                    | -            | 1              |

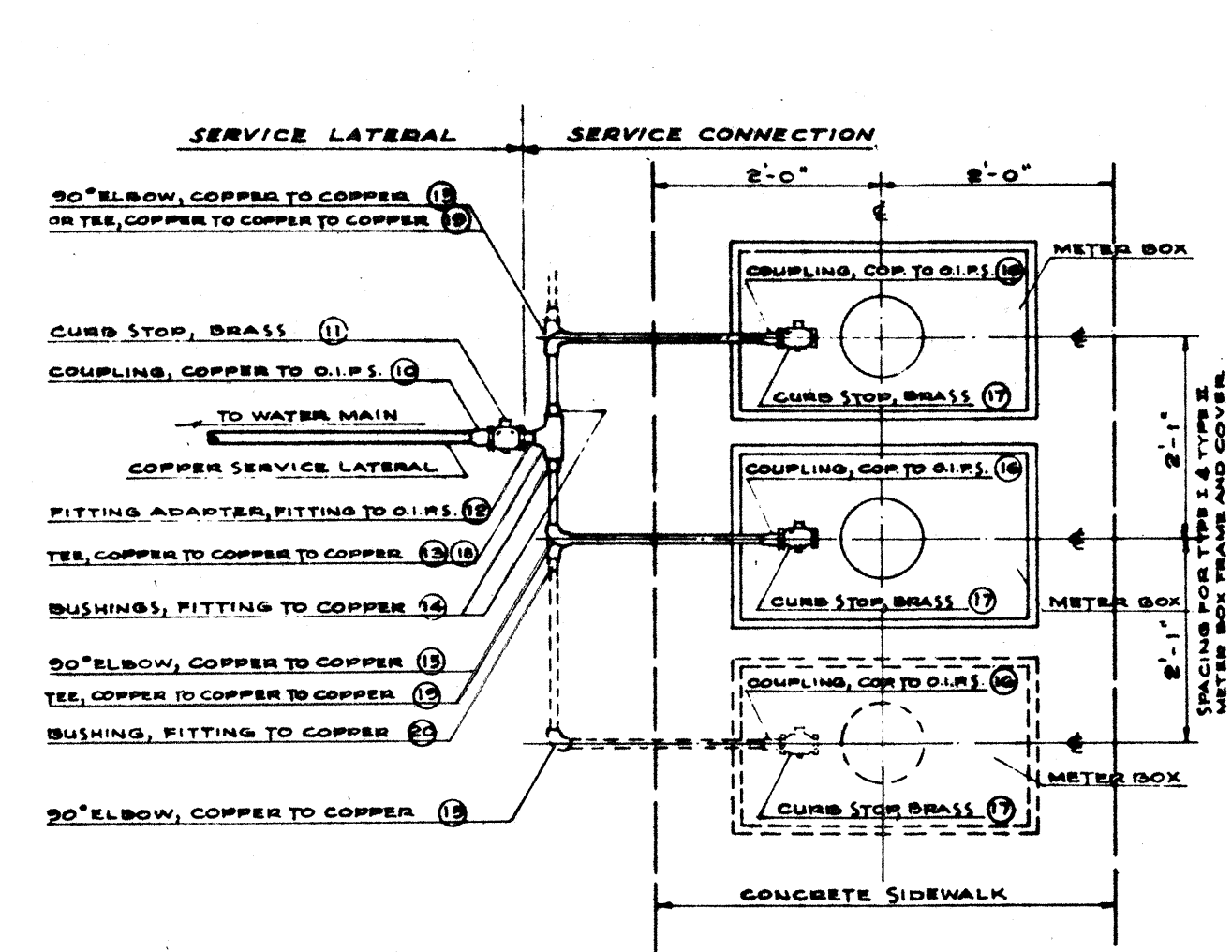
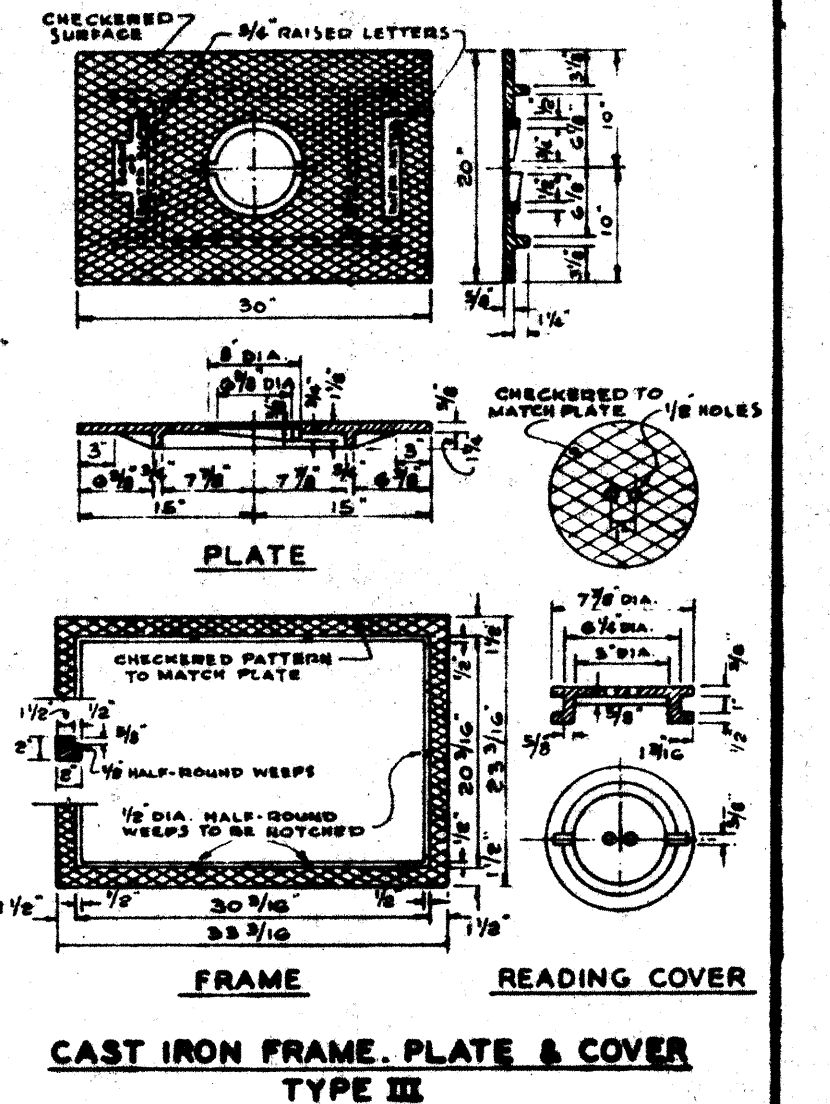
NOTE: REFERENCE NUMBERS SHOWN ARE FROM MUELLER CATALOG "H" FOR PURPOSES OF IDENTIFYING FITTINGS. APPROVED EQUAL MAY BE USED.



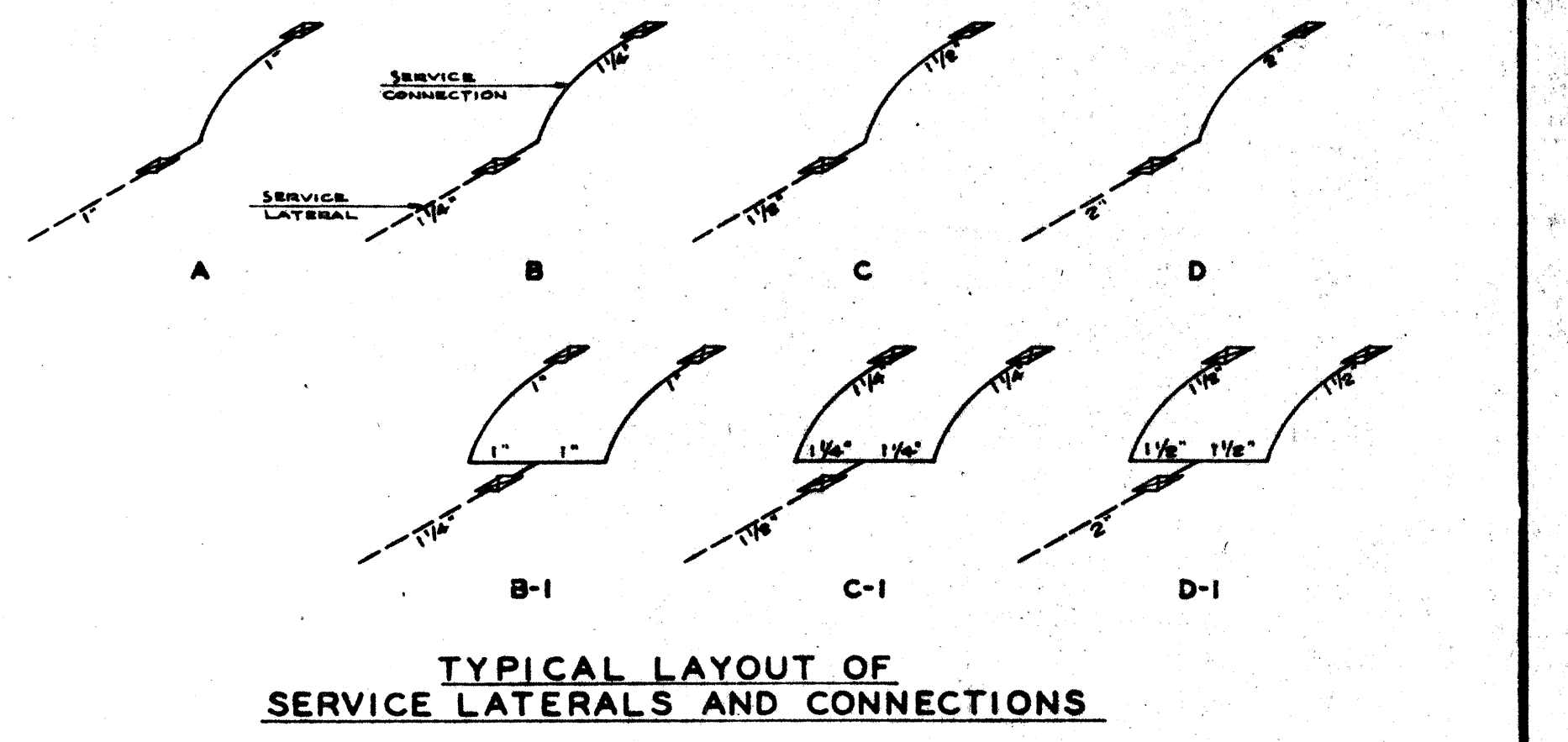
CAST IRON FRAME AND PLATE TYPE I



CAST IRON FRAME AND PLATE TYPE II



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



|                                         |  |                   |  |
|-----------------------------------------|--|-------------------|--|
| <b>STANDARD DETAILS</b>                 |  | DRAWN BY I.O.     |  |
| COPPER SERVICE LATERALS AND CONNECTIONS |  | TRACED BY I.O.    |  |
| C.I. METER BOX FRAME AND COVER          |  | CHECKED BY T.I.   |  |
| APPROVED [Signature]                    |  | ENGINEER T.I.     |  |
| SCALE: [Signature]                      |  | DRAWING NO.       |  |
| DATE: Jan. 27, 1953                     |  | FILE 2            |  |
| SHEET 2 OF 2 SHEETS                     |  | POCKET FOLDER NO. |  |
| BOARD OF WATER SUPPLY                   |  |                   |  |
| TERRITORIAL HIGHWAY DEPARTMENT          |  |                   |  |
| TERRITORY OF HAWAII                     |  |                   |  |
| NUUANU AVENUE                           |  |                   |  |
| PROJ. No. US-OGIO(2)                    |  |                   |  |
| Scale: As Noted                         |  |                   |  |
| April 1956                              |  |                   |  |