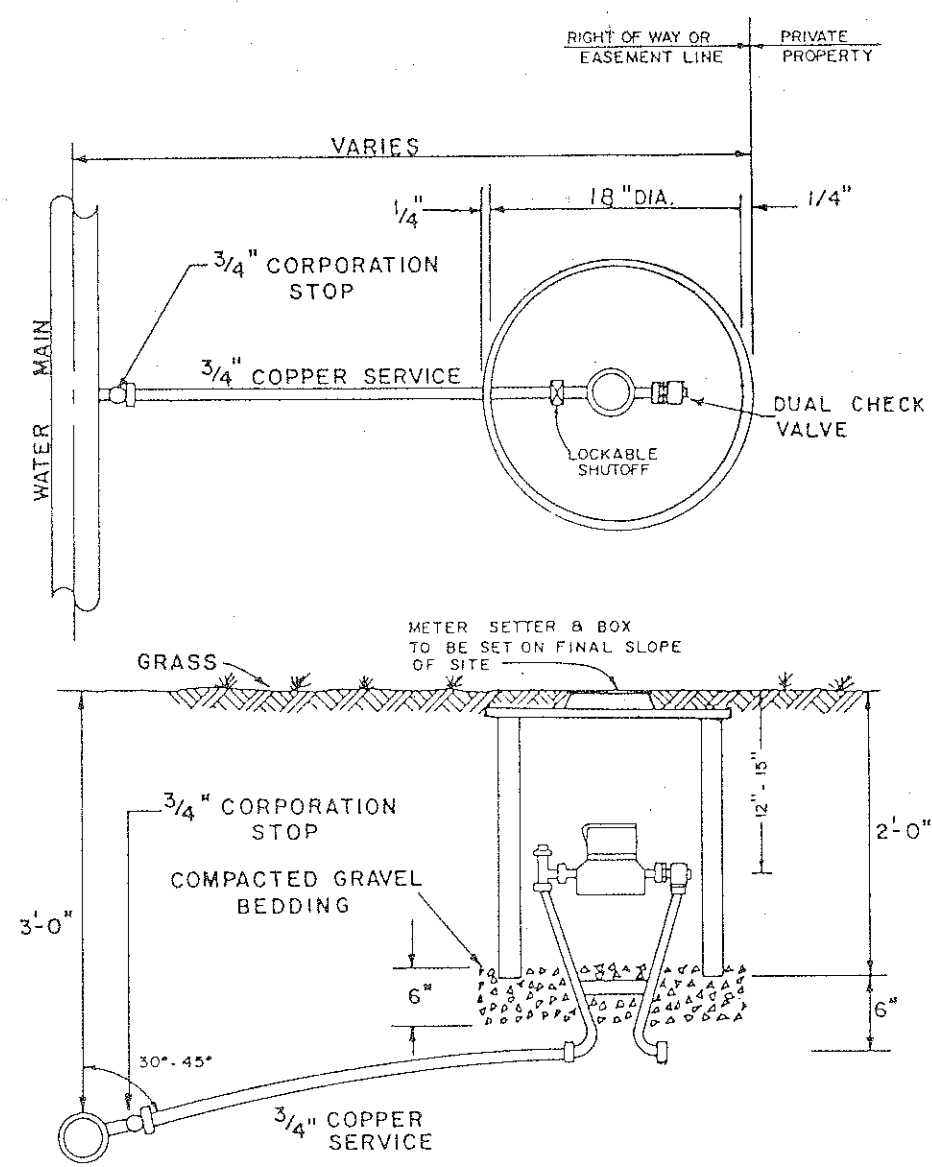
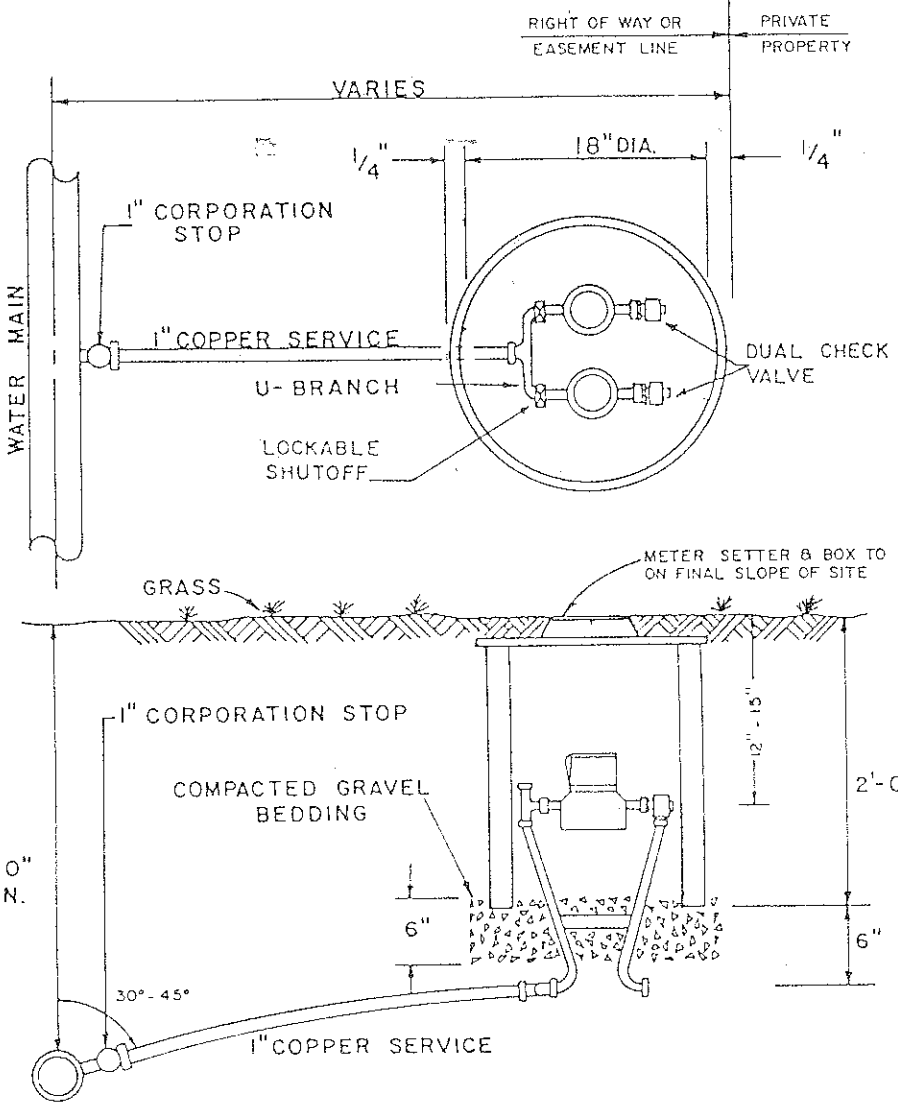
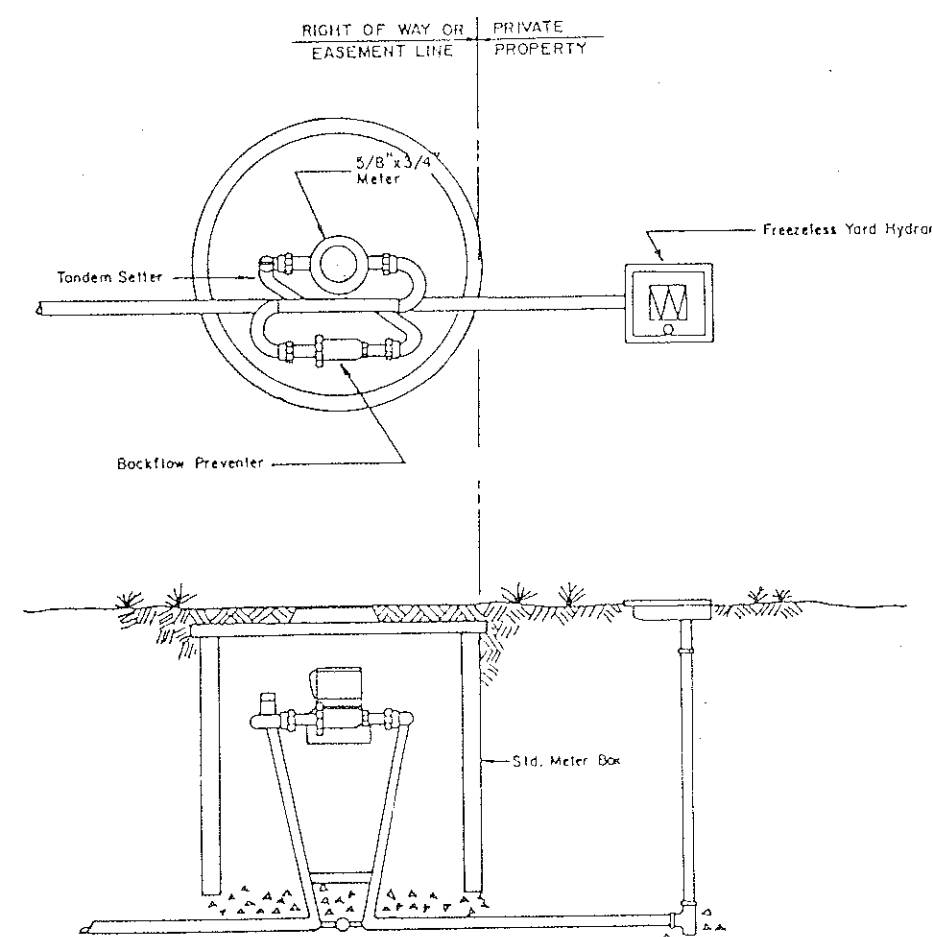




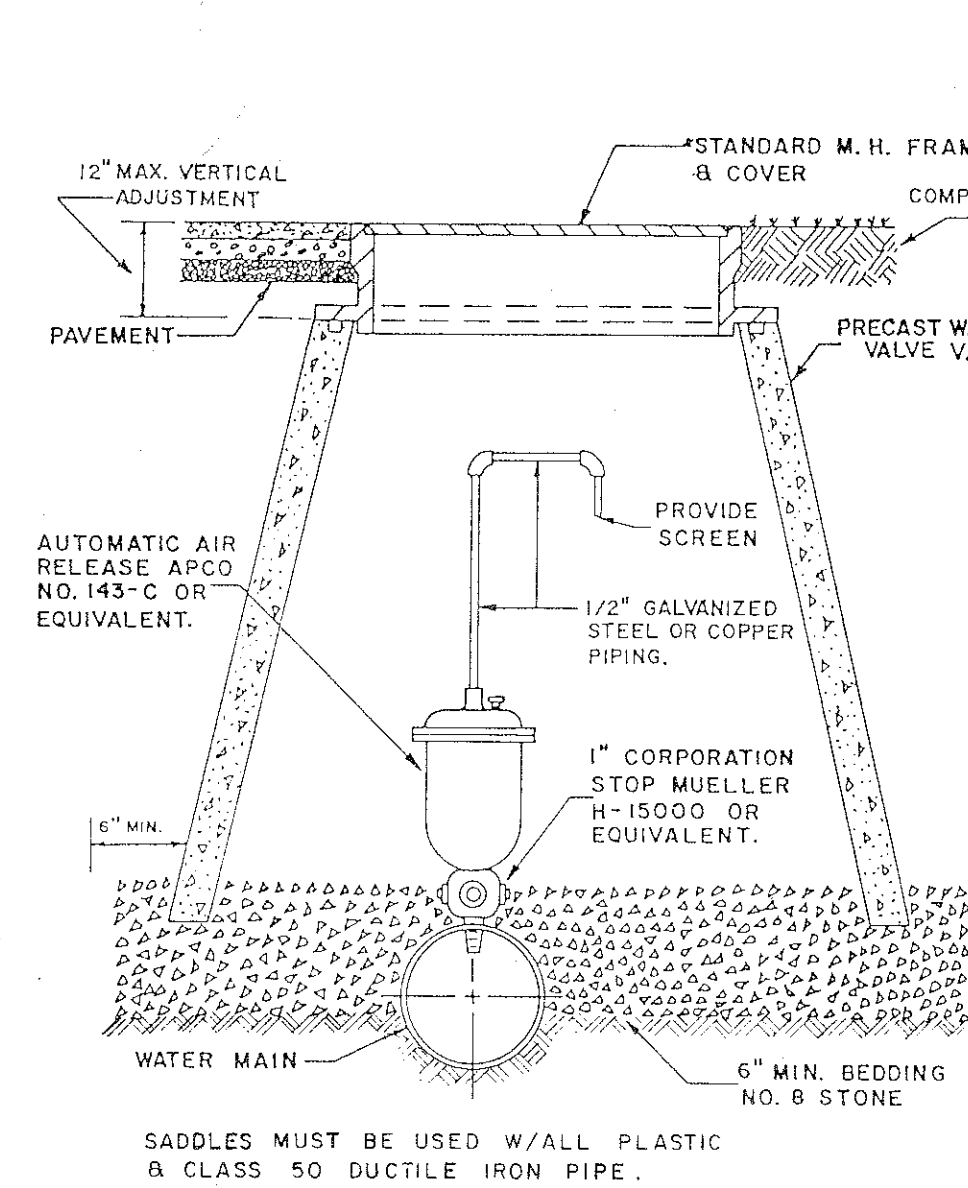
SINGLE RESIDENTIAL WATER SERVICE



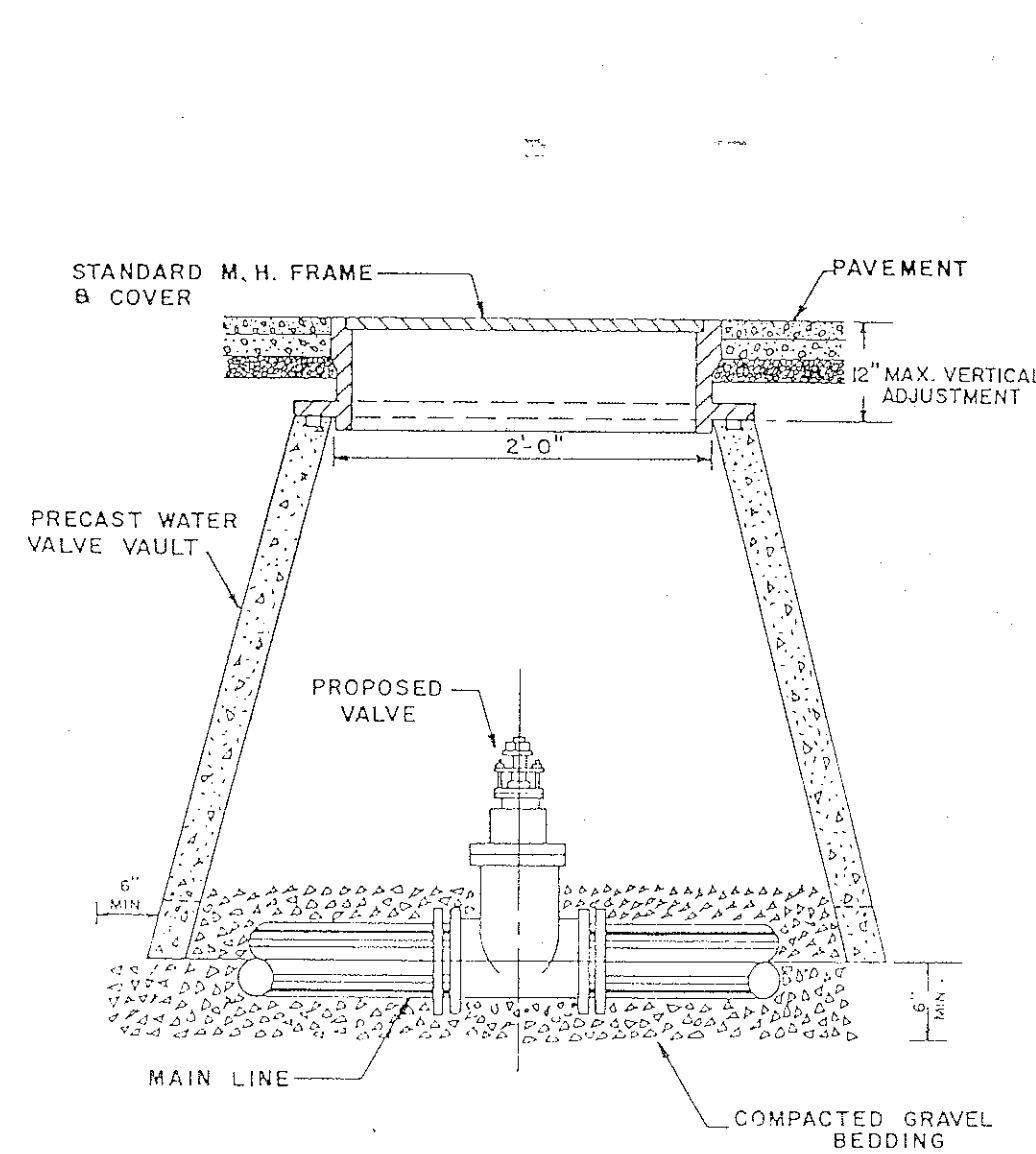
DOUBLE RESIDENTIAL WATER SERVICE



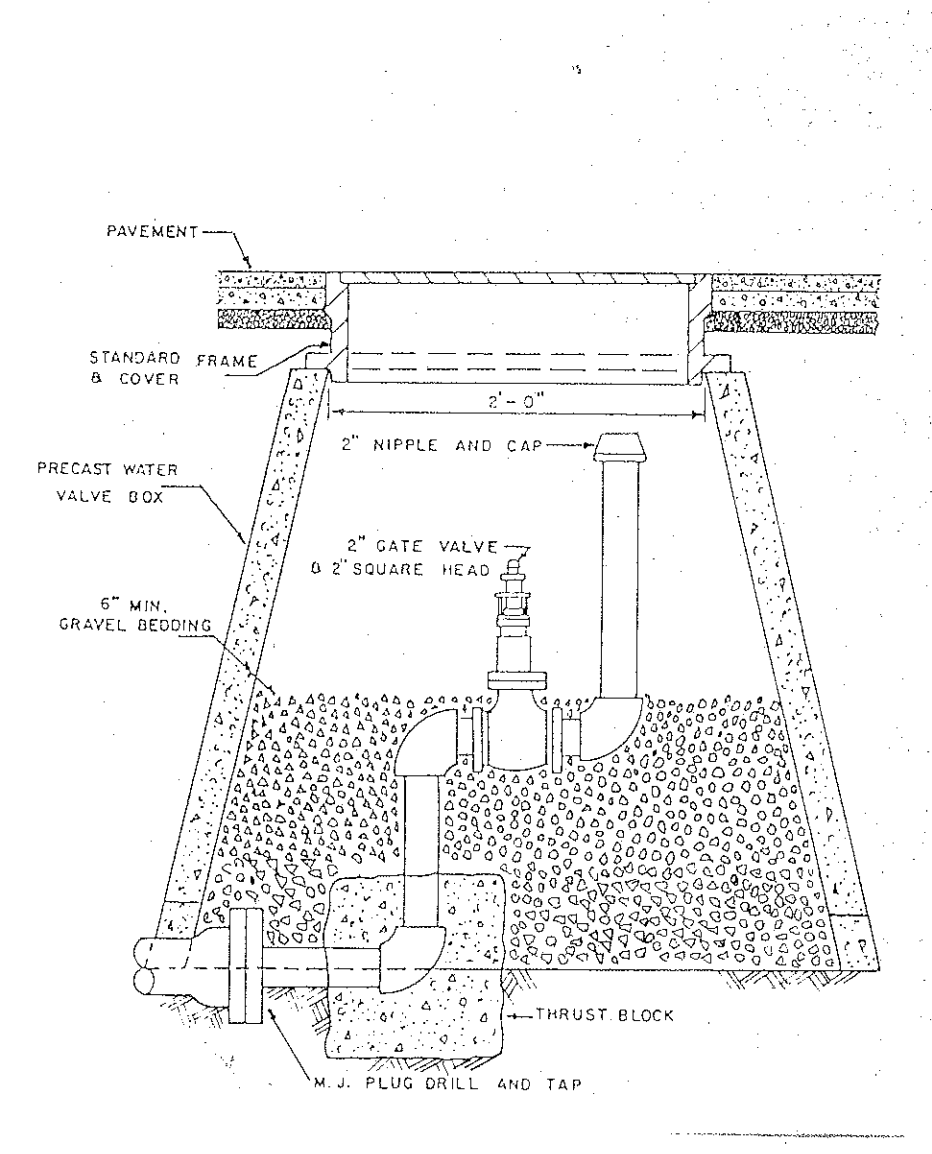
TYPICAL SPRINKLER SERVICE



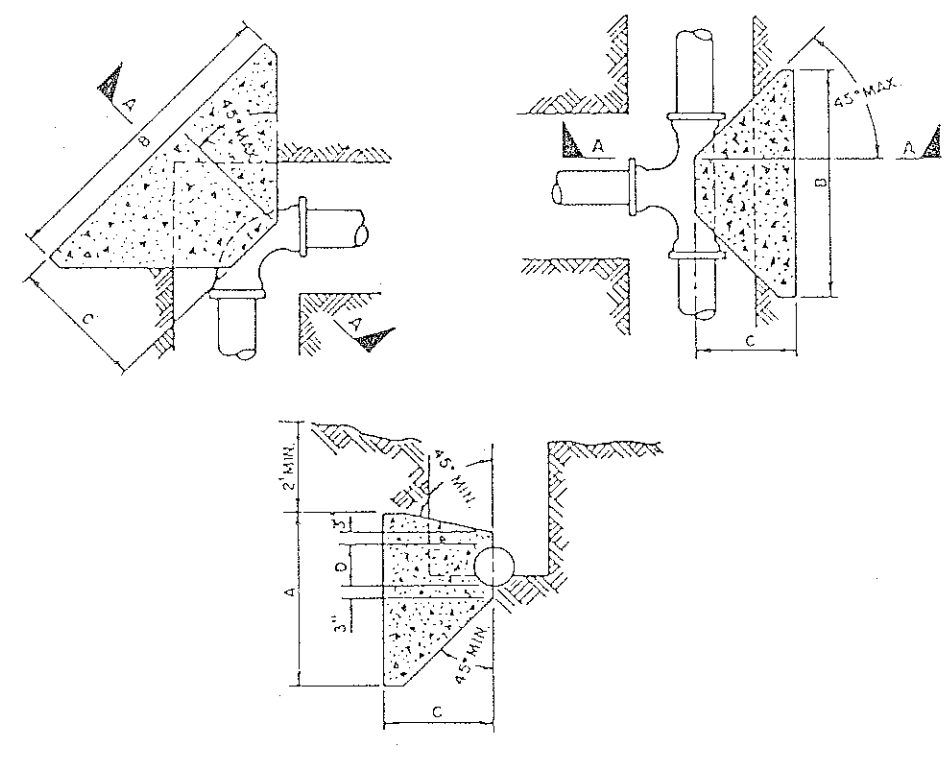
AUTOMATIC AIR RELEASE ASSEMBLY



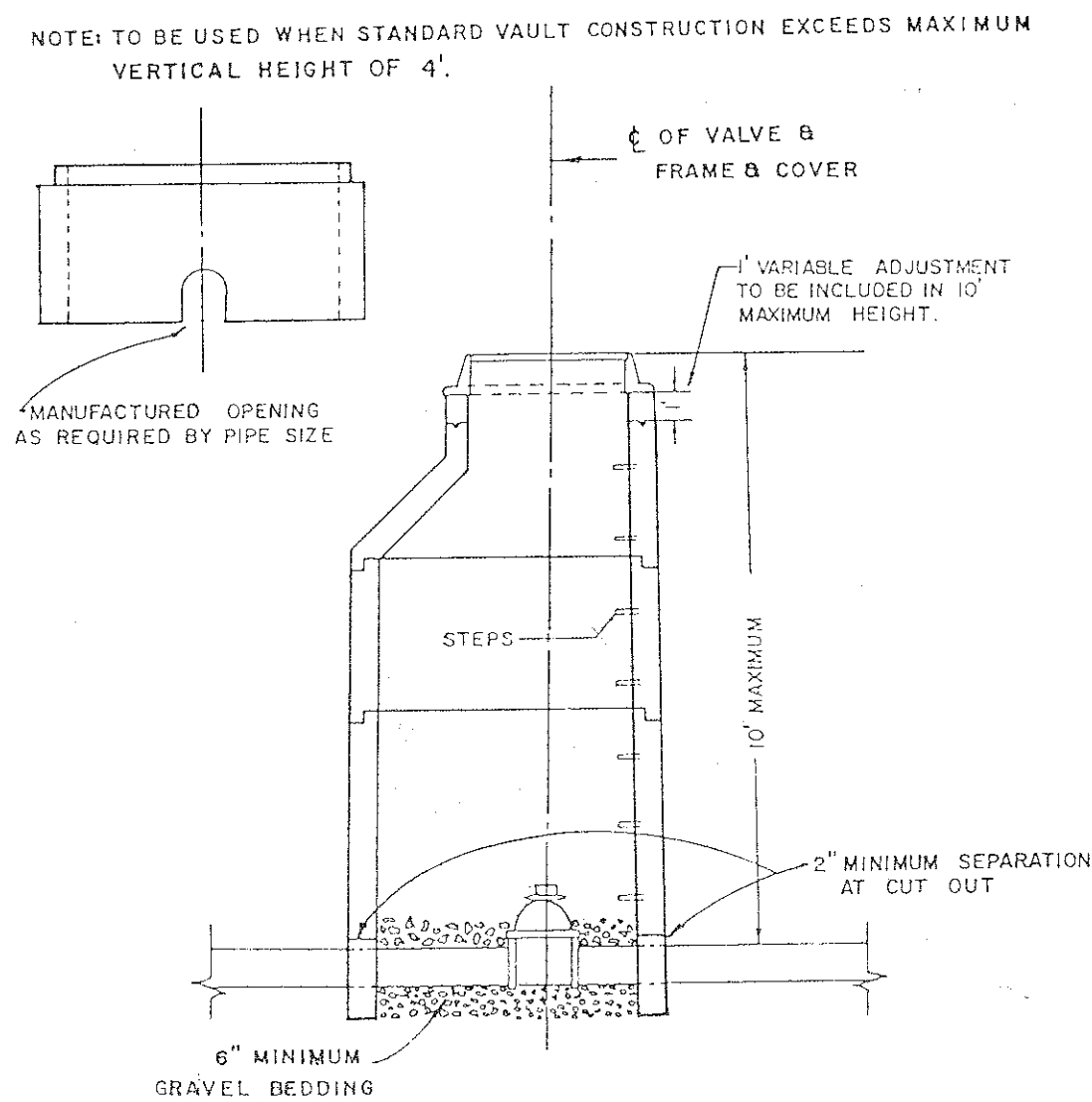
WATER LINE VALVE INSTALLATION



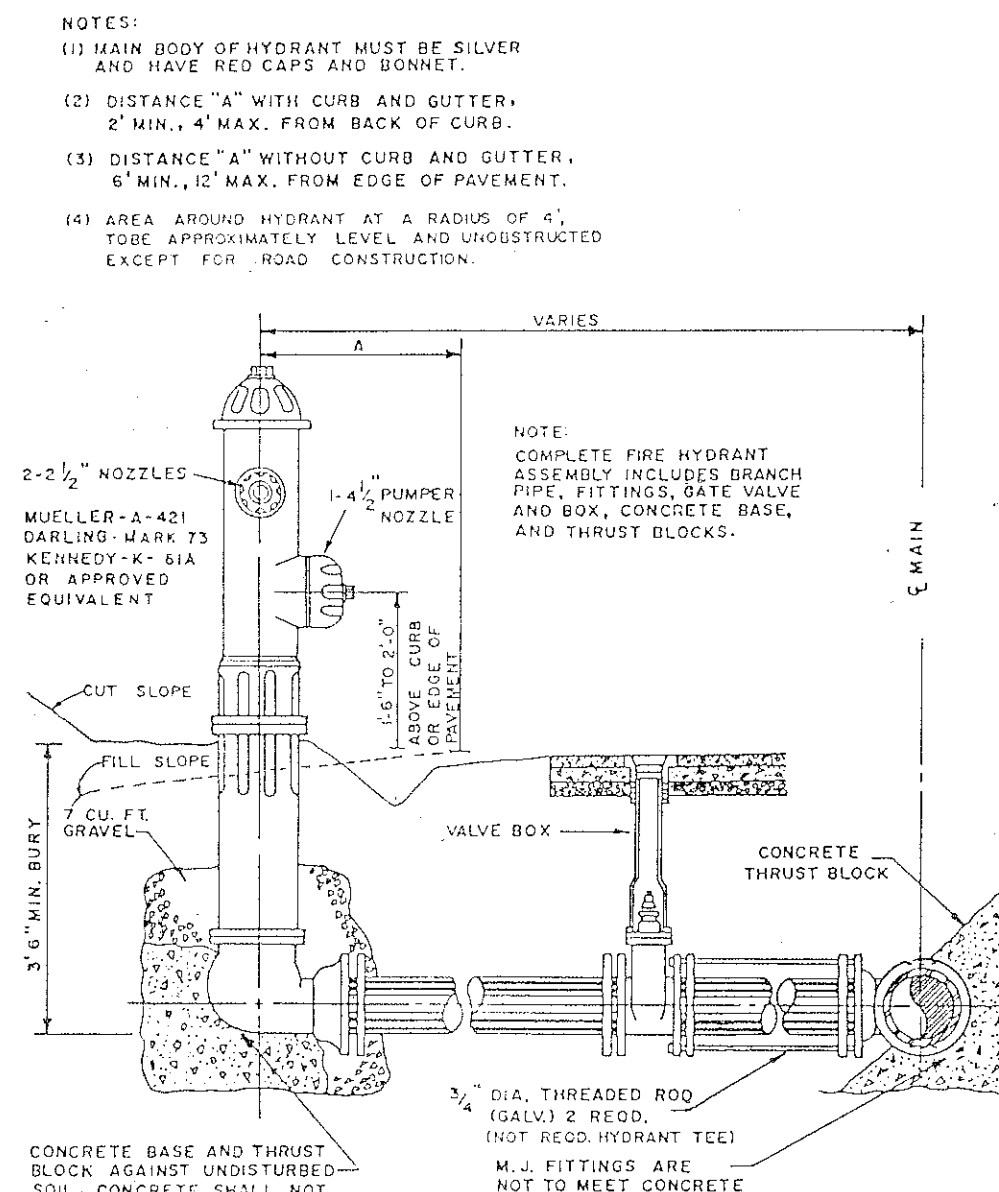
PERMANENT END OF LINE



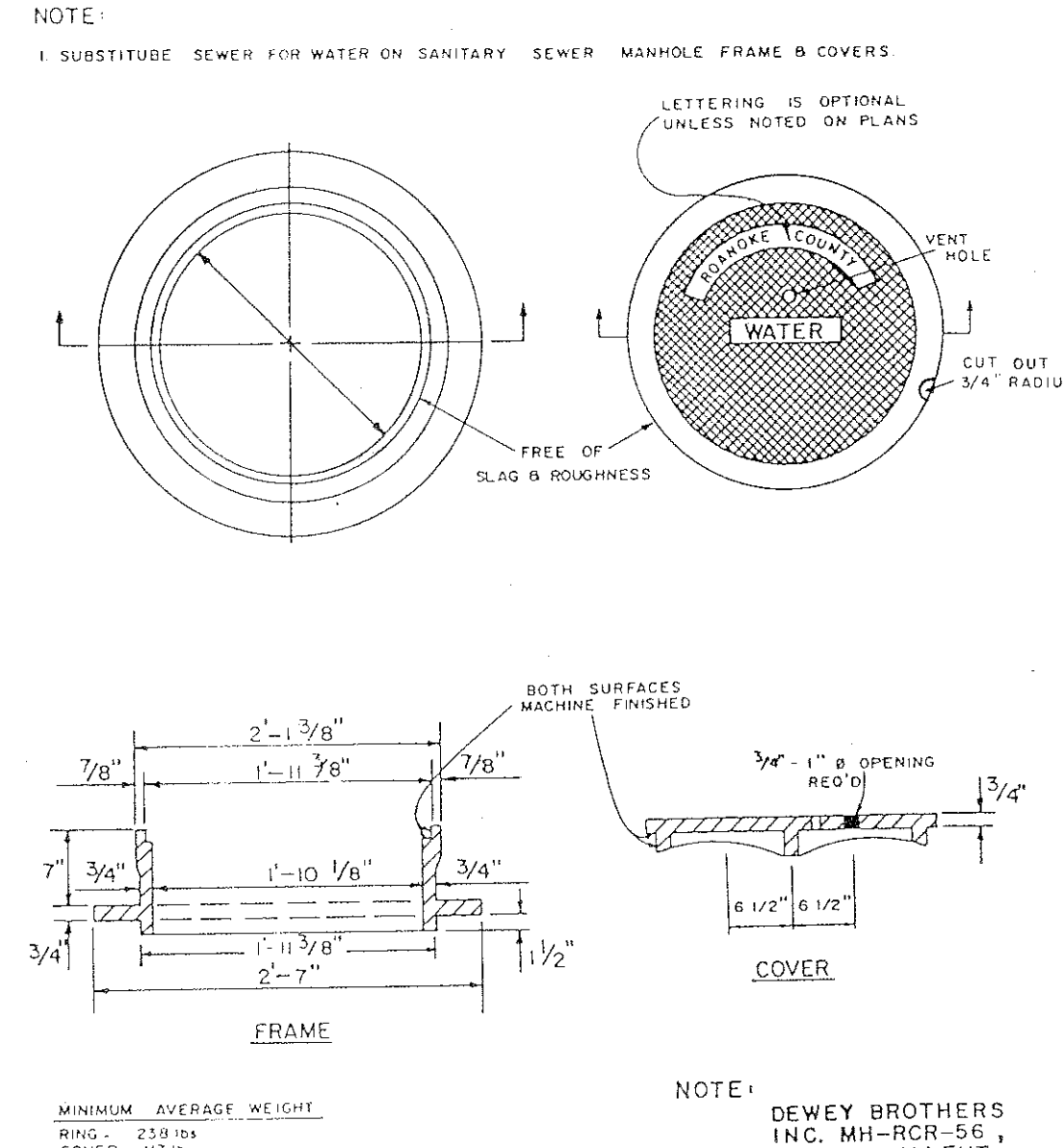
THRUST BLOCK FOR HORIZONTAL & LOWER VERTICAL BENDS



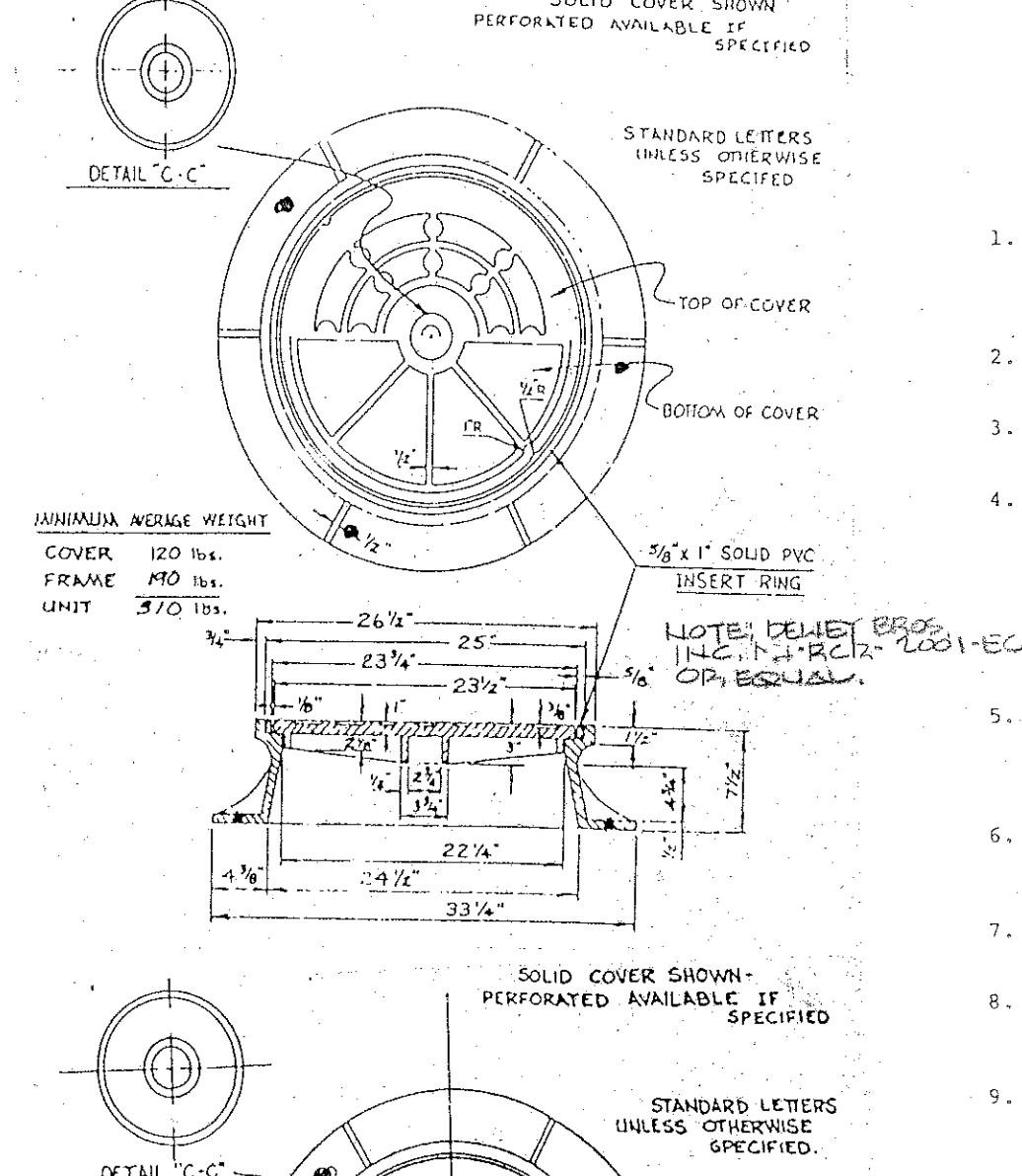
ALTERNATE VALVE VAULT (MANHOLE)



FIRE HYDRANT SETTING



MANHOLE FRAME AND COVER



MANHOLE FRAME AND COVER

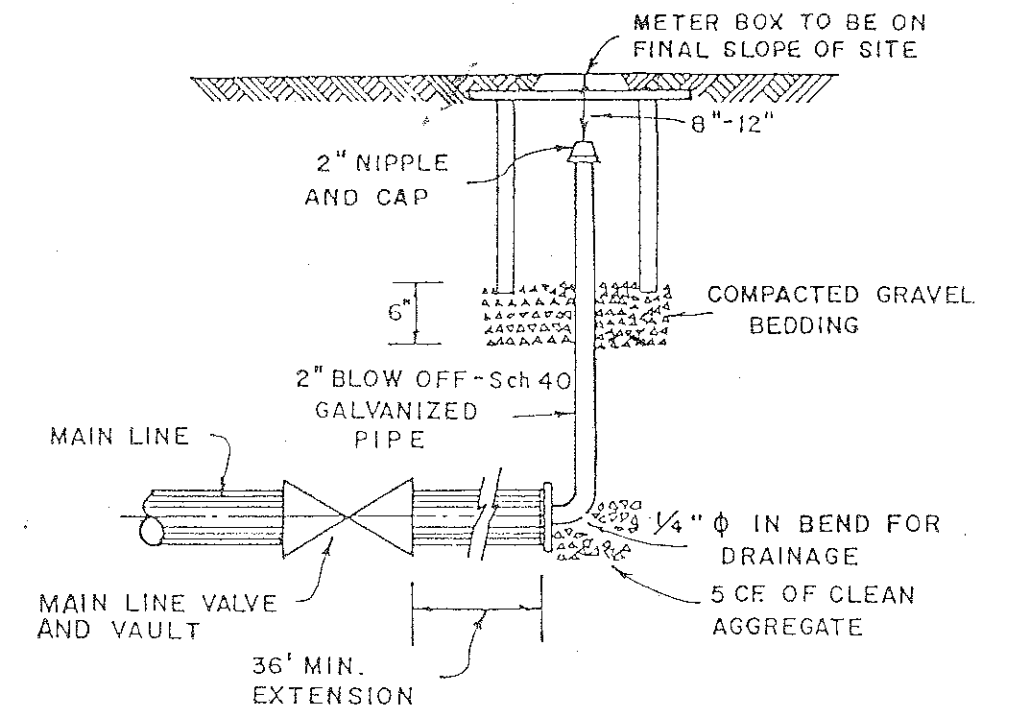
- VAULT & WATER STANDARDS FOR CONSTRUCTION
1. Vaults, manhole bases, risers, tapers and grade rings shall be precast reinforced concrete manufactured in accordance to Virginia Department of Transportation, Road and Bridge Specifications, Section 503.
 2. Manhole base and riser sections construction shall be vertical with maximum 1" in 4' tilt.
 3. A maximum of 2 construction grade rings or maximum of 1' of grade rings and frame and cover adjustment are allowable.
 4. Final adjustment of frame and cover shall be in accordance to Frame and Cover Adjustment Detail using non shrink concrete with maximum of 4 bricks or concrete blocks for grade control. Frame and cover are to be set at finish grade or 1/4" above finish grade in pavement and yard areas and minimum 6" above finish grade in other areas. Manhole frames and covers are not to be set in drainage swale, valley gutter, etc.
 5. Joints and openings in manhole units shall be made watertight by using butyl sealants, "O" ring gaskets or mastic. The concrete surface shall be cleaned prior to use of sealant.
 6. Frame and Covers
 - a) Dewey Brothers Inc. MH - RCR - 56.
 - b) Approved equal.
 7. All lift holes, openings around pipe, etc. shall be filled from inside and outside to thickness of structure.
 8. All units used in manhole and vault construction shall be securely connected by interlocking between units, concrete collars or other approved methods.
 9. Area around meter box at a radius of 4' to be on finish grade and unobstructed except for road construction.

APPROVED MATERIALS

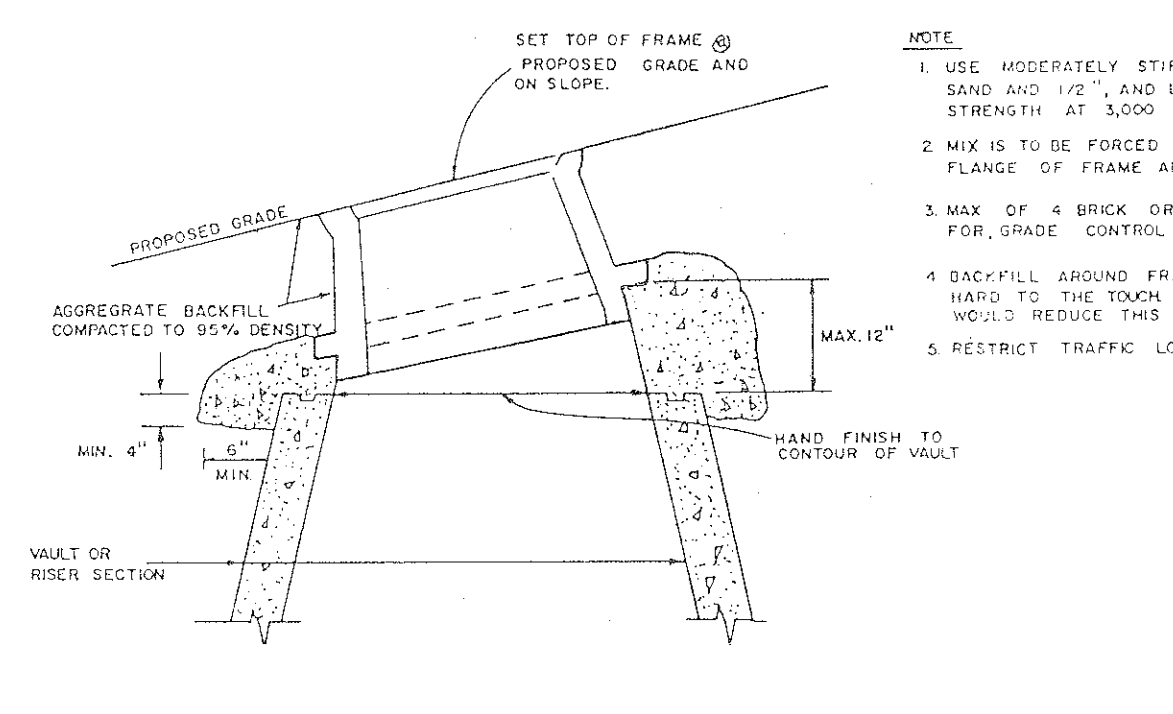
SECTION A-A

Pipe Size	2" to 4" Bend	45° Bend	90° Bend	27.5° Loss Bend
	A	B	C	A
4"	1.2	1.0	1.0	1.2
6"	1.7	1.5	1.5	1.7
8"	2.0	1.8	1.8	2.0
10"	2.3	2.1	2.1	2.3
12"	2.6	2.4	2.4	2.6
14"	2.9	2.7	2.7	2.9
16"	3.2	3.0	3.0	3.2
18"	3.5	3.3	3.3	3.5
20"	3.8	3.6	3.6	3.8
22"	4.1	3.9	3.9	4.1
24"	4.4	4.2	4.2	4.4
26"	4.7	4.5	4.5	4.7
28"	5.0	4.8	4.8	5.0
30"	5.3	5.1	5.1	5.3
32"	5.6	5.4	5.4	5.6
34"	5.9	5.7	5.7	5.9
36"	6.2	6.0	6.0	6.2
38"	6.5	6.3	6.3	6.5
40"	6.8	6.6	6.6	6.8
42"	7.1	6.9	6.9	7.1
44"	7.4	7.2	7.2	7.4
46"	7.7	7.5	7.5	7.7
48"	8.0	7.8	7.8	8.0
50"	8.3	8.1	8.1	8.3
52"	8.6	8.4	8.4	8.6
54"	8.9	8.7	8.7	8.9
56"	9.2	9.0	9.0	9.2
58"	9.5	9.3	9.3	9.5
60"	9.8	9.6	9.6	9.8
62"	10.1	9.9	9.9	10.1
64"	10.4	10.2	10.2	10.4
66"	10.7	10.5	10.5	10.7
68"	11.0	10.8	10.8	11.0
70"	11.3	11.1	11.1	11.3
72"	11.6	11.4	11.4	11.6
74"	11.9	11.7	11.7	11.9
76"	12.2	12.0	12.0	12.2
78"	12.5	12.3	12.3	12.5
80"	12.8	12.6	12.6	12.8
82"	13.1	12.9	12.9	13.1
84"	13.4	13.2	13.2	13.4
86"	13.7	13.5	13.5	13.7
88"	14.0	13.8	13.8	14.0
90"	14.3	14.1	14.1	14.3
92"	14.6	14.4	14.4	14.6
94"	14.9	14.7	14.7	14.9
96"	15.2	15.0	15.0	15.2
98"	15.5	15.3	15.3	15.5
100"	15.8	15.6	15.6	15.8

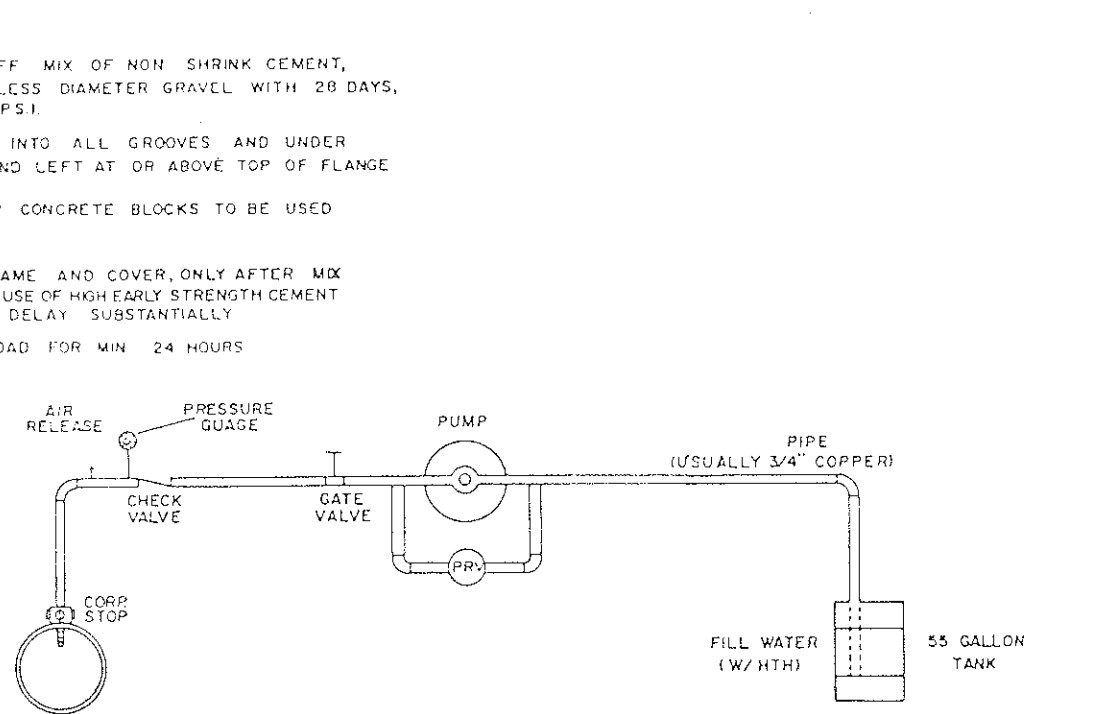
- NOTES:
1. The above noted dimensions are minimum based on concrete anchor extending in undisturbed soil, water pressure not to exceed 150 psi and, minimum soil bearing capacity of 2,500 pcf (unsaturated) soil bearing or excess pressure will require additional design.
 2. Concrete shall not be placed on bricks or bolts.
 3. Concrete to be minimum 3,000 psi - 28 day compressive strength.



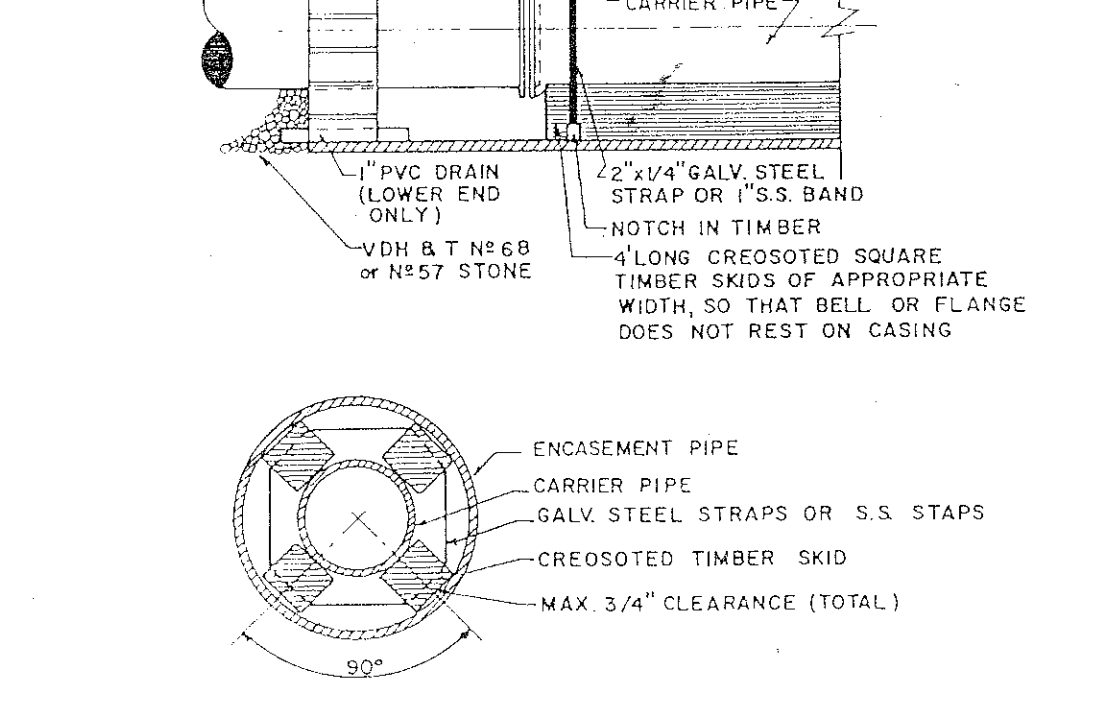
BLOW OFF ASSEMBLY FOR MAIN LINE TEMPORARY TERMINATION



MANHOLE FRAME & COVER ADJUSTMENT



TYPICAL WATER PRESSURE TEST RIG



PIPE SUPPORT IN CASING PIPE