

## **Brunswick and Topsham Water District Water Main Design Guidelines**

1. The District shall determine the size of all mains.
2. Water mains 4-inch and larger shall be ductile iron, class 52.
3. Water mains less than 4 inches shall be PVC class 200.
4. Minimum depth of cover shall be 5'-0".
5. The main shall be generally located  $\frac{1}{4}$  of the distance across the paved travel-way.
6. Maintain 10 feet horizontal separation from sewer and gas pipelines.
7. Design main so that pipe deflects to match roadway curvature. Maximum deflection shall not exceed 75 percent of the maximum allowable deflection specified in AWWA C600. Drawings shall show all fittings required.
8. Design to avoid conflicts by deflecting mains around obstructions. Trench insulation will not be allowed to be used to compensate for less than minimum depth of cover.
9. Insulate trench where main crosses or is located within 5 feet of culverts and drains.
10. Provide for test pits where water main crosses existing utilities and structures.
11. Mains having hydrant branches shall be 8-inch minimum diameter.
12. Consult with the Brunswick Fire Department or Topsham Fire Department to determine the number and location of hydrants required.
13. In general, locate hydrants at the property line of adjacent lots, 1 foot behind curbs, or 1 foot inside right-of-way limits where no sidewalks are provided.
14. Provide full valving at intersections so that any one branch can be isolated. Place valves at tees and crosses at the approximate extension of the perpendicular travel-way.
15. Provide blowoffs at all dead ends. Blowoff size shall be 2 inches for mains 4 inches and larger and 1 inch for mains smaller than 4 inches.
16. Domestic services shall be 1-inch type K copper tubing or 2-inch CTS polyethylene tubing. Fire protection services shall be sized by the developer's sprinkler designer or engineer.
17. Customer side of service shall be adequately sized and rated to withstand 200 psi pressure per BTWD Terms and Conditions.
18. All domestic and fire services shall be tapped directly off a District main.
19. All fittings, valves, blow offs and hydrants shall be restrained.
20. The District's standard details contain additional notes and details.