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REGULATIONS RELATING TO HOME WELL CONSTRUCTION

Do-it-yourself is a good maxim for self-reliance. However, when it comes to water supply safety and ground water protection, most water well related work is best left to professionals. Because of public health concerns, well construction standards are regulated locally and on a state-by-state basis. Most states have guidelines, or enforceable laws in order to help protect ground water quality and provide safe and dependable drinking water from wells. A properly constructed well will help ensure supply integrity for the home and also prevent possible contamination of the underlying aquifer that other people may depend upon. Some regulations and codes cover actual well construction, some are specific to pump installation and others to water system installations in the home. Depending on local jurisdiction, the regulations may be related to codes of practice for drillers, electricians, or plumbers.

Each state regulates home well construction differently. Often a permit is required before drilling a new well and in most states, only certified (or) licensed (or) registered contractors may be allowed to drill wells and/or install water pumps. The regulations or guidelines may include using approved well caps; well casing materials; grouting methods and materials; casing depths into bedrock; casing heights above the ground surface and abandonment of existing wells. Special procedures may exist locally to address geologic conditions (limestone and karst), seasonal weather changes (frost zones), or contamination risks.

Listed below are commonly recognized guidelines for a properly constructed well. A well constructed following these guidelines should provide a safe dependable supply of water for many years. If you have an existing well, check the well log (geologic information) and well completion diagram (details of casing etc.) to determine if these guidelines were followed. If you do not have a well log, contact the company that drilled the well and ask for a copy. Many states require that well logs be submitted to the local or state health department, the state's department of environmental protection or department of natural resources. These agencies may be able to supply information about your well.

General Well Construction Guidelines:

1. Well casing should protrude at least twelve inches above the ground level. (Check code for casing material requirements: plastic or steel)
2. For wells drilled into rock (ledge, bedrock), the well casing should extend into solid, fresh, unweathered rock.
3. The ground surface surrounding the wellhead should slope away to divert surface water from flowing or ponding around the well.
4. A well cap should seal the top of the well casing. Venting holes should be screened to prevent insects from entering the well. (An unsealed or poorly sealed well can be a conduit for bacteria and surface water contamination).
5. Well grout (code may specify cement and/or bentonite clay) should be used to seal around outside of the well casing to a depth of 10 to 20 feet starting near the ground surface.
6. If you live in a cold climate the water line connecting the well to the house should be below the frost line (usually 4 to 6 feet). A “pitless adapter” is typically used for this connection to take water from the well to the home. This connection needs to watertight.
7. The well casing should not be used as an electrical ground for the house because it may cause corrosion of the casing or well fittings through electrolysis.
8. After installation or service work the well should be sanitized with a disinfection solution (usually chlorine). The solution should be left in the well and plumbing system for twelve or more hours before flushing.
9. Well water should be tested after the sanitation process to determine if there are any water quality concerns present. Refer to http://www.agwt.org/watertest.htm for water testing recommendations.

Property owners should take special note of regulations about abandoned or unused wells. Some states require such wells to be professionally filled and sealed. If some future use for the well is contemplated, fitting with a secure well cap may be permitted. Whether you are installing a new well, having repair work done on an existing well or contemplating the abandonment (de-commissioning) of a well, it is advisable to find out about the rules, regulations and code requirements for your area. Although most contractors

are familiar with the requirements, ensuring the integrity of a home well is ultimately the homeowner's responsibility.