

CROSS WITH PLUG    TEE WITH PLUG



TEE    BEND    TAPPED TEE WITH PLUG

**DETAILS OF THRUST BLOCKS FOR FITTINGS**

- NOTES**
- THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED MATERIAL WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. IN THE CASE OF FIRE HYDRANTS, WOOD SHEETING AND COMPACTED ROCK BACKFILL MAY BE OMITTED WHERE SOLID BEARING CAN BE OBTAINED.
  - ON TEES AND BENDS, EXTEND THRUST BLOCK FULL LENGTH PUT BOARD IN FRONT OF PLUG BEFORE POURING CONCRETE THRUST BLOCK.
  - BACKFILL SHALL CONSIST ENTIRELY OF CLEAN SAND AND/OR ROCK SCREENINGS. 25% MUCK ENCUMBERED SHALL BE REPLACED WITH ACCEPTABLE BACKFILL.
  - MINIMUM COVER OVER SERVICES:
    - 4.30' WHEN CROSSING STREETS
    - 3.30' TO GAME SIDE OF STREET
    - 4.25' IN EASEMENT
    - 6.12' UNDER DITCHES AND IN MEDIANS
  - 2500 P.S.I. @ 28 DAYS CONCRETE SHALL BE USED THROUGHOUT.

THRUST BLOCK AREAS IN SQUARE FEET						
PIPE SIZE	TEE	90°	45°	22 1/2°	11 1/4°	
2"	1.0	.8	.4	.2	.1	
3"	1.9	1.5	.8	.4	.2	
4"	2.8	2.2	1.2	.6	.3	
6"	6.0	5.0	3.3	1.7	.9	
8"	9.8	11.0	5.8	3.0	1.5	
10"	16.0	17.0	9.1	4.6	2.3	
12"	23.0	24.0	13.9	6.8	3.3	
14"	31.0	33.0	18.0	9.1	4.6	
16"	40.0	42.5	23.0	11.2	6.0	

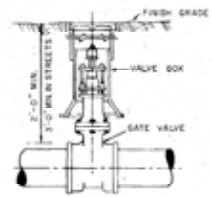
80 PSI TEST PRESSURE MAXIMUM  
 THIS CHART IS BASED ON A SAFE SOIL BEARING CAPACITY OF 1000 LBS PER SQUARE FEET  
 AREAS OF THRUST BLOCKS WILL BE ADJUSTED AS DIRECTED BY ENGINEER, ACCORDING TO ACTUAL FIELD CONDITIONS.

MAXIMUM SIZE OUTLET FOR USE WITH SERVICE SADDLE OR CLAMP	
PIPE SIZE	OUTLET SIZE
3"	3/4"
4"	1"
6"	1-1/2"
8"	2"
10"	2-1/2"

NOTE: ITEMS MAY BE SUBSTITUTED ON APPROVAL OF ENGINEER.

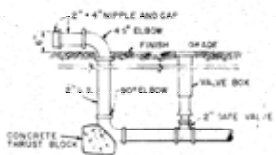


**TYPICAL HYDRANT DETAIL**

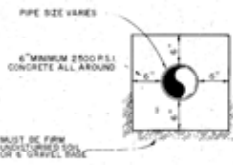


**TYPICAL GATE VALVE & VALVE BOX DETAIL**

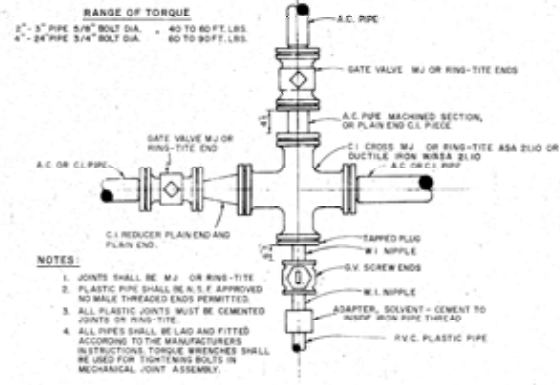
NOTE: ALL GATE VALVES SHALL BE INSTALLED WITH VALVE BOX.



**TYPICAL BLOW-OFF DETAIL**



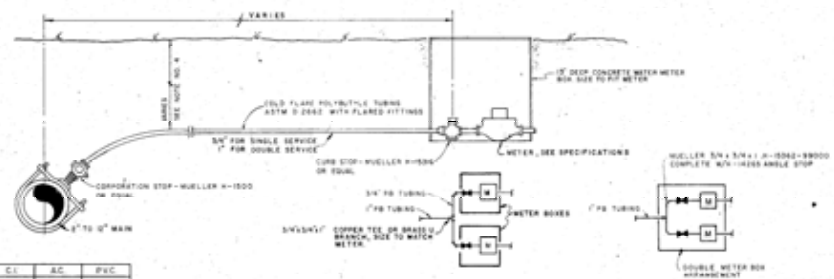
**CONCRETE ENCASMENT**



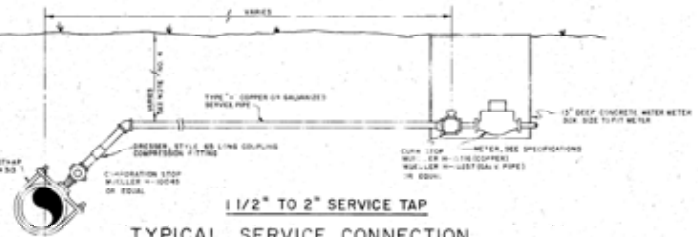
**RANGE OF TORQUE**  
 2" - 3" PIPE 3/8" BOLT DIA. 40 TO 80 FT. LBS.  
 4" - 24" PIPE 3/4" BOLT DIA. 80 TO 200 FT. LBS.

- NOTES**
- JOINTS SHALL BE M.J. OR RING-TITE
  - PLASTIC PIPE SHALL BE A.S.F. APPROVED NO MALE THREADED ENDS PERMITTED
  - ALL PLASTIC JOINTS MUST BE CEMENTED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS. TORQUE WRENCHES SHALL BE USED FOR TIGHTENING BOLTS IN MECHANICAL JOINT ASSEMBLY.

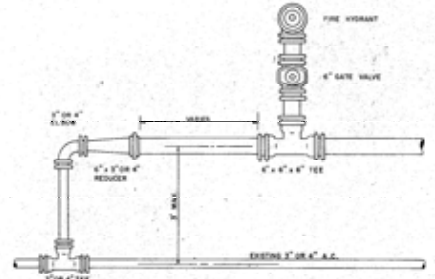
**SCHEMATIC PIPE FITTING DETAIL**



**3/4" TO 1" SERVICE TAP**



**1 1/2" TO 2" SERVICE TAP**  
**TYPICAL SERVICE CONNECTION**



**TYPICAL CONNECTION FROM 6" WATER LINE TO EXISTING 3" OR 4" LINE**

REVISIONS		SCALE	DATE	FOR: TOWN OF LOONSBAT KEY, FLORIDA
L/A	DESCRIPTION, DATE AND BY	NO SCALE	12-10-70	
1	ISSUED FOR BIDDING	AS SHOWN	12-10-70	
2	REVISED TO SHOW CHANGES			
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**WATER CONSTRUCTION DETAILS**  
 SMALLY-WELLFORD & NALVEN CONSULTING ENGINEERS - SARASOTA, FLORIDA  
 PROJECT NO. 1217  
 DRAWING NO. E-1217 - C

INDEX NO. E-1217-7