WAC 246-291-200 Design standards. (1) A purveyor submitting a new or expanding Group B system design for approval shall use good engineering practices and apply industry standards in the design, such as those in:

(a) The department guideline titled *Group B Water System Design Guidelines* (2012);

(b) *Water Systems Council PAS-97(04) Pitless Adapters and Watertight Well Caps* (2004);

(c) Standard specifications of the:

(i) American Public Works Association;

(ii) American Society of Civil Engineers;

(iii) American Water Works Association; and

(iv) American Society for Testing and Materials.

(d) Minimum standards for construction and maintenance of wells, chapter 173-160 WAC;

(e) *Recommended Standards for Water Works, A Committee Report of the Great Lakes - Upper Mississippi River Board of State Public Health and Environmental Managers* (2007);

(f) *Standard Specifications for Road, Bridge and Municipal Construction* (WSDOT/APWA 2012);

(g) *USC Manual of Cross-Connection Control*, 10th edition (October 2009);

(h) *PNWS-AWWA Cross-Connection Control Manual*, sixth edition (1996);

(i) International Building Code (IBC) (2012); and

(j) Uniform Plumbing Code (UPC) (2012).

(2) A purveyor submitting a new or expanding Group B system design for approval shall:

(a) Calculate residential population by using 2.5 persons per dwelling unit;

(b) Use full-time occupancy for each dwelling unit; and

(c) Use planning, engineering and design criteria under WAC 246-290-100 through 246-290-250 if the system is being designed to serve ten to fourteen residential service connections.

(3) A purveyor shall demonstrate that the source(s) of supply, pipes and other constructed conveyances are capable of meeting the minimum residential water supply as required under WAC 246-291-125(4) Table 1.

(4) A new or expanding Group B system must be designed with the capacity to deliver the PHD at 30 psi (210 kPa) measured along property lines adjacent to distribution mains, under the following conditions:

(a) When all equalizing storage has been depleted, if the system is designed to supply PHD in part with equalizing storage; and

(b) At the "pump-on" pressure setting for the pump directly supplying the distribution system, when the water system is designed to supply PHD without any equalizing storage.

(5) If the design PHD exceeds the total source pumping capacity, then sufficient equalizing storage must be provided.

(6) The minimum design flow and duration required for fire flow and fire suppression storage, if provided, shall be determined by:

(a) The local fire protection authority; or

(b) As required under chapter 246-293 WAC for Group B systems within the boundaries of a designated critical water supply service area.

(7) In the design of a new or expanding Group B system that does not have to comply with minimum fire flow standards, a purveyor shall

coordinate with the local fire protection authority to assess if any hydrants create adverse pressure problems as a result of expected fire suppression activities, and address any pressure problems in the design.

(8) If fire flow is provided, the distribution system must be designed to provide the MDD for the entire Group B system and the required fire flow at a pressure of at least 20 psi (140 kPa) at all points throughout the distribution system when the designed volume of fire suppression and equalizing storage has been depleted.

(9) The Group B system design must contain a water meter that measures the water use of the entire water system (totalizing source meter) and a source sample tap.

(10) The use of individual service booster pumps to meet the requirements of this section is prohibited.

(11) A purveyor shall equip a new or expanding Group B system with a generator disconnect switch.

(12) A purveyor shall use generally accepted industry standards and practices in the elimination or control of all cross-connections, such as:

(a) USC *Manual of Cross-Connection Control*, Tenth Edition, October 2009; and

(b) PNWS-AWWA *Cross-Connection Control Manual*, Sixth Edition (1996).

(13) A pitless unit, pitless adaptor, and vented sanitary well cap must conform with the product, material, installation, and testing standards under the *Water Systems Council PAS-97(04) Pitless Adapters and Watertight Well Caps* (2004).

[Statutory Authority: RCW 43.20.050 and chapter 70.119A RCW. WSR 12-24-070, § 246-291-200, filed 12/4/12, effective 1/1/14. Statutory Authority: RCW 43.20.050. WSR 94-14-002, § 246-291-200, filed 6/22/94, effective 7/23/94.]