

**WAC 173-160-191 What are the design and construction requirements for completing wells?**

(1) You may complete wells with screens, perforated liners or pipe, or open bottom completion. The well driller or designer shall advise the owner or the owner's representative of the most appropriate method of completion.

(2) All well components must be of sufficient strength to withstand the typical forces to which they are subjected during and after construction.

(3) Water wells must be completed in a manner which prevents the production of untreatable amounts of sand, silt, or turbid water which would render the well unusable.

(4) Open bottom completion is appropriate where the withdrawn waters are essentially free of sand, silt and turbidity.

(5) Perforated pipe completion is suitable for a coarse-grained, permeable aquifer where the withdrawn waters are free of sand, silt or turbidity.

(6) Perforations above the static water level are not permitted.

(7) In place perforations with Star, Mills knife, or similar type perforators are acceptable.

(8) Perforated pipe liners, either saw cut, torch cut, mill slotted, or punched are acceptable.

(9) The use of perforated casing for working casing as the hole is being drilled is prohibited, except in those cases where the contractor can, through personal experience in the particular area of drilling, attest to the sufficiency of the pre-perforated casing in all respects for the specific well being constructed.

(10) Pipe liners may be of steel, plastic or other suitable corrosion resistant material.

(11) All liners must be of sufficient strength to withstand typical forces exerted upon the liner material during installation and operation.

(12) Liners may be used only in consolidated formations.

(13) The installation of a liner without a gravel pack is prohibited when conditions exist that will result in excessively turbid water.

(14) Well screens and well points must be constructed of compatible corrosion resistant material.

(a) A neoprene, or grout seal shall be fitted to the top of the well screen assembly, if necessary.

(b) The bottom of the well screen shall be plugged or capped.

(c) The use of lead packers is prohibited.

(15) The alignment of the bore hole, permanent casing, or liner shall be sufficiently plumb and straight to allow the installation of screens, liners, pumps, and pump columns without binding or having adverse affects on the operation of the installed pumping equipment.

(a) Alignment of the well casing or bore hole shall not deviate from an alignment that would allow a twenty foot test section of pipe to be inserted to the bottom of the well without binding.

(b) The diameter of the test section of pipe shall be per Table 1 in WAC 173-160-201.

(c) For testing alignment in casing reductions, each section shall be tested separately.

(16) For wells completed in an unconsolidated formation in which the bore hole extends beyond the completed casing or screen depth, the driller must backfill that portion of the bore hole that extends more than ten feet beyond the casing or screen. The backfill shall consist of either bentonite or chlorinated sand or pea gravel. If any portion

of the bore hole extension penetrates a clay layer which is greater than six feet in thickness, that portion of the bore hole shall be sealed with bentonite. A notice of intent to decommission a water well is not required for this work.

[Statutory Authority: Chapter 18.104 RCW. WSR 09-01-125 (Order 08-10), § 173-160-191, filed 12/19/08, effective 1/19/09; WSR 06-23-121 (Order 06-08), § 173-160-191, filed 11/21/06, effective 12/22/06. Statutory Authority: Chapter 18.104 RCW and RCW 43.21A.080. WSR 98-08-032 (Order 97-08), § 173-160-191, filed 3/23/98, effective 4/23/98.]