



From The Home Inspector

What About an Unused Residential Water Well?

Prepared by John Woodmansee, The Home Inspector, Winston-Salem, NC (April 2011; revised July 2011)

The Basic concerns are: Safety & Contamination

For **safety**, a wide-mouthed, shallow well ("bored" or "dug" well) needs a sturdy cover that children can't lift off. A heavy concrete lid is ideal. Planks and cinder blocks holding them in place can be removed too readily. Drilled wells with their 6" casings need an airtight cap that requires tools to remove.

Contamination of the ground water is a trickier problem. For example,

1. Wells must be 25' or more from any structure because of toxic chemicals added to the soil such as termiticides used for pest control or chemicals in pressure-treated lumber used in deck construction.
2. Accidental back-flow from a garden hose with foul water into the well.
3. Contamination via seepage of ground water around the well casing (this is real common)
4. Critters that enter the well and drown, then decompose there.

Do unused wells need to go through an "abandonment" procedure?

In most cases, NO. Read Forsyth County's Environmental Health bulletin on "Well Abandonment" and note that they have (sort of) clarified what the term "abandonment" means. Abandonment generally means the well is terminated and plugged. "Unused" is a better term for well systems that are left in place but no longer the source of potable (clean) water.

1. You can keep your well, even if it is unused or disconnected from any house plumbing as long as it's safe and not contaminating the earth's water source. Don't use the well for dumping trash or dirty water (e.g. discharge from a sump pump). Home inspectors worry about improper connections of the well's plumbing to the home's piping system where contamination of the public water may occur (this is called a "cross-connection").
2. There are cases where one must **abandon the well**. For example, one wishes to build a sunroom addition on top of, or too near the well.
 - a. The procedure requires a permit from the Environmental Health Specialists (EHS), 799 N. Highland Ave., Phone: (336) 703-3225. Cost is \$129.
 - b. A certified well-driller (or homeowner) does the work (\$1000-2000) while an EHS inspector watches the process.
 - c. This process is described in a state law (15A NCAC-02C.0113).
 - d. The basic "burial" of the well is to fill-in the opening from bottom to top with cement, clean Carolina clay or Bentonite, a special highly expansive clay from another state....all with the goal of plugging the breach in the earth.

Other interesting things:

1. Forsyth County's Dept. of Public Health, Environmental Health Div. (703-3225) gets lots of calls from real estate professionals checking on historical data for wells and septic systems.

2. **Forsyth County began inspecting well construction in 1988. Guilford County started 9/1/1989; and NC required all counties to do this by 2008.** Why is the monitoring of well construction important? Because since 2008 (earlier in Forsyth & Guilford Counties), well drillers in all parts of NC have had to seal ("grout") the well casing against ground water contamination to a depth of at least 20 feet. Put another way, there are lots of existing wells that were not inspected by county officials, and these wells cannot be assumed to have the protective plug/seal/grouting around their casing (top 20 feet). *Note: if you request water testing on an older (pre-1988) well by a Forsyth County Environmental Health Inspector, and they find contamination, you may be faced with a legal order to abandon the well.*

I recommend water testing for bacteria (or other soil contaminants) on any well, regardless of its age. Test properly, and follow instructions from a private, water testing lab such as Research & Analytical Labs, Kernersville or Tri-test Inc., Clemmons.

3. **Who monitors private water suppliers** that serve developments/multiple homes? The state requires periodic **water quality testing**; the counties are responsible for **proper well construction**.

4. **For septic systems** the tank and leaching lines must be at least 5 feet from the home's foundation, 15 feet with a basement foundation. We know that a failed septic system cannot be permitted for repairs (maintenance, e.g. pumping-out sludge, is OK). A system needing repairs must connect to the public system, if available, and the property is inside a city's limits. **NC began requiring all counties to inspect septic systems in 1983. But Forsyth County's records (i.e. permits for septic systems) go back to about 1964.**

5. **In Forsyth County can a homeowner with a failed well**, and with access to a public water connection, drill another well? It depends. If you want another well for a more adequate yield of water, or the water has an unpleasant taste, you can drill another well. But if your existing well is contaminated, then you should connect to the public supply and not drill another well that may also turn out to be contaminated, too. Talk with the Utilities Dept. about your own situation.

6. And here is **another worrisome matter**: You must abandon a well if a public sewer main is installed within 100 feet of your well. The person who oversees wells in Forsyth County is Brock Turner at the Forsyth County Health Dept.

7. **Shallow /bored wells are still approved**, but unpopular because they are more prone to contamination and inclined to run dry during drought conditions.

8. **Well drillers are certified or licensed** by a State Board.

9. **HUD/FHA mortgage lending guidelines require 100' separation between wells and septic systems**, but State rules allow for as little as 50' separation.

Note: Our thanks to Mike Merrell, Supervisor, at Forsyth County Environmental Health for his helpful information in preparing this report. For example, in talking about the term "**punched well**", he said: "Punched" is a term that some use for describing a drilled well. In years past punch rigs drove (a casing) into the ground to provide the well much like that produced by today's drilling procedure. The punched wells on average are not as deep as today's drilled well can be."