

## SEPARATION REQUIREMENTS:

1. A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET OUTSIDE SHALL BE MAINTAINED BETWEEN WATER MAINS AND SANITARY GRAVITY SEWER OR STORM SEWER LINES. (SEE DETAIL "A")
2. A MINIMUM HORIZONTAL SEPARATION OF THREE (3) FEET OUTSIDE TO OUTSIDE SHALL BE MAINTAINED BETWEEN WATER MAINS AND RECLAIMED WATER LINES CARRYING UNRESTRICTED PUBLIC ACCESS REUSE WATER OR WELL SUPPLY MAINS.
3. THERE SHALL BE AT LEAST A TEN (10) FOOT SEPARATION BETWEEN NEW WATER MAINS AND NEW SANITARY SEWER FORCE MAINS WITHOUT EXCEPTION. FIELD PROBLEMS SHALL BE REPORTED TO THE ENGINEER. SPECIAL SOLUTIONS MUST BE ACCEPTED BY D.E.P. PRIOR TO IMPLEMENTATION.
4. A MINIMUM VERTICAL SEPARTION OF EIGHTEEN (18) INCHES OUTSIDE TO OUTSIDE SHALL BE MAINTAINED BETWEEN WATER MAIN AND THE HAZARD LINES (I.E. SANITARY GRAVITY SEWER, STORM SEWER OR RECLAIMED WATER LINES). ONE FULL LENGTH OF PIPE SHALL BE CENTERED AT THE POINT OF CROSSING FOR BOTH PIPES.
5. THERE SHALL BE AN EIGHTEEN (18) INCH VERTICAL SEPARATION BETWEEN NEW WATER MAINS AND NEW SANITARY SEWER FORCE MAINS AT CROSSING WITHOUT EXCEPTION. WHERE IT IS NOT POSSIBLE TO MAINTAIN THE REQUIRED SEPARATION, CONFLICTS WITH EXISTING LINES SHALL BE REPORTED TO THE ENGINEER. SPECIAL SOLUTIONS MUST BE ACCEPTED BY D.E.P. PRIOR TO IMPLEMENTATION. AT PIPE CROSSINGS, THE PIPES SHALL BE SITUATED SUCH THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM EACH OTHER.
6. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE OR STORM SEWER STRUCTURE.

## SOLUTIONS TO SEPARATION CONFLICTS

1. IN AREAS WHERE IT IS NOT PRACTICAL TO MAINTAIN THE REQUIRED SEPARATION. THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SANITARY GRAVITY SEWER, STORM SEWER OR RECLAIMED WATER LINE AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE OTHER LINE. (SEE DETAIL "B")
2. IF THE MINIMUM ALLOWABLE (10') HORIZONTAL SEPARATION OR 18" VERTICAL IN A SEPARATE TRENCH CANNOT BE MAINTAINED, UPGRADE THE WATER MAIN TO DUCTILE IIRON IF THE OTHER LINE IS A STORM SEWER OR AN EXISTING SANITARY GRAVITY SEWER.
3. IF THE NON-CONFORMING LINE IS A NEW GRAVITY SANITARY SEWER, AND 10' HORIZONTAL SEPARATION OR 18" VERTICAL SEPARATION IN A SEPARATE TRENCH CANNOT BE MAINTAINED, THEN:
  - A. PLACE THE HAZARD LINE WITHIN A CONCRETE SEALED PVC SDR 35 CARRIER PIPE. (SEE DETAIL "C")
  - B. ENCASE THE HAZARD PIPE IN CONCRETE ENCASEMENT. DETAIL THIS SHEET
  - C. UPGRADE THE NEW GRAVITY SANITARY SEWER TO AWWA C-900, D.R. 18 PVC AND HYDROSTATICALLY TEST IT TO 150 PSI. AT PIPE CROSSINGS, THE PIPES SHALL BE SITUATED SUCH THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM EACH OTHER.
4. IF THE HAZARD LINE IS A RECLAIMED WATER LINE AND THE ABOVE SEPARATION REQUIREMENTS ARE NOT MET, UPGRADE THE RECLAIMED WATER LINE MATERIAL TO DUCTILE IRON OR ENCASED PIPE IN CONCRETE.
5. WHEN THERE IS LESS THAN 18" OF VERTICAL CLEARANCE BETWEEN THE WATER MAIN AND STORM SEWER, AT THE POINT OF CROSSING. (SEE DETAIL "D")
6. WHEN THE WATER MAIN CROSSES BELOW THE HAZARD LINE, THE WATER MAIN SHALL HAVE A MINIMUM VERTICAL SEPARATION OF 18" FROM THE HAZARD LINE. ONE FULL LENGTH OF PIPE SHALL BE CENTERED AT THE POINT OF CROSSING (FOR BOTH PIPES WHEN CROSSING SANITARY SEWER). (SEE DETAIL "E")
7. SPECIAL STRUCTURAL SUPPORT OR CONCRETE SADDLES MAY BE NECESSARY AT THE CROSSING LOCATION.
8. IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE CROSSING HAZARD. RECEIVE SPECIFIC APPROVAL BY D.E.P. PRIOR TO IMPLEMENTATION.

## **WATER MAIN SEPARATION NOTES**

UPDATED JUNE 2016