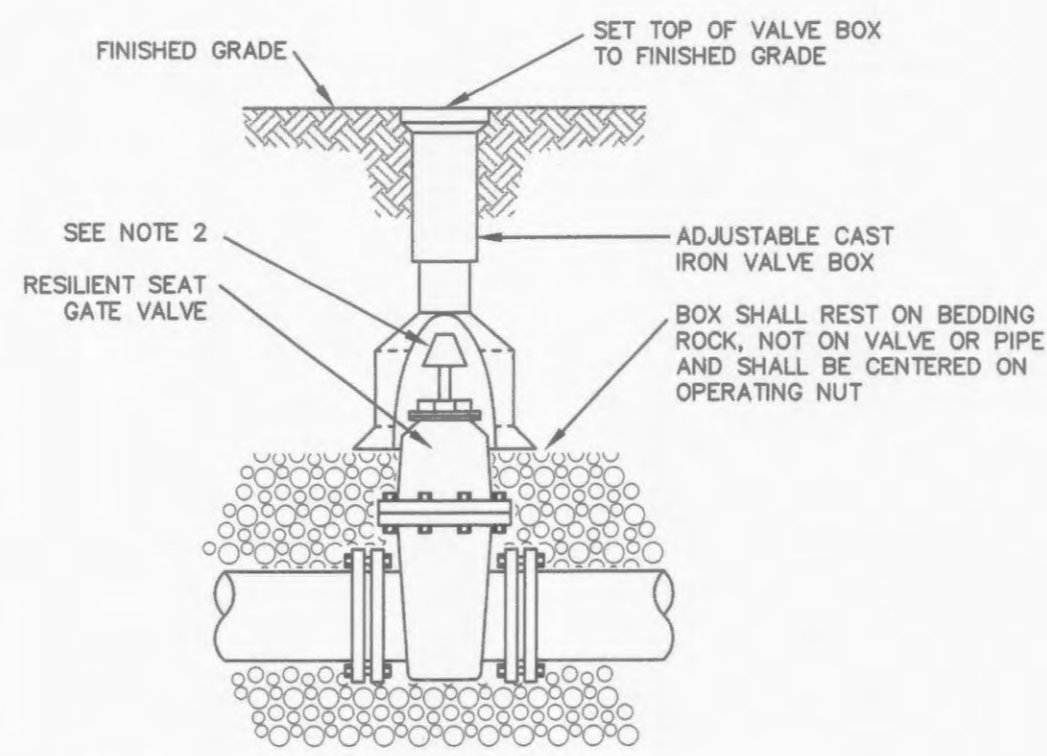


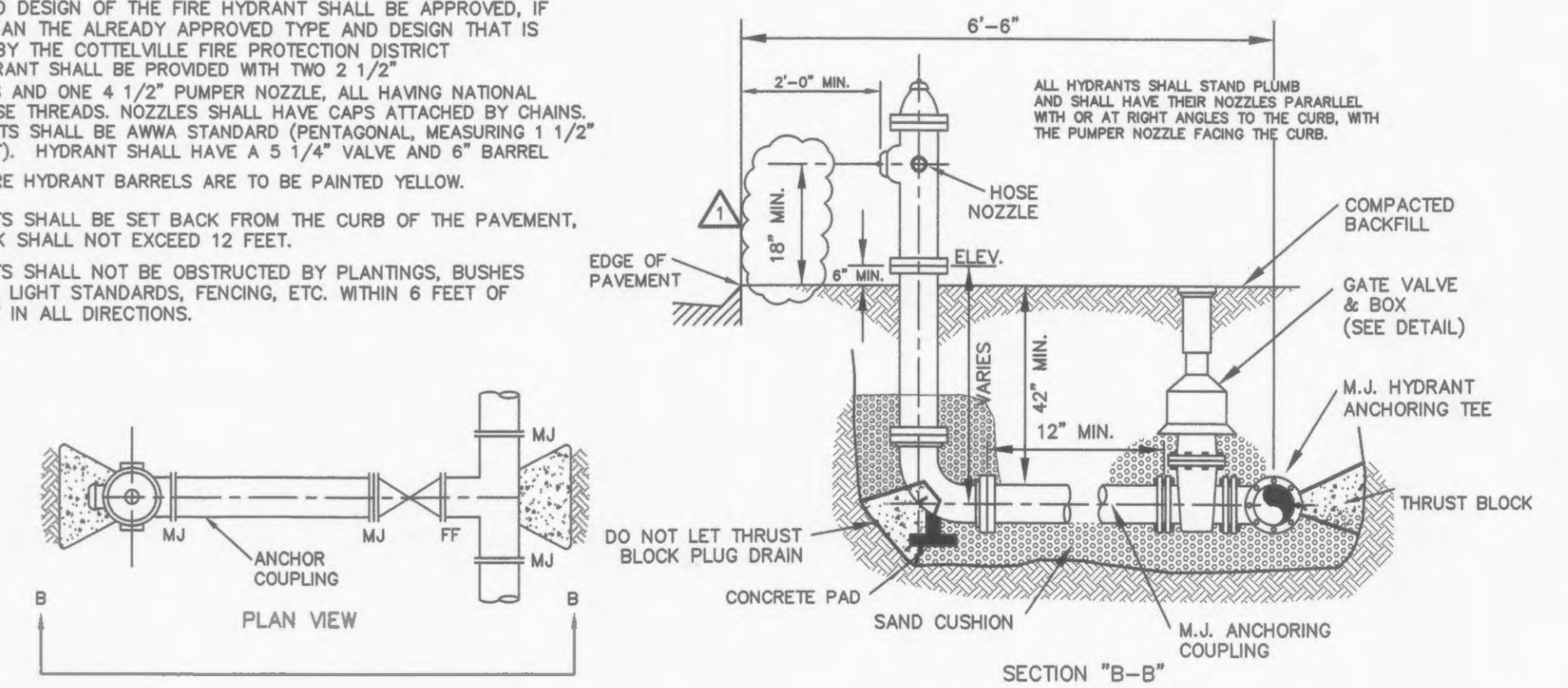
PIPE BEDDING AND TRENCH DETAIL



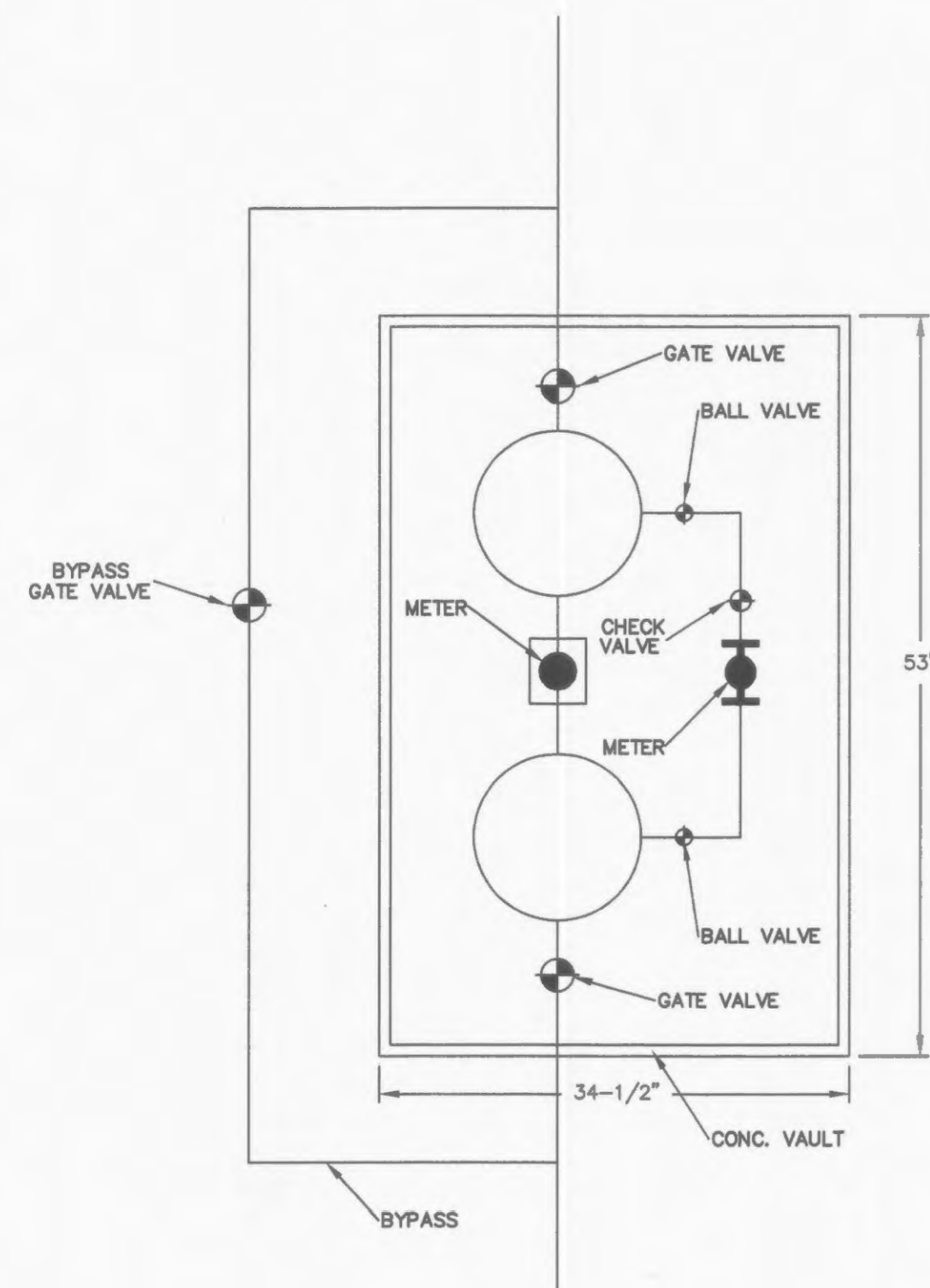
- NOTES:
1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
 2. THE ACUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.

GATE VALVE AND BOX

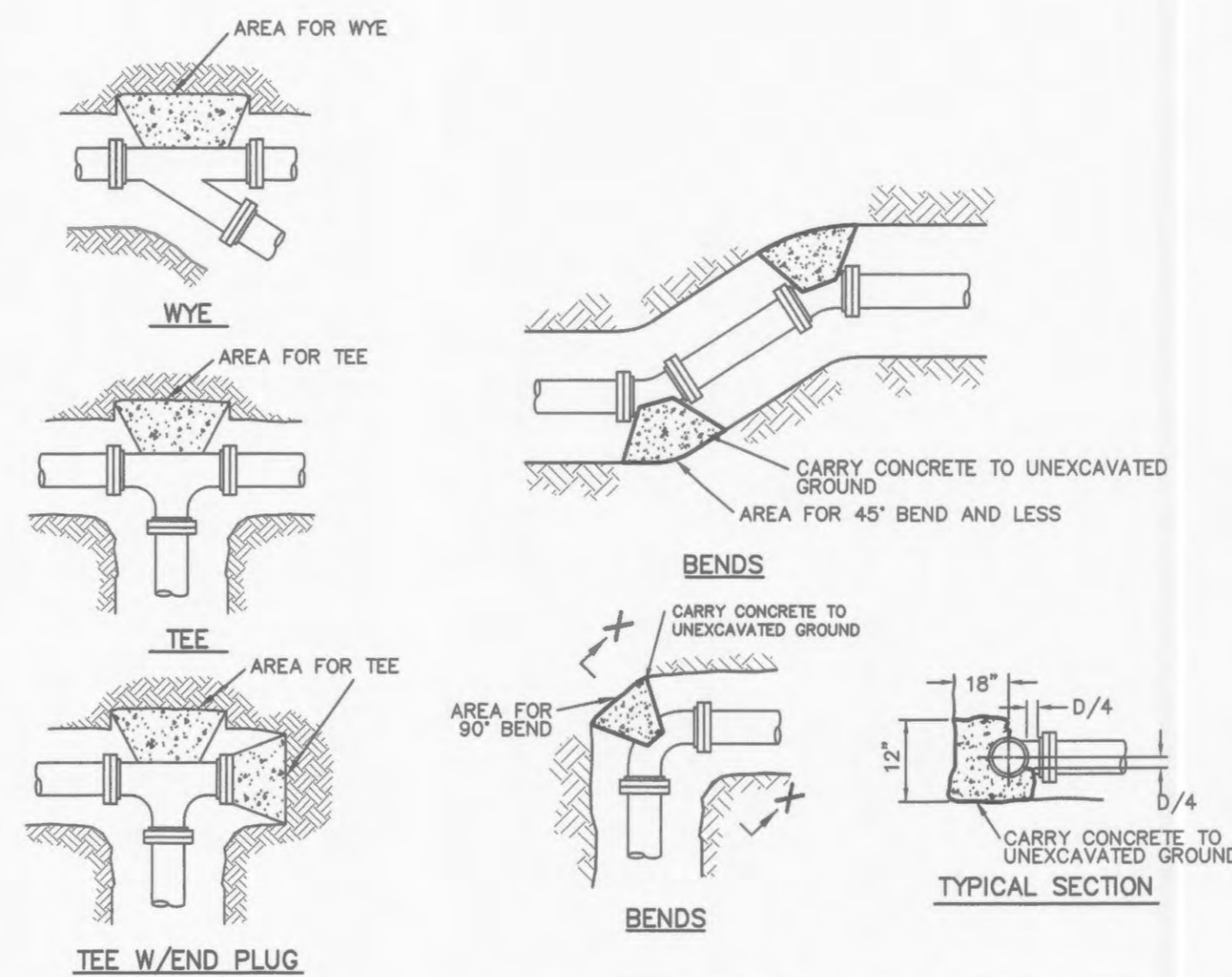
- FIRE HYDRANTS SHALL MEET THE FOLLOWING REQUIREMENTS:
1. CENTERLINE OF THE 4 1/2 INCH HYDRANT OUTLET SHALL BE A MINIMUM OF 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE FINISH GRADE.
 2. THE TYPE AND DESIGN OF THE FIRE HYDRANT SHALL BE APPROVED, IF DIFFERENT THAN THE ALREADY APPROVED TYPE AND DESIGN THAT IS BEING USED BY THE COTTLEVILLE FIRE PROTECTION DISTRICT THE FIRE HYDRANT SHALL BE PROVIDED WITH TWO 2 1/2" HOSE NOZZLES AND ONE 4 1/2" PUMPER NOZZLE, ALL HAVING NATIONAL STANDARD HOSE THREADS. NOZZLES SHALL HAVE CAPS ATTACHED BY CHAINS. OPERATING NUTS SHALL BE ANWA STANDARD (PENTAGONAL, MEASURING 1 1/2" POINT TO FLAT). HYDRANT SHALL HAVE A 5 1/4" VALVE AND 6" BARREL.
 3. ALL PUBLIC FIRE HYDRANT BARRELS ARE TO BE PAINTED YELLOW.
 4. FIRE HYDRANTS SHALL BE SET BACK FROM THE CURB OF THE PAVEMENT, THE SET BACK SHALL NOT EXCEED 12 FEET.
 5. FIRE HYDRANTS SHALL NOT BE OBSTRUCTED BY PLANTINGS, BUSHES TREES, SIGNS, LIGHT STANDARDS, FENCING, ETC. WITHIN 6 FEET OF ANY HYDRANT IN ALL DIRECTIONS.



FIRE HYDRANT DETAILS



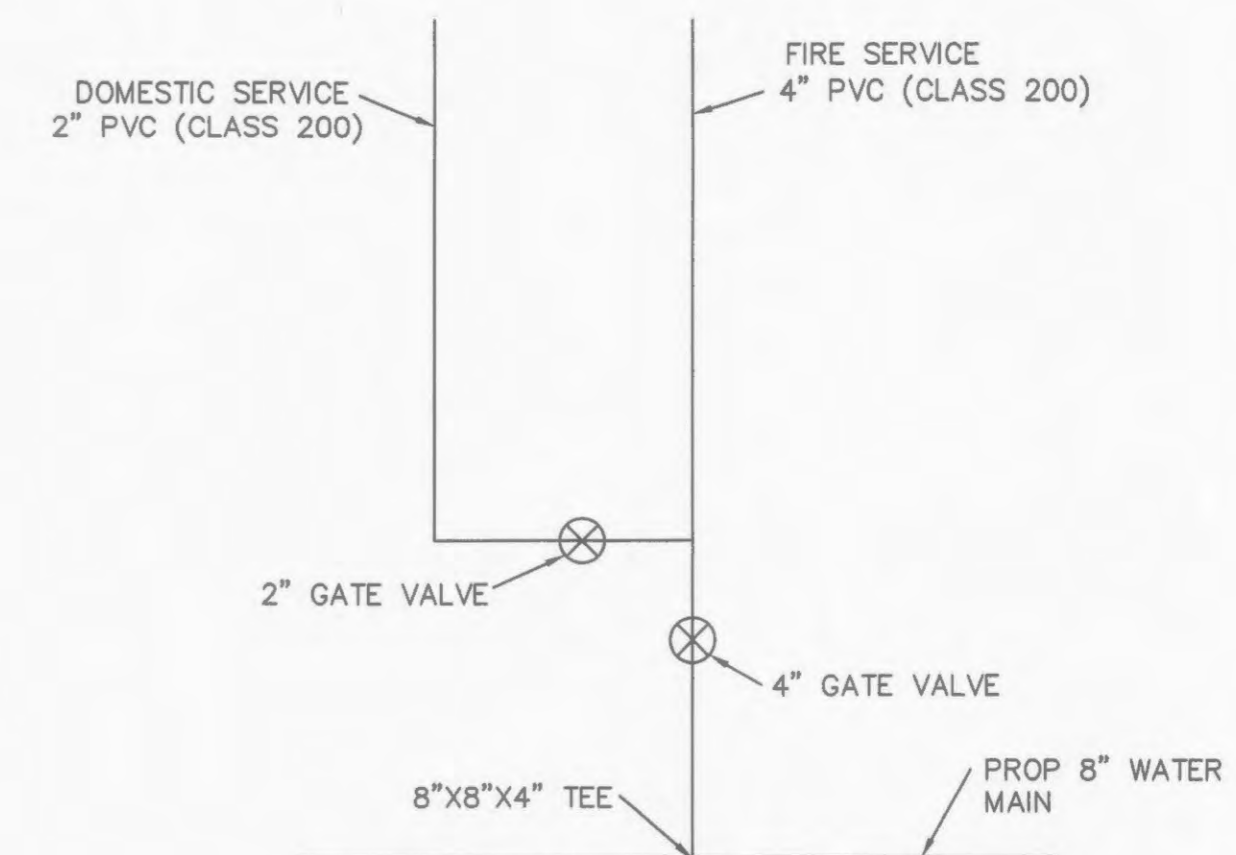
NEPTUNE HP PROTECTUS III WATER METER



- NOTES:
1. THRUST BLOCK BEARING AREAS SHALL BE POURED AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND TO UNDISTURBED MATERIAL.
 2. EXTEND THRUST BLOCK FULL LENGTH OF FITTINGS. JOINTS SHALL NOT BE COVERED BY THRUST BLOCKS. FITTINGS SHALL BE PROTECTED BY POLYETHYLENE FILM (8 MIL.) PRIOR TO PLACING CONCRETE THRUST BLOCK.
 3. ROUGH BLOCKING FORMS SHALL BE USED ALONG SIDES OF THRUST BLOCKS, AS REQUIRED.
 4. THRUST BLOCKS SHALL BE USED IN COMBINATION, AS REQUIRED TO SUITE THE SPECIFIC FITTING ARRANGEMENT.

THRUST BLOCK DETAIL
 EQUATION USED FOR THRUST BLOCK CALCULATIONS
 $T = 2(PA \sin \theta/2) \times \text{safety factor of 1.5}$
 ASSUMED PRESSURE OF 150 PSI AND
 AND SOIL BEARING CAPACITY OF 1500 PSF

SCHEDULE FOR THRUST BLOCK AREAS						
PIPE SIZE (INCHES)	90° BEND (SQ FT)	45° BEND (SQ FT)	22 1/2° BEND (SQ FT)	11 1/4° BEND (SQ FT)	TEE & WYE (SQ FT)	DESIGN PRESS. (PSI)
8	9.1	4.9	2.5	1.3	6.4	150
10	13.7	7.4	3.8	1.9	9.7	150
12	19.4	10.5	5.3	2.7	13.7	150
14	29.4	15.9	8.2	4.1	20.8	150
16	33.6	18.2	9.3	4.7	23.8	150



WATER SERVICE SCHEMATIC

- 1.) BACKFLOW PREVENTION DEVICES TO BE LOCATED INSIDE THE BUILDINGS AND INSTALLED PER THE WATER DISTRICT No. 2 WATER DEPT. SPECIFICATIONS.
- 2.) CONTRACTOR RESPONSIBLE FOR COORDINATING EXACT LOCATION OF CONNECTION TO INTERNAL PLUMBING AND FIRE SYSTEMS.



SOUTHERNSIDE APARTMENTS
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