

- 1.14 CROSSING OF WATER AND SEWER LINES
Waterlines crossing under or over sewers lines (defined as any sanitary/combined sewer, septic tank or subsoil treatment system) must maintain a minimum vertical clearance of 18" and one full length of pipe shall be located so both joints are as far from the sewer as possible. Special Structural support for the water and sewer pipes may be required.
- 1.15 PARALLEL INSTALLATION WITH OTHER UNDERGROUND UTILITIES-
Water mains should maintain a minimum lateral separation of 3 feet from all other underground utilities whenever possible, with the exception of sewers as stated elsewhere in these specifications.
- 1.16 WATER CROSSINGS Surface water crossings, both over and under water, present special problems which should be discussed with the District before improvement plans are prepared. Over water crossings, the pipe shall be adequately supported, protected from damage, freezing, and accessible for repair or replacement. The pipe shall be of special construction having flexible, watertight joints. Valves shall be provided at both ends of water crossings so that the section can be isolated for test or repair. Where the water main is constructed under a blue line stream, the pipe shall be protected with concrete encasement. This encasement shall extend a distance equal to the width of the channel measured from top of bank to top of bank. The encasement shall be per Standard Drawing No. 110. Valves shall be installed on each side of the water crossing in areas not subject to flooding when the crossing water courses greater than 15 feet in width (bank to bank). Permanent taps shall be installed on each side of the system side valve for leakage and sampling purposes. The Developer will be responsible for meeting the requirements of 401 KAR 4:050 and KRS 151.250 for sub-fluvial pipe line crossings.
- 1.17 SAFETY The "Manual of Accident Prevention In Construction" published by the Associated General Contractors of America, O.S.H.A Regulations and other state and local safety regulations shall be followed.
- 1.18 MAINTENANCE PERIOD The Developer shall be responsible for the maintenance of the installed water mains and appurtenances to District Standards for a period of not less than one (1) year from the date the water main is placed in service by the District. Approximately ten (10) months after the main is placed in service, an inspection will be conducted by the District to ensure that the water main and appurtenances were installed and maintained to District standards. If the 10-month inspection reveals that the installation does not meet District standards, the developer will be notified in writing to correct all discrepancies and/or problems within 60 days after notification. If the problems are not corrected within the 60-day period, the District shall make the corrections at the expense of the Developer. The Developer shall then be billed by the District at a rate of time and material plus overhead or at the rate of actual cost plus overhead when done by an available contractor hired by the District. Payment is required within 30 days of invoice date. Non-payment of invoice after 45 days by the Developer creates an indebtedness to the Water District, which violates Water District's Tariff. This indebtedness to the Water District will result in no future water being provided to the Developer on all existing and future water main projects and/or phases until all indebtedness is paid in full.
- 1.19 APPLICATION FOR SERVICE Application for water service will only be accepted after the water main bacteria samples are shown to be negative following disinfection and the main is placed in-service by the District. No service installation will be scheduled until the water main is approved and turned on.

- 1.20 CONDUITS FOR WATER SERVICES IN ROCKY AREAS The Developer is responsible for notifying the District when rocky conditions are found in a development which could affect the installation of customer water service lines. The Developer shall give sufficient notification to the District to facilitate the installation of conduits before the street is installed. If a street is installed in a rocky area without conduits, the Developer may be responsible for any additional cost incurred.
- 1.21 ORGANIC CONTAMINATION
Mains installed within 200 feet of petroleum tanks and other areas of organic contamination must be ductile iron pipe.

PART II - MATERIALS

2.01 WATER MAIN PIPE AND FITTINGS

- A. Minimum Class 50 Ductile Iron Pipe (D.I.P) - A minimum of Class 50 Ductile Iron pipe shall conform to the latest edition of AWWA C151. All pipe shall be clearly marked as to class by the manufacturer "Push-on single gasket" type joints shall conform to the latest edition of AWWA C-111. Pipe shall have a standard thickness cement mortar lining in conformance with AWWA C-104.

Under no conditions shall pipe line deflection measured between joints exceed the manufacturer's published recommended standard for that type of pipe. The maximum deflection at push-on joints and/or mechanical joints shall be 5 degrees or as recommended by Manufacturer. All D.I.P. shall be blue polyethylene wrapped.

- B. Polyvinyl Chloride Pipe (P.V.C.) - D.R. 18, P.V.C. pipe shall conform to the latest edition of AWWA C900, must be NSF approved and manufactured in accordance with ASTM standards. All pipe shall be clearly marked as to class by the manufacturer. The outside diameter shall be equivalent to D.I.P. Pipe shall have gasket bell end type joints furnished complete with gaskets meeting the latest edition of ASTM F477. Solvent weld joints are prohibited.

P.V.C. pipe shall be permitted for use in residential subdivisions and along city and county roads as approved by the District. Pipe size shall be limited to 6", 8" & 12". P.V.C. pipe shall not be installed in high pressure areas where the static system pressures exceeds 125 psi or other system conditions exist which increase pressures over 125 psi. as determined by the District. P.V.C. pipe cannot be used for cross country lines, along state highways, water crossings, or installed within 200 feet radius of oil or gasoline lines, underground storage tanks, petroleum storage tanks or pumping stations.

P.V.C. pipe may be tied into an existing ductile iron main in a subdivision when the extension is over 450 linear feet of main, or when the pipe is installed around a cul-de-sac or a dead-end street with no possible extension of the street as approved by the District. Transition between D.I.P. and P.V.C. pipe shall be made with some type of ductile iron fitting.

Beveled spigot ends must have a minimum bevel of 8 degrees to a maximum bevel of 15 degrees. The vertical face of the spigot end may not exceed 75% of pipe wall thickness and the horizontal length of the bevel shall not exceed 1.25 inches. Field beveled spigot end shall be made per manufacturers recommendation and as approved by the District. The degree of bevel shall be approved for the type of pipe being installed.

P.V.C. Pipe Shipping, Handling & Storage - The front end of all pipe delivered by truck shall be covered for protection against exhaust fumes. P.V.C. pipe shall be protected from exposure to sunlight according to manufacturer's recommendations. Pipe will not be accepted for installation if discoloration is evident due to sunlight or other exposure. Pipe shall be stored in such a manner to prevent beaming the pipe.

REVISION	BY	DATE			
N. KY. WATER DISTRICT		SPECIFICATIONS			
DRAWN BY: SAR					
APPROVED: <i>RA</i>					
DATE: 8/5/2014					
STANDARD DRAWING NO: 100-B					