

PARALLEL CONSTRUCTION

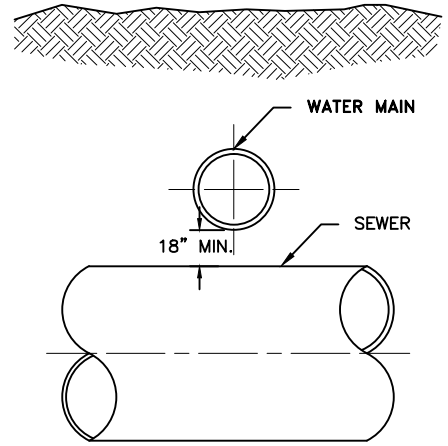
BASIC SEPARATION REQUIREMENTS:

WATER MAINS AND SEWERS SHOULD BE SEPARATED AS FAR AS IS REASONABLE IN BOTH THE HORIZONTAL AND VERTICAL DIRECTIONS WITH SEWERS LOWER THAN WATER MAINS.

PARALLEL CONSTRUCTION: WATER AND SEWER MAINS SHALL BE CONSTRUCTED IN SEPARATE TRENCHES AND THE WATER MAIN SHALL BE A MINIMUM OF 18" ABOVE THE SANITARY SEWER. THE HORIZONTAL DISTANCE BETWEEN PRESSURE WATER MAINS AND SEWERS SHALL BE AT LEAST 10 FEET.

PERPENDICULAR CONSTRUCTION OR CROSSING: PRESSURE WATER MAINS SHALL BE AT LEAST 18" ABOVE SANITARY SEWERS WHERE THESE LINES MUST CROSS AND SHALL BE CONSTRUCTED NO LESS THAN 45-DEGREE TO THE SEWER LINE.

NO CONNECTIONS SHALL BE MADE IN THE WATERMAIN WITHIN 8 HORIZONTAL FT OF SEWER.



PERPENDICULAR CONSTRUCTION

REQUIRED SEPARATION BETWEEN WATER MAINS AND SANITARY SEWERS

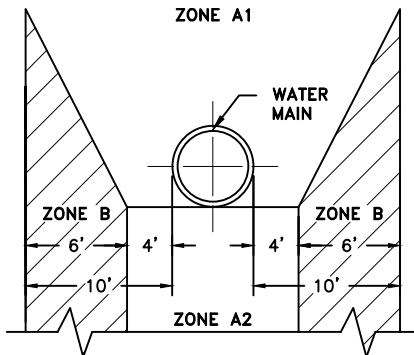
NOTE:

SEWER LINES IN A, B, C OR D SITUATIONS WOULD REQUIRE A WAIVER FROM THE CA WATERWORKS STANDARDS, GRANTED BY THE DIVISION OF DRINKING WATER.

THE FOLLOWING REQUIREMENTS SHALL BE ENFORCED WHERE WATER MAIN SEPARATION FROM SEWER, AS DETAILED ABOVE, CANNOT BE MAINTAINED.

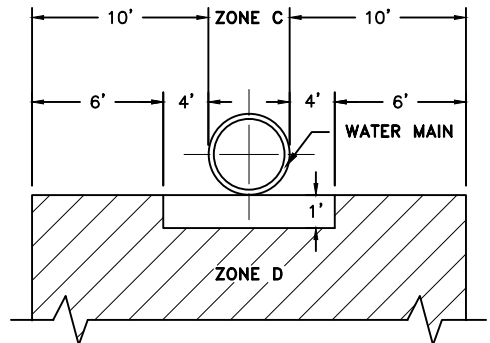
IF AN EXISTING SEWER IS LOCATED WITHIN ZONES A1, A2, B, C, OR D OF A PROPOSED WATER MAIN, THE FOLLOWING SPECIAL REQUIREMENTS APPLY:

- ZONE A:** NO WATER MAINS SHALL BE CONSTRUCTED WITHOUT SPECIAL PERMISSION FROM THE APPROPRIATE HEALTH OR ENVIRONMENTAL REGULATOR.
- ZONE B:** IF THE SEWER DOES NOT MEET ZONE B REQUIREMENTS, THE WATER MAIN SHALL BE OF PRESSURE CLASS 200 PIPE FOR PVC AND CLASS 350 FOR DIP. SEWER PIPE SHALL BE CONSTRUCTED EQUAL TO WATER PIPE AND TESTED FOR WATER TIGHTNESS.
- ZONE C:** NO WATER MAINS SHALL BE CONSTRUCTED WITHOUT SPECIAL PERMISSION FROM THE HEALTH REGULATOR. IF PERMISSION IS GRANTED, THE SEWER PIPE SHALL BE ENCASED WITH REINFORCED CONCRETE AND THE WATER MAIN SHALL BE OF CLASS 200 PIPE OR EQUIVALENT.
- ZONE D:** THE SEWER SHALL BE ENCASED WITH REINFORCED CONCRETE.



PARALLEL CONSTRUCTION

- ZONE A:** PARALLEL CONSTRUCTION CLOSE TO PIPE
- ZONE B:** PARALLEL CONSTRUCTION AT LEAST 4' FROM PIPE



PERPENDICULAR CONSTRUCTION

- ZONE C:** PERPENDICULAR ABOVE OR EVEN HORIZONTAL
- ZONE D:** PERPENDICULAR BELOW HORIZONTAL IF AN EXISTING SEWER IS LOCATED WITHIN THESE LIMITS. THE CONDITIONS REQUIREMENTS MAY APPLY (CONFIRM WITH REGULATOR)

SPECIAL CONSTRUCTION REQUIREMENTS

<p>REVISIONS</p>	<p>AMERICAN WATER MILITARY SERVICES GROUP CIVIL MINIMUM UTILITY SEPARATION REQUIREMENTS</p>
	<p>AMERICAN WATER MILITARY SERVICES GROUP CAMDEN, NJ 08102</p>
	<p>AMERICAN WATER M.S.G. 1 WATER STREET CAMDEN, NJ 08102</p>
	<p>DRAWN BY Z. ALAM PROJECT ENG'R PDK APPROVED</p>
	<p>DATE 04-30-2010 PROJECT N/A</p>
	<p>USE DIMENSIONS ONLY SCALE N.T.S.</p>
	<p>USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES</p>
	<p>MSG-ST-05-CA</p>