USDA NRCS
Natural Resources Conservation Service

Field Office:

Phone Number:

# Water Well Protection on Farm TN-642

## DEFINITION

A water well is constructed into an aquifer to provide access to a groundwater supply for farming or ranching operations.

## GENERAL WELL PROTECTION

All on-farm wells should be properly sited and protected from suface and subsurface contamination; or damage by wildlife, livestock, farm machinery, or other harmful human activities, to reduce the risk of groundwater contamination.

Any type of manure storage or animal confinement facility should be located a proper distance from any well. Land application of manure and fertilizers should be kept at a safe distance from wells. NRCS Field Office representatives can help identify state-required setbacks or recommended setbacks.

Surface runoff and drainage water can enter the top of a well, causing groundwater contamination; therefore, runoff should always be diverted away from water wells. Install a well cap or sanitary seal to prevent unauthorized use and entry of contaminated water or live critters into the well.

Avoid storing, mixing, or using pesticides, fertilizers, fuels, and other potential chemical contaminants near the well. Check valves can be used to prevent the back flow of contaminated water or hazardous products directly into a well.

Never dispose of wastes or other potential contaminants in a dry or abandoned well or a sinkhole. These are direct conduits into aquifers.

## PLANNING NEW WELLS

When a new well is properly sited, constructed, and initially decontaminated, and potential sources of pollution near the well are eliminated, the quality of water delivered to the user should remain free from contamination. New wells should be located at least 200 feet from leaching pits and sewage lagoons, and at least 100 feet from other potential sources of surface and subsurface contamination including animal pens or feed lots, private privys, sewer lines, sludge and septage disposal sites, and septic tanks and drain fields. If practicable, wells should be located on higher ground and upgradient from potential sources of contamination or flooding. New wells should be located a safe distance from both overhead and underground utility lines.

## NEW WELL CONSTRUCTION

Always hire a Tennessee licensed well driller for any new well construction or modification. A well casing shall be installed in new wells to seal out undesirable surface or shallow groundwater and to support the side of the borehole from collapse of unstable earth materials. The casing shall extend from at least 1 ft above the ground surface to a minimum 19 ft below ground surface (at least 5 ft into stable material or to the top of the screen). The casing shall be surrounded at the ground surface by a 4-inch thick concrete slab extending at least 2 ft in all directions from the well.

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**March 2015**

## OPERATION AND MAINTENANCE

Some wells may require special provisions by the well driller so the aquifer will provide the flow desired. The well construction records should be kept on file by the landowner. The well owner should periodically inspect exposed parts of the well for problems such as:

- Damaged well casing
- Broken or missing well cap, and
- Settling and cracking of surface seals.

Disinfect drinking water wells at least once per year. Have the well tested once a year for coliform bacteria, nitrates, and other constituents of concern. (Contact the Department of Public Health for guidance on disinfecting a well and well water testing.)

## REFERENCE

NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard – Water Well, 642



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